



TECHNICAL MANUAL

# ARTOSI BIOCLIMATIC PERGOLA



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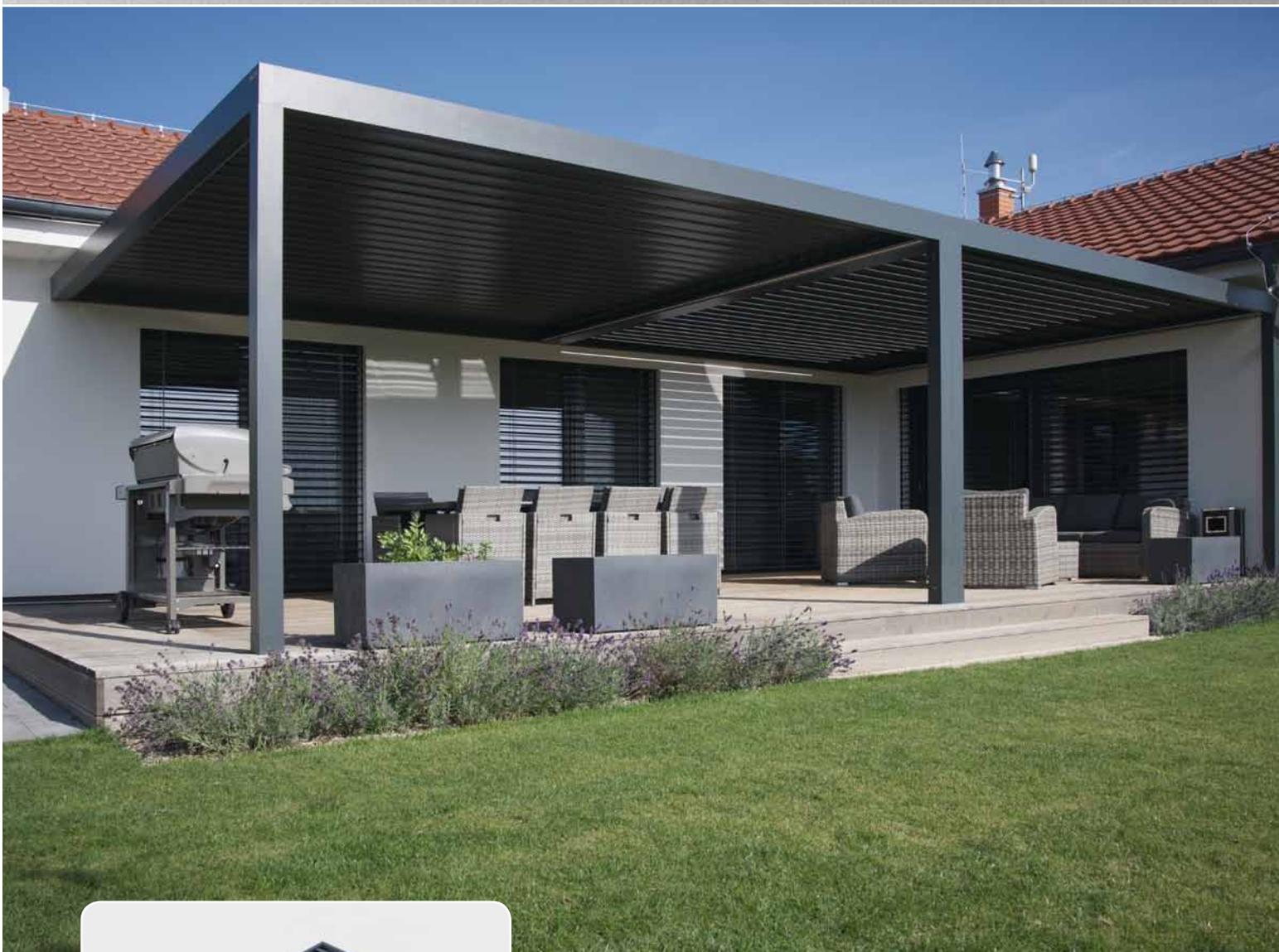
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## **ISOTRA** *Quality*

A brand that represents many years of tradition, incalculable investments into own development, use of high-quality materials, technological advancement, competent work of hundreds of employees, and many other parameters constituting a composite whole – the final ISOTRA product.

## ARTOSI

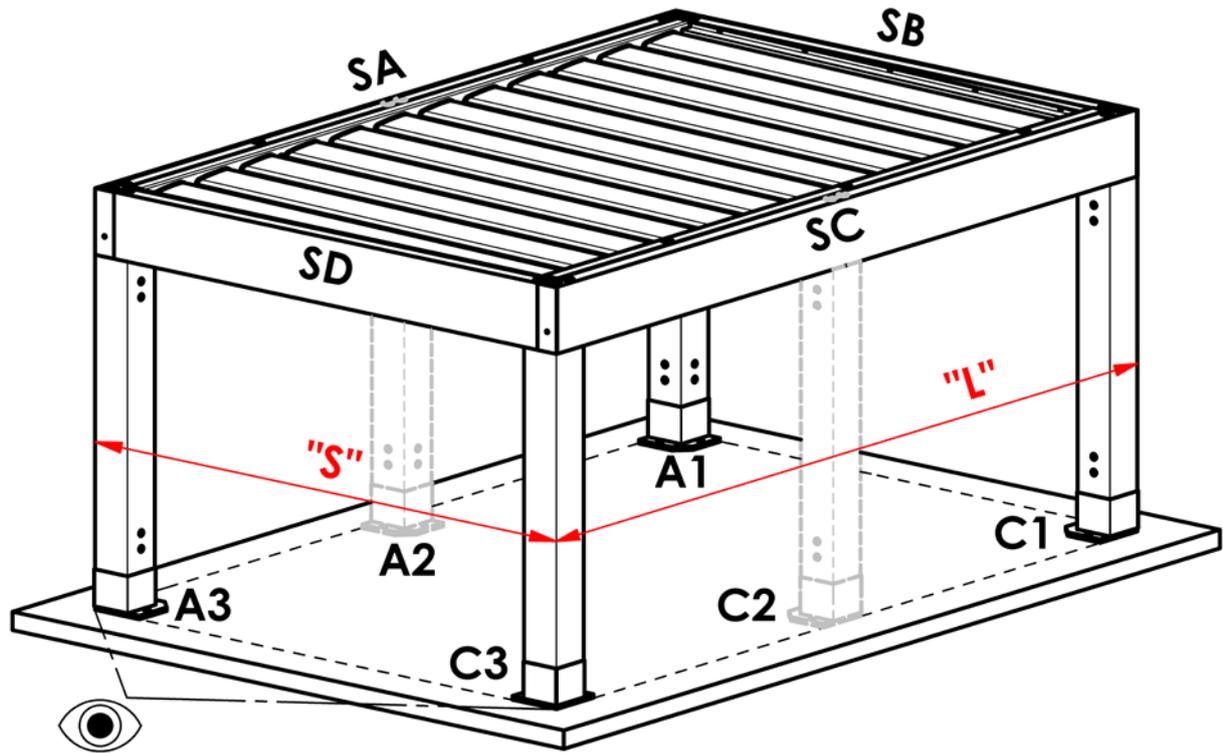


- ▲ The bioclimatic pergola is manufactured with high precision
- ▲ Possibility to place the poles outside the pergola corners
- ▲ Low building height of the roof section incl. slat opening – 25 cm in total
- ▲ Possibility to divide the pergola roof slats into several independent sections with individual control
- ▲ Pure and elegant design
- ▲ Simple slat assembly/disassembly and variability of pergola assembly
- ▲ Slat opening angle up to 130°
- ▲ Slat weathering 16 mm
- ▲ Possibility to install a LED strip along the pergola perimeter, with warm or cold shade
- ▲ Possibility to integrate screen shutters, or sliding glass panels
- ▲ Wind resistance class 6
- ▲ Own development and manufacture

**ISOTRA** *Quality*

## ARTOSI

### Basic specification



SA, SC – Perimeter frame – Length  
 SB, SC – Perimeter frame – Width  
 A1, A3, C1, C3 – Corner poles  
 A2, C2 – Additional pole

"S" – Maximum pergola width  
 "L" – Maximum pergola length

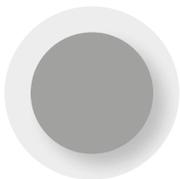
👁️ - Viewing direction

### Colours

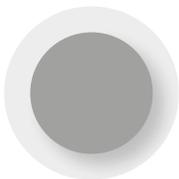
RAL 9006 White aluminium  
 RAL 9006S White aluminium structure  
 RAL 9007 Grey aluminium  
 RAL 9007S Grey aluminium structure  
 RAL 9010M Pure white matt  
 RAL 9010S Pure white structure  
 RAL 7016M Anthracite grey matt

RAL 7016S Anthracite grey structure  
 RAL 8014M Sepia brown matt  
 RAL 8014S Sepia brown structure  
 DB 702 pearl light grey  
 DB 703 pearl dark grey

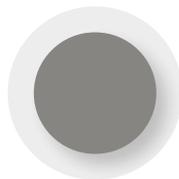
Other RAL colours upon request for an extra charge.



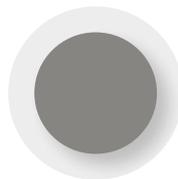
RAL 9006



RAL 9006 S



RAL 9007



RAL 9007 S



RAL 9010 M



RAL 9010 S



RAL 7016 M



RAL 7016 S



RAL 8014 M



RAL 8014 S

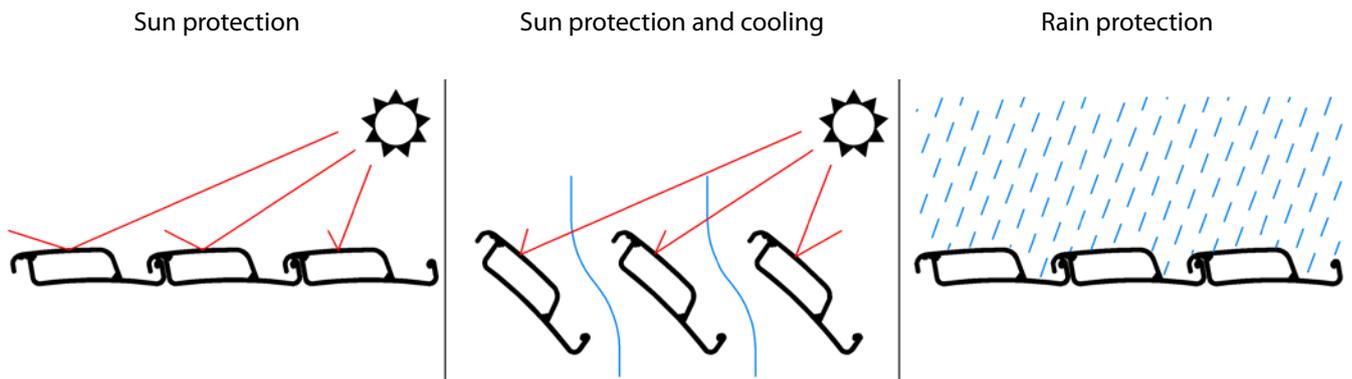


DB 702

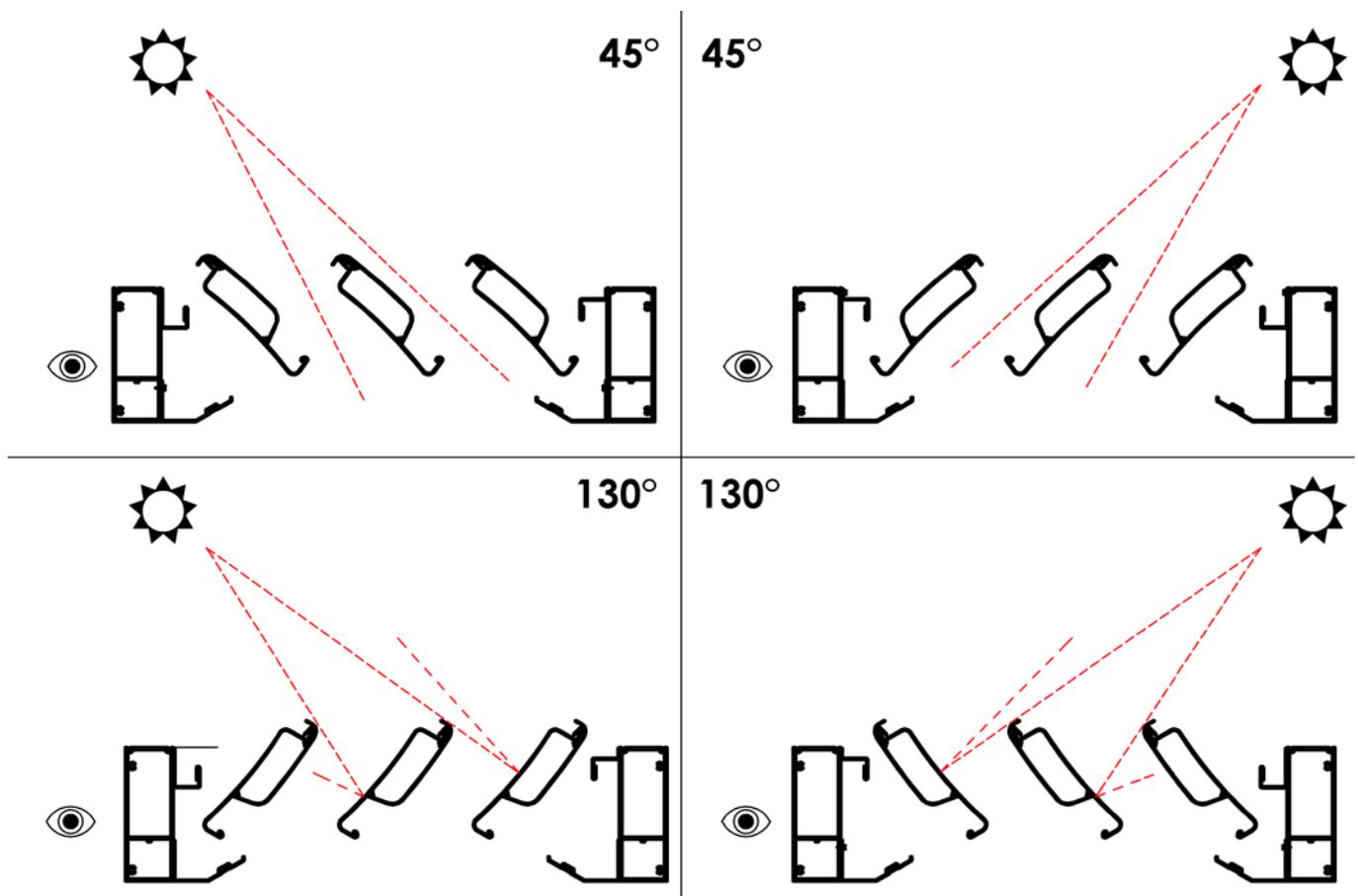


DB 703

## Function of the bioclimatic pergola



The bioclimatic pergola is a shading element intended as sun protection. Slat tilting allows ventilating the space under the roof while retaining the shading function. The pergola also serves as rain protection. However, water-resistance is limited due to the product design. Detailed information can be found in the section Basic specification – Water resistance.



### Controls / Slat drive

Motorised control, tilting and shutting of aluminium slats in the pergola roof.  
230 V, 50 Hz

The controls can be wired – phase control – or wireless using the SOMFY IO system.

## Water resistance

This product is a bioclimatic pergola, not a fully functional roof.

The pergola is an open, outdoor structure, and is incomparable with an enclosed, heat-, water- and wind-resistant conservatory.

Furniture, flooring, equipment, etc. must therefore be suitable for outdoor use.

With respect to the moveable roof structure, the product is not necessarily water-tight in all conditions, although each roof slat has a sealing element over its entire length.

In the rain, water drops dripping in the pergola gutter are likely to splash into the areas under the pergola (this always depends on the rain intensity and weather conditions).

The pergola is capable of draining the following quantities of rain water:

50 l/m<sup>2</sup>/hr in case of area up to 12 m<sup>2</sup> and side length up to 4 m, with one drain

50 l/m<sup>2</sup>/hr in case of area up to 24 m<sup>2</sup> and side length up to 7 m, with two drains

70 l/m<sup>2</sup>/hr in case of area more than 24m<sup>2</sup> and side length up to 7 m, with three drains

The drains are placed in the pergola poles.

The values stated above only apply if all the drains are located opposite the motors.

The values stated above only apply if the pergola is free-standing. If the pergola is added to another structure, it is necessary to take into account that the quantity of water to be drained by the pergola may differ.

Due to the fact that temperatures above and beyond the pergola will differ, it is likely that water will condensate on the lower side and inside the pergola structure.

## Wind resistance

When shut, the pergola is capable of withstanding wind exceeding Class 6 acc. to ČSN 13561 (more than 88 km/h).

When open, the pergola is capable of withstanding wind of 40 km/h.

## Schneebeständigkeit

### Snow regions corresponding to the load-carrying capacity of the pergola's shading surface

a) Snow can freely slide from the pergola's shading surface

<b>Pergola width [mm]</b>	4500	4000	3500	3000
<b>Pn [kN/m<sup>2</sup>]</b>	0,98	1,23	1,59	1,88
<b>Snow region</b>	II	III	III	IV

b) There are barriers at the edge of the pergola's shading surface causing snow accumulation on the shading surface.

The pergola is added to one or more higher vertical walls.

<b>Pergola width [mm]</b>	4500	4000	3500	3000
<b>Pn [kN/m<sup>2</sup>]</b>	0,98	1,23	1,59	1,88
<b>Snow region</b>	Not suitable for	I	I	II

Pn = load-bearing capacity of the shading area (i.e. maximum permissible load of the pergola roof in kN/m<sup>2</sup>)

Details of calculations used in the protocol are archived by the testing laboratory.

Calculation was performed in accordance with ČSN EN 1991-1-3.

During snowfall, the slats must be open at 90° position.

It is forbidden to move the slats if covered by frost, as this is likely to damage the product.

**If the pergola is added to another structure with a sloped roof, it is necessary to take into account the additional quantity of snow which is likely to load the pergola.**

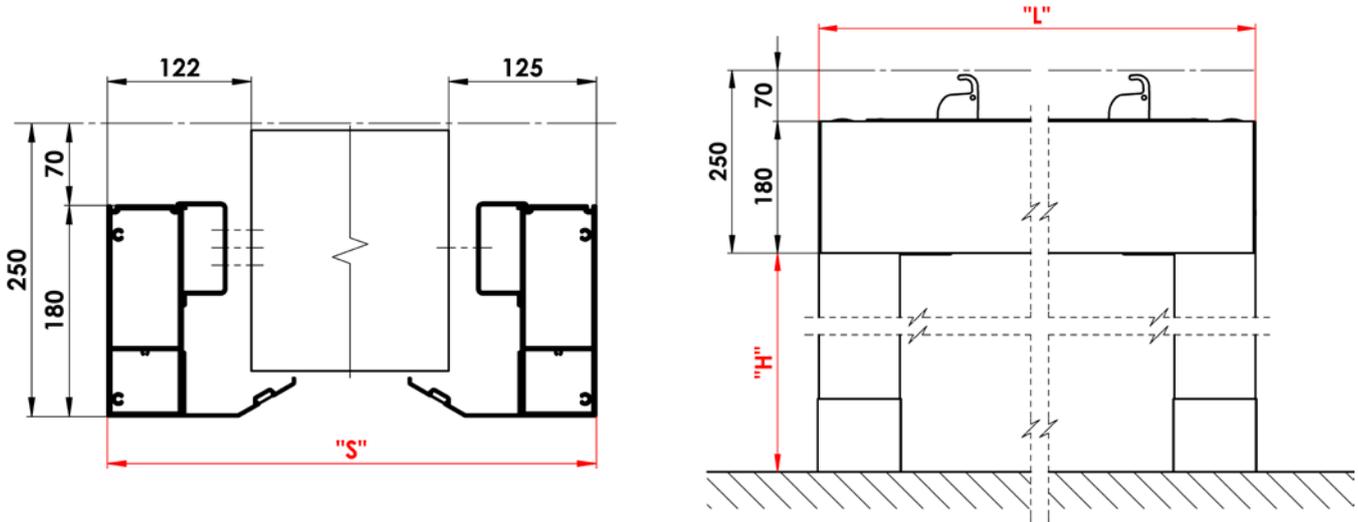
## Standard dimensions

Pergola	Version	Length "L"		Width "S" (mm)		Passing height Dimension "H" (mm)		Guaranteed surface (m <sup>2</sup> )
		min.	max.	min.	max.	min.	max.	max.
ARTOSI	motor	1440	7000*	1000	4500**	500	3000	31,5

\*From a length of 6120 mm, the pergola has 6 stands. From a length of 5400 mm, the pergola must be divided into 2 sections (2 motors).

\*\* Up to a width of 4000 mm, the load capacity of the slats is up to 116 kg / m<sup>2</sup>. From a width of 4000 mm, the load capacity of the slats is up to 90 kg / m<sup>2</sup>.

## Installation dimensions



"S" – Pergola width

"L" – Pergola length

"H" – Passing height of a specific pole

## Linear expansion

When the temperature of aluminium increases, the metal will expand; this phenomenon is called thermal expansion. The coefficient of thermal expansion of aluminium alloy is 23.5  $\mu\text{m}/(\text{m}^{\circ}\text{K})$ .

Example:

At 20 °C, an aluminium profile measures 7000 mm. When heated to 50 °C – during a sunny day – it will measure 7005 mm due to thermal expansion. The length will increase by +5 mm as a result of the change in aluminium temperature.

When incorporating the pergola to surrounding structures, it is important to consider change in the pergola dimensions due to ambient temperature.

When taking measurements of screen roller blinds and installing them in the pergola, it is necessary to consider thermal expansion of the aluminium profile in relation to ambient temperature. We recommend that measurements be taken at ambient temperatures of 23  $\pm$ 5 °C.

## Dimensional tolerances

Length	Tolerance	Width	Tolerance	Passing height	Tolerance
up to 2000 mm	± 2,4	up to 2000 mm	± 2,4	from 500 mm to 3000 mm	+20/-10 - adjustable
up to 3000 mm	± 2,6	up to 3000 mm	± 2,6		
up to 4000 mm	± 2,8	up to 4000 mm	± 2,8		
up to 5000 mm	± 3	up to 4500 mm	± 3		
up to 6000 mm	± 3,2				
up to 7000 mm	± 3,4				

## Number of slats over pergola length

<b>L</b>	1440	1620	1800	1980	2160	2340	2520	2700	2880	3060	3240	3420	3600	3780	3960	4140
<b>ks</b>	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<b>L</b>	4320	4500	4680	4860	5040	5220	5400	5580	5760	5940	6120	6300	6480	6660	6840	7000
<b>ks</b>	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	37

## Approximate pergola weight [kg]

L/S	2000	2500	3000	3500	4000	4500
<b>1440</b>	123	139	155	171	188	204
<b>1620</b>	131	148	166	183	201	218
<b>1800</b>	139	158	176	195	214	232
<b>1980</b>	147	167	187	207	227	247
<b>2160</b>	155	176	197	219	240	261
<b>2340</b>	163	186	208	230	253	275
<b>2520</b>	172	195	219	242	266	289
<b>2700</b>	180	204	229	254	279	303
<b>2880</b>	188	214	240	266	292	318
<b>3060</b>	196	223	250	277	305	332
<b>3240</b>	204	233	261	289	318	346
<b>3420</b>	212	242	271	301	331	360
<b>3600</b>	221	251	282	313	343	374
<b>3780</b>	229	261	293	325	356	388
<b>3960</b>	237	270	303	336	369	403
<b>4140</b>	245	279	314	348	382	417
<b>4320</b>	253	289	324	360	395	431
<b>4500</b>	261	298	335	372	408	445
<b>4680</b>	270	308	345	383	421	459
<b>4860</b>	278	317	356	395	434	473
<b>5040</b>	286	326	367	407	447	488
<b>5220</b>	294	336	377	419	460	502
<b>5400</b>	302	345	388	430	473	516
<b>5580</b>	311	354	398	442	486	530
<b>5760</b>	319	364	409	454	499	544
<b>5940</b>	327	373	419	466	512	558
<b>6120</b>	335	383	430	478	525	573
<b>6300</b>	343	392	441	489	538	587
<b>6480</b>	351	401	451	501	551	601
<b>6660</b>	360	411	462	513	564	615
<b>6840</b>	368	420	472	525	577	629
<b>7000</b>	376	429	483	536	590	643

# ARTOSI

## Technical specification

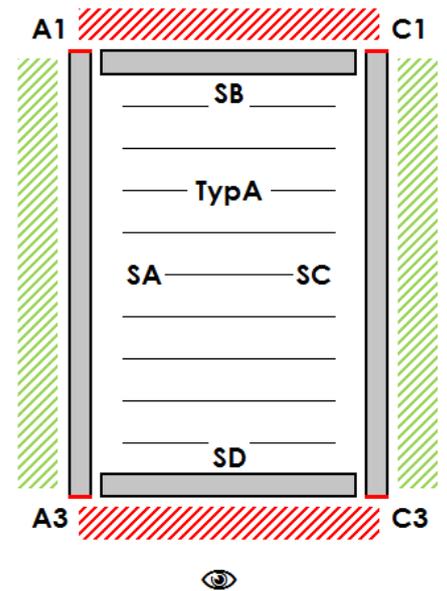
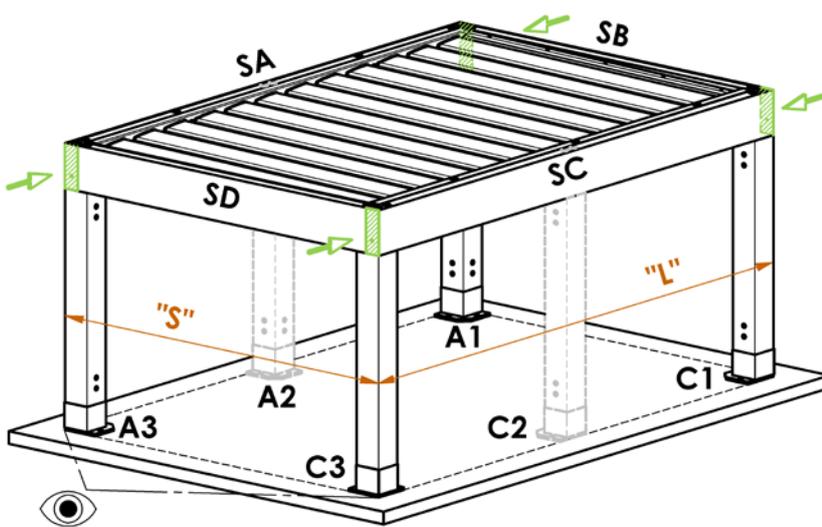
### Types of installation

Three types of installation may be selected for ARTOSI pergolas. Each type of installation is suitable for a different installation area. All types of installation are intended for step-by-step assembly (it is not necessary to assemble the frame in advance and then lift it by hoists).

### Type A

#### Installation possibilities

- Free-standing, supported by 4 to 6 poles
- Possibility of anchoring to the adjacent building using the SA/SC perimeter frame, without having to use poles at the anchored side
- The SA and SC sides may be built up
- Handling area of at least 700 mm must be allowed in front of SB and SD sides

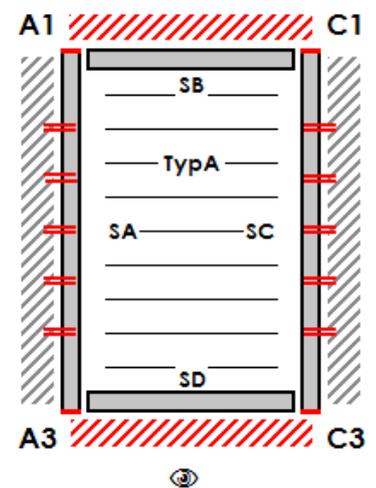
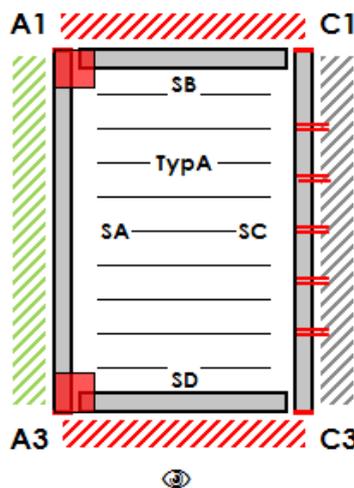
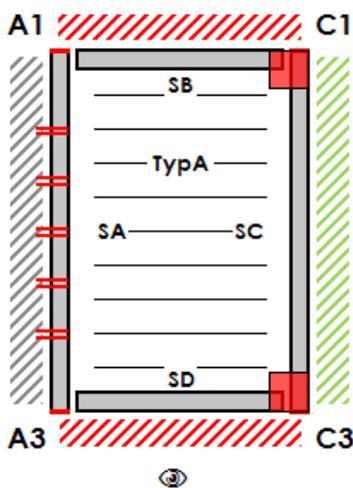


SA, SC – Perimeter frame – Length  
 SB, SC – Perimeter frame – Width  
 A1, A3, C1, C3 – Corner poles  
 A2, C2 – Additional poles

"S" – Maximum pergola width  
 "L" – Maximum pergola length

👁 - Viewing direction

#### Examples of installation possibilities for Type A pergola with regard to the surroundings



- Anchored side: SA
- Compulsory pole: C1 / C3
- Optional pole: A1 / A2 / A3 / C2

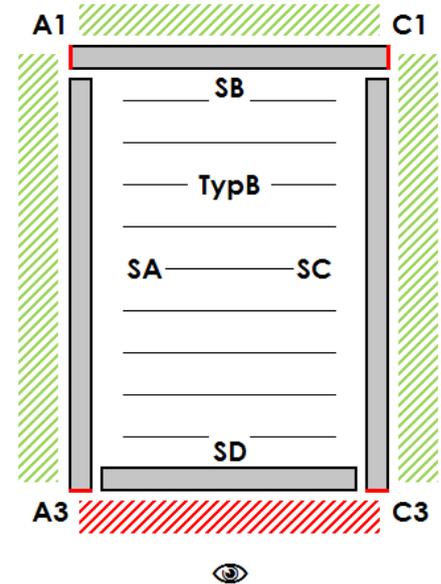
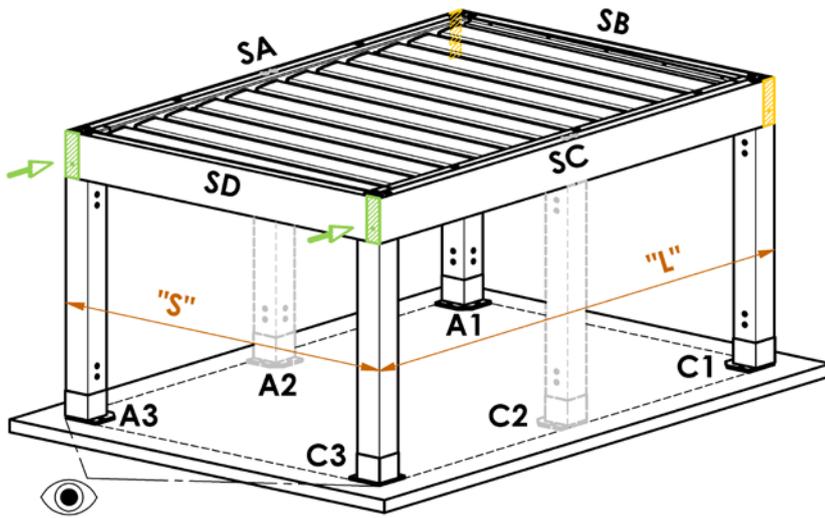
- Anchored side: SC
- Compulsory pole: A1 / A3
- Optional pole: A2 / C1 / C2 / C3

- Anchored side: SA / SC
- Compulsory pole: -
- Optional pole: A1 / A2 / A3 / C1 / C2 / C3

## Type B

### Installation possibilities

- Free-standing, supported by 4 to 6 poles
- Possibility of anchoring to the adjacent building using the SA/SB/SC perimeter frame, without having to use poles at the anchored side
- The SA/SB/SC sides may be built up
- Handling area of at least 700 mm must be allowed in front of SD side

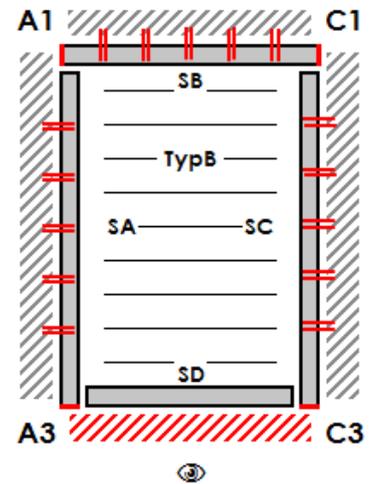
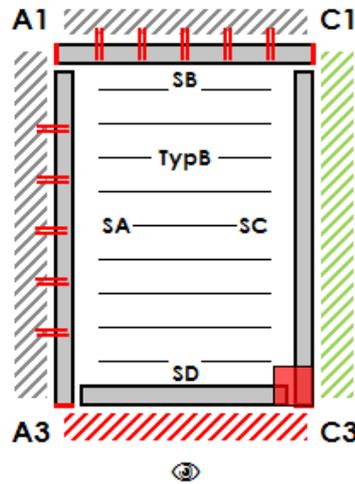
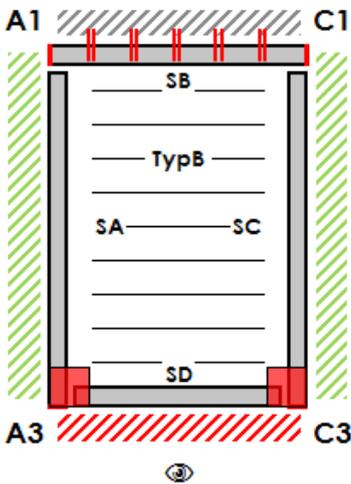


SA, SC – Perimeter frame – Length  
 SB, SC – Perimeter frame – Width  
 A1, A3, C1, C3 – Corner poles  
 A2, C2 – Additional poles

"S" – Maximum pergola width  
 "L" – Maximum pergola length

👁 - Viewing direction

### Examples of installation possibilities for Type B pergola with regard to the surroundings

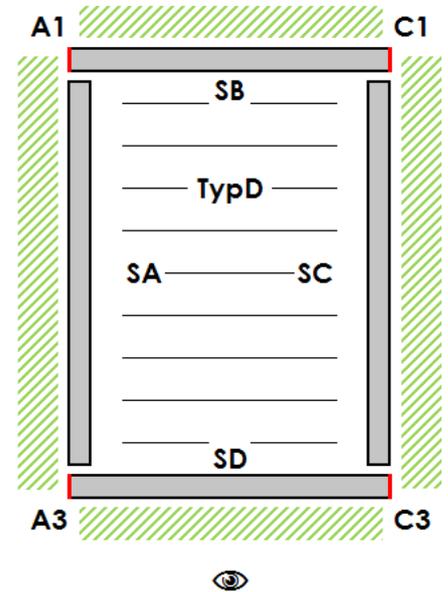
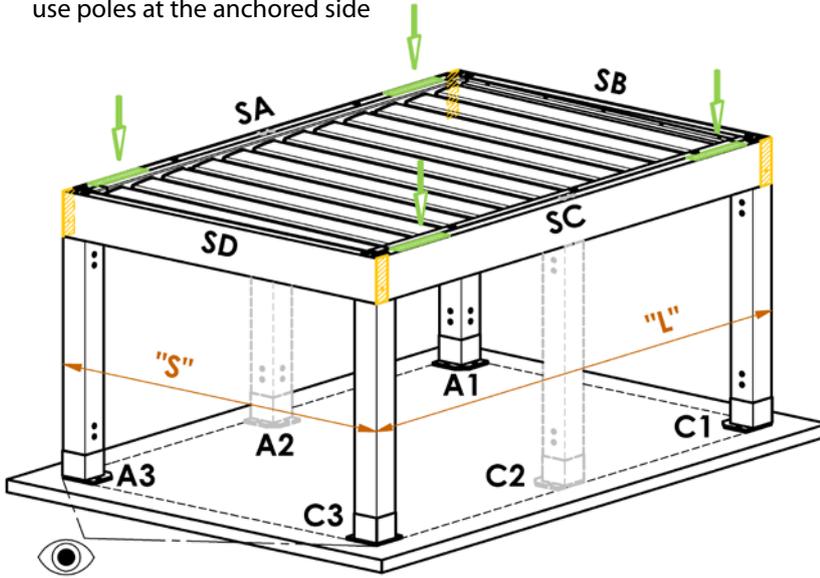


- Anchored side: SB
- Compulsory pole: A3 / C3
- Optional pole: A1 / A2 / A3 / C1 / C2
- Anchored side: SA / SB
- Compulsory pole: C3
- Optional pole: A1 / A2 / C1 / C2 / C3
- Anchored side: SA / SB / SC
- Compulsory pole: -
- Optional pole: A1 / A2 / A3 / C1 / C2 / C3

## Type D

### Installation possibilities

- Free-standing, supported by 4 to 6 poles
- Possibility of anchoring to the adjacent building using the SA/SB/SC/SD perimeter frame, without having to use poles at the anchored side
- The SA/SB/SC/SD sides may be built up
- Handling area of at least 700 mm must be allowed above SA/SC sides

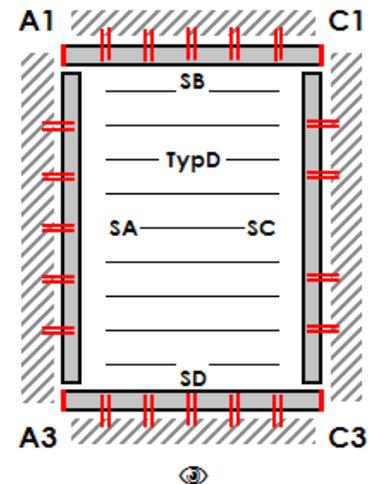
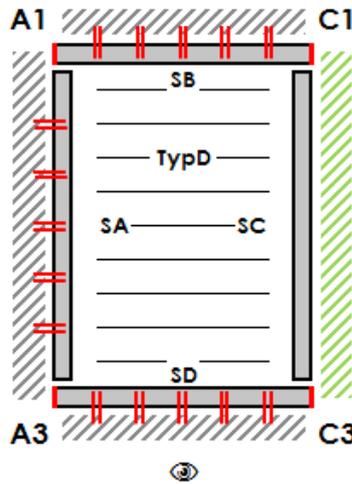
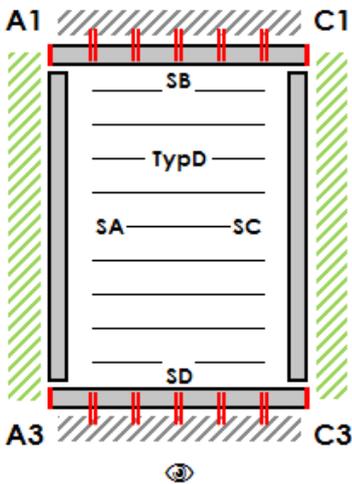


SA, SC – Perimeter frame – Length  
 SB, SC – Perimeter frame – Width  
 A1, A3, C1, C3 – Corner poles  
 A2, C2 – Additional poles

“S” – Maximum pergola width  
 “L” – Maximum pergola length

👁 - Viewing direction

### Examples of installation possibilities for Type D pergola with regard to the surroundings



- Anchored side: SB / SD
- Compulsory pole: -
- Optional pole: A1 / A2 / A3 / C1 / C2 / C3

- Anchored side: SA / SB / SD
- Compulsory pole: -
- Optional pole: A1 / A2 / A3 / C1 / C2 / C3

- Anchored side: SA / SB / SC / SD
- Compulsory pole: -
- Optional pole: A1 / A2 / A3 / C1 / C2 / C3

### Frame anchoring

Frame anchoring means load-bearing fastening of the pergola frame to the adjacent supporting structures through anchoring holes. The pergola is supplied with pre-drilled anchoring holes. The pergola exerts load forces at these holes in accordance with the dimensions and external conditions, see attached table.

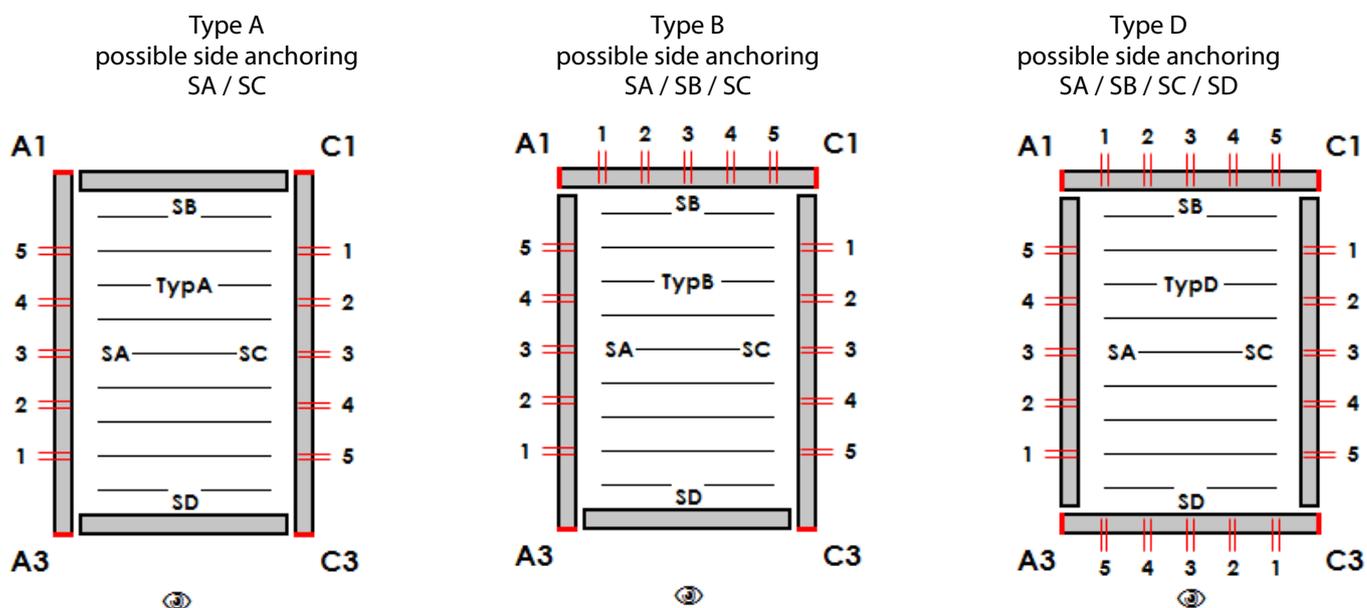
In order to consider the pergola frame load-bearing, it is necessary to select fasteners that are suitable for the given supporting structures and have sufficient dimensions to transfer the load forces, see attached table.

The manufacturer shall not be liable for incorrectly selected fasteners.

The manufacturer shall not be responsible for consequences of incorrect or insufficient anchoring in the adjacent supporting structures.

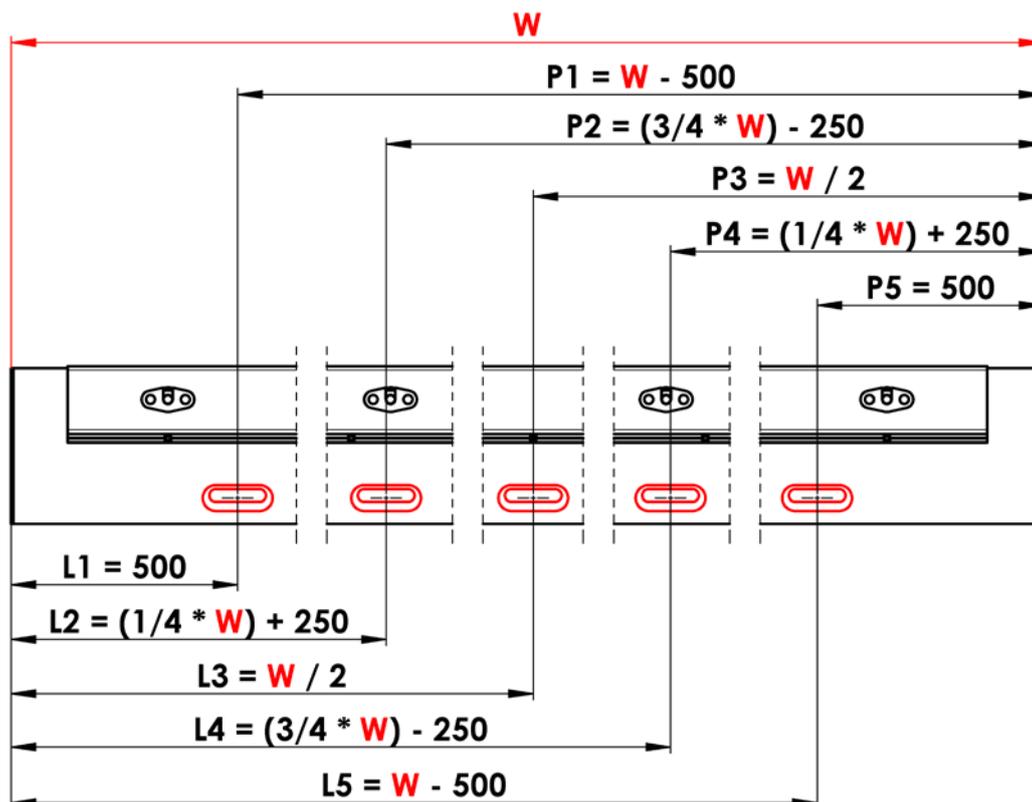
The user acknowledges that adverse effect may occur, such as water entry between the pergola structure and the building façade.

### Anchored sides of pergola



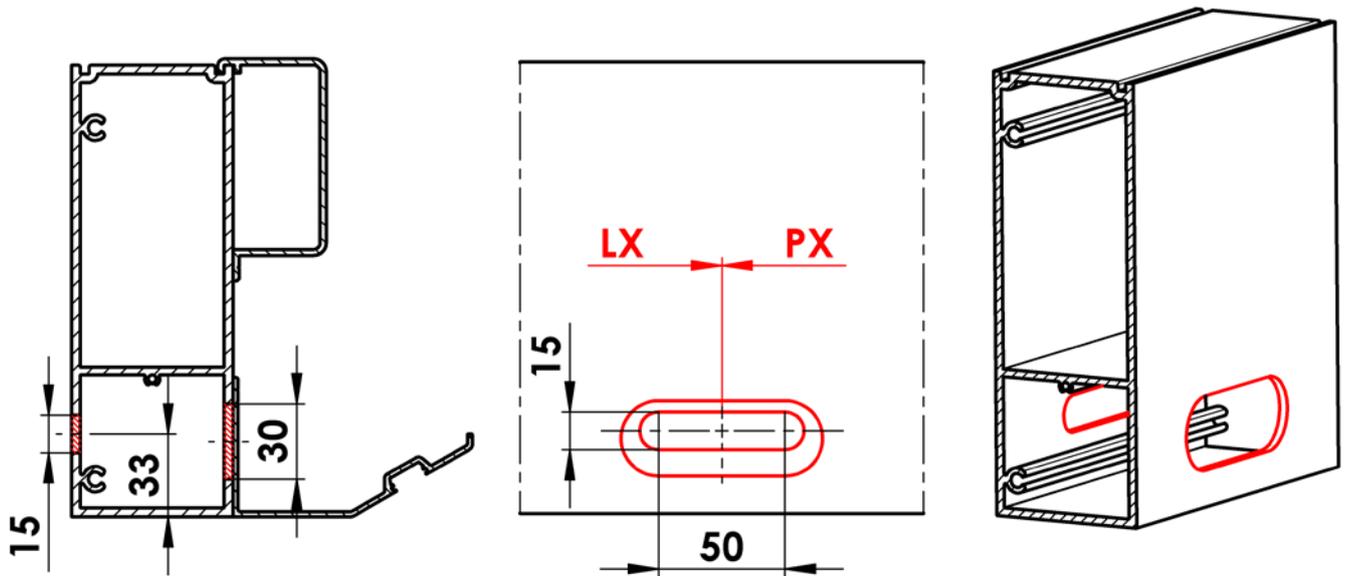
### Arrangement of anchoring holes in the perimeter frame

This hole arrangement applies to all sides of the pergola.



W – Pergola width or length

### Anchoring hole detail



### Table of load forces per one anchoring hole

Anchoring on SA/SC side

Shear stress of each fastener [kN]

L / S	2000	2500	3000	3500	4000	4500
1440	0,64	0,77	0,89	1,02	1,15	1,28
1980	0,85	1,02	1,19	1,37	1,55	1,72
2520	1,05	1,27	1,49	1,72	1,94	2,16
3060	1,26	1,53	1,79	2,06	2,33	2,60
3420	1,40	1,70	1,99	2,29	2,59	2,90
3960	1,61	1,95	2,29	2,64	2,99	3,34
4500	1,82	2,20	2,59	2,99	3,38	3,78
5040	2,03	2,46	2,90	3,34	3,78	4,22
5400	2,16	2,63	3,10	3,57	4,04	4,51
5940	2,37	2,88	3,40	3,91	4,43	4,95
6480	2,58	3,14	3,70	4,26	4,83	5,39
7000	2,79	3,39	4,00	4,61	5,22	5,83

Anchoring on SB/SD side

Shear stress of each fastener [kN]

L / S	2000	2500	3000	3500	4000	4500
1440	0,65	0,79	0,92	1,06	1,20	1,34
1980	0,83	1,01	1,20	1,38	1,57	1,75
2520	1,02	1,25	1,48	1,71	1,94	2,17
3060	1,21	1,49	1,77	2,14	2,32	2,60
3420	1,34	1,65	1,96	2,26	2,57	2,88
3960	1,54	1,89	2,25	2,60	2,95	3,31
4500	1,74	2,14	2,54	2,94	3,34	3,74
5040	1,93	2,38	2,83	3,27	3,72	4,17
5400	2,06	2,54	3,02	3,50	3,98	4,45
5940	2,26	2,79	3,31	3,84	4,36	4,88
6480	2,46	3,03	3,60	4,17	4,74	5,32
7000	2,66	3,28	3,89	4,51	5,13	5,75

Tensile stress of each fastener [kN]

L / S	2000	2500	3000	3500	4000	4500
1440	3,39	4,39	5,44	6,57	7,75	8,99
1980	1,83	2,39	2,98	3,60	4,27	4,97
2520	1,39	1,81	2,27	2,75	3,27	3,81
3060	1,18	1,54	1,93	2,35	2,80	3,27
3420	1,09	1,43	1,79	2,18	2,60	3,04
3960	1,00	1,31	1,65	2,01	2,40	2,81
4500	0,94	1,23	1,55	1,89	2,26	2,65
5040	0,90	1,18	1,48	1,81	2,16	2,54
5400	0,87	1,15	1,45	1,77	2,11	2,48
5940	0,85	1,11	1,40	1,72	2,05	2,41
6480	0,83	1,09	1,37	1,68	2,00	2,35
7000	0,81	1,07	1,34	1,64	1,97	2,31

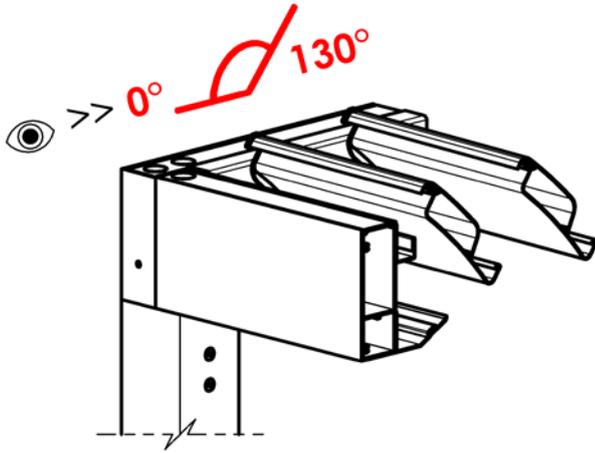
Tensile stress of each fastener [kN]

L / S	2000	2500	3000	3500	4000	4500
1440	1,16	0,90	0,78	0,71	0,66	0,64
1980	1,61	1,25	1,08	0,99	0,93	0,89
2520	2,08	1,62	1,40	1,27	1,19	1,14
3060	2,55	1,99	1,72	1,57	1,47	1,41
3420	2,88	2,24	1,94	1,77	1,66	1,59
3960	3,37	2,63	2,27	2,07	1,95	1,87
4500	3,88	3,03	2,62	2,39	2,24	2,15
5040	4,39	3,43	2,97	2,71	2,55	2,44
5400	4,74	3,71	3,21	2,93	2,75	2,64
5940	5,28	4,13	3,58	3,26	3,07	2,94
6480	5,82	4,56	3,95	3,60	3,40	3,25
7000	6,38	5,00	4,33	3,95	3,72	3,57

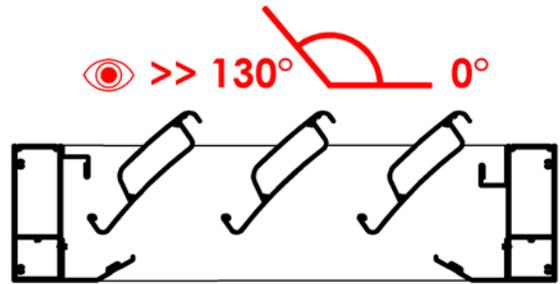
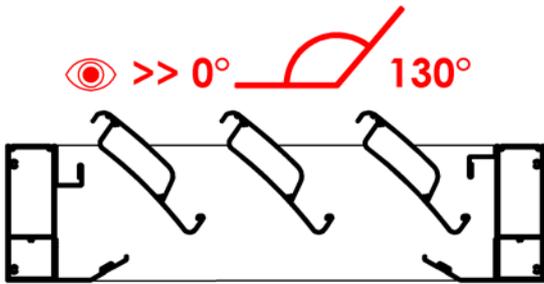
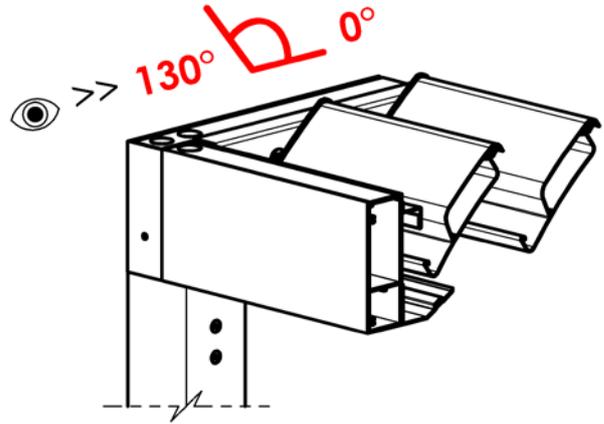
### Orientation of slats

It is possible to select two directions of slat tilting. The tilting direction influences the possibility to regulate the amount of light, shade and air flow between the slats.

Tilting direction A



Tilting direction B



### Access point

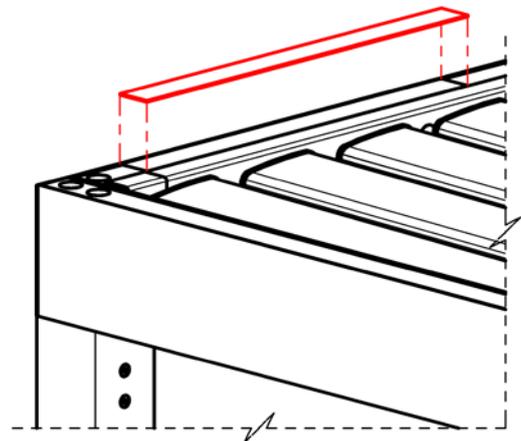
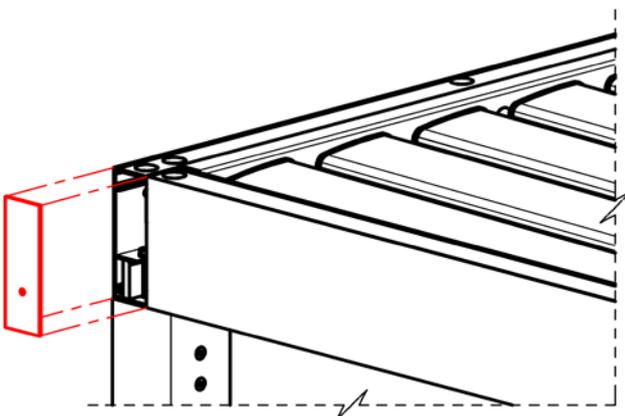
Serves for connecting the pergola electrical installation with power supply. This point also serves for service works on the pergola drive and electrical installation.

for Type A / Type B

- Access via a cover in the front side of the profile on the selected side.
- Handling area of at least 700 mm must be allowed in front of the cover.
- This area must remain accessible after the installation.

for Type D

- Access via a cover and opening in the upper side of the profile on the selected side.
- Handling area of at least 700 mm must be allowed in front of the cover.
- This area must remain accessible after the installation.



## Slat segments

The individual slats are interconnected, comprising a slat segment.

One slat segment is driven by one motor. The pergola can have one or two slat segments.

The motor synchronously tilts the whole slat segment from 0° (slat shut) to 130° (slats fully open).

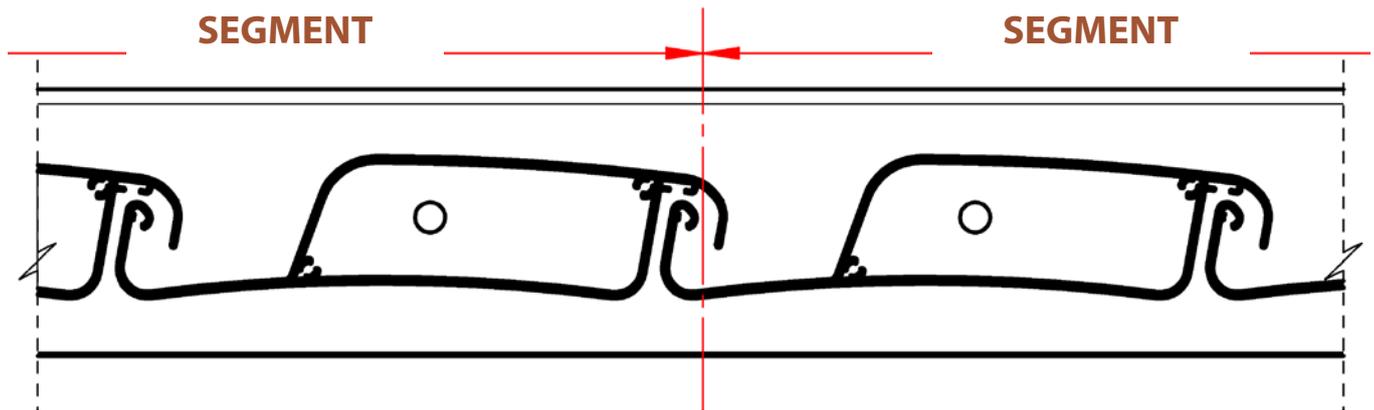
The slats may be stopped at any position within the range.

In case of two segments, it is possible to tilt each segment individually.

For pergolas of  $\leq 5400$  mm length – 1 or 2 segments may be selected.

For pergolas of  $> 5400$  mm length – only 2 segments may be selected.

One segment may have min. 5 slats and max. 28 slats.

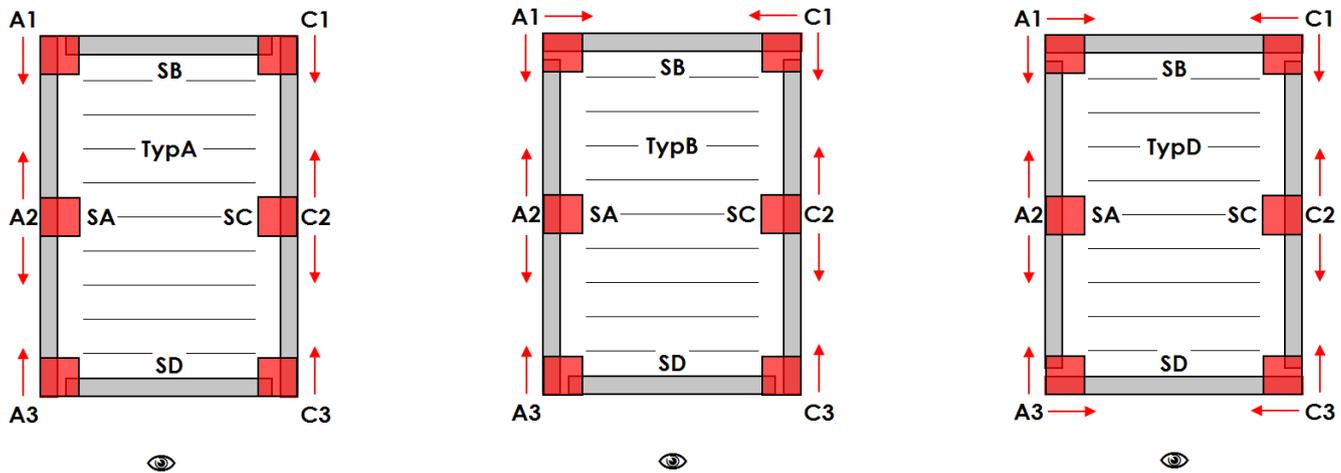


Dividing plane between two segments

## Poles – Basic information

Pole is the basic supporting element of the pergola. It transfers the roof load to the anchoring point through a foot. The anchoring point must be sufficiently load-bearing in order to withstand all loads transferred by the pole foot. Fasteners connecting the pole foot and the anchoring point must have strength sufficient to withstand and transfer all load forces. The manufacturer shall not be liable for incorrectly selected fasteners. Only guide rails of screen roller shutters or glazing rails supplied by the pergola manufacturer can be anchored in the poles.

## Position and displacement of poles



Lengthwise displacement the "Z" corner poles:

- type of installation A,B,D: poles A1 / A3 / C1 / C3: min. 255 mm / max. 1055 mm

Widthwise displacement the "Z" corner poles:

- type of installation B: poles A1 / C1 min. 255 mm / max. 555 mm
- type of installation D: poles A1 / A3 / C1 / C3 min. 255 mm / max. 555 mm

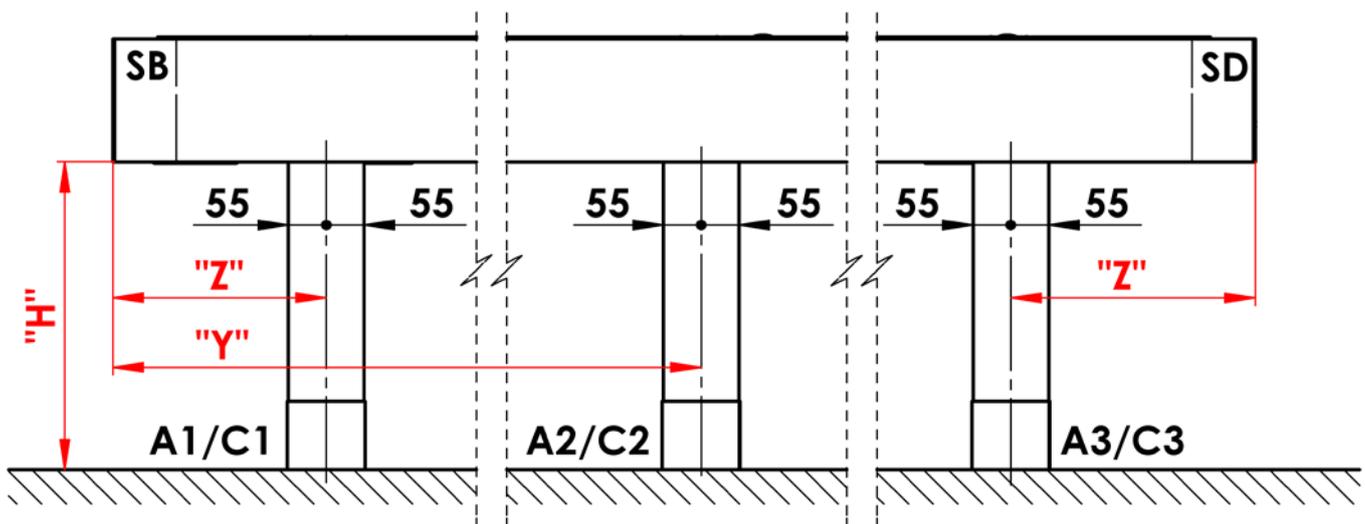
Lengthwise displacement the "Y" middle poles:

- type of installation A,B,D from the end of SB side: poles A2 / C2 min. 1165 mm
- type of installation A,B,D from the end of SD side: poles A2 / C2 min. 1165 mm

Passing height "H"

- type of installation A, B, D: poles A1 / A2 / A3 / C1 / C2 / C3 min. 500 mm / max. 3000 mm

The displacement of the "Z" corner poles is always specified from the pergola's outer edge to the pole's axis.  
 The displacement of the "Y" middle pole A2 is always specified from the SB side's outer edge to the axis of this pole.  
 The displacement of the "Y" middle pole C2 is always specified from the SB side's outer edge to the axis of this pole.  
 The passing height "H" of the poles is always specified from the lower edge of the perimeter frame to the anchor point plane.



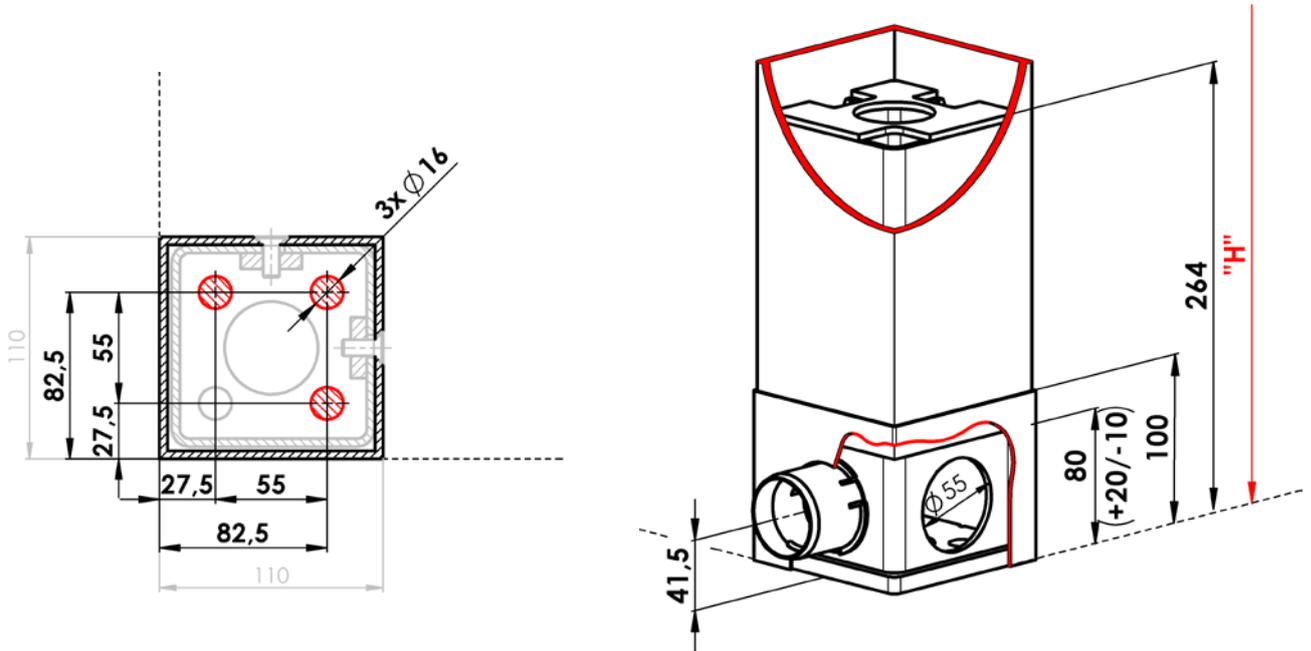
### Concealed foot

The anchoring holes for the fasteners are hidden in the foot.

The lower end of the foot with access to the anchoring holes is covered by a sheet-metal trim.

The foot allows additional adjustment of the passing height "H" by +20/-10 mm.

Foundation for anchoring the foot is part of neither the offer nor the delivery. The implementation of the foundation with regard to specific terrain conditions must be solved individually in cooperation with an authorized person (architect, construction company, etc...)



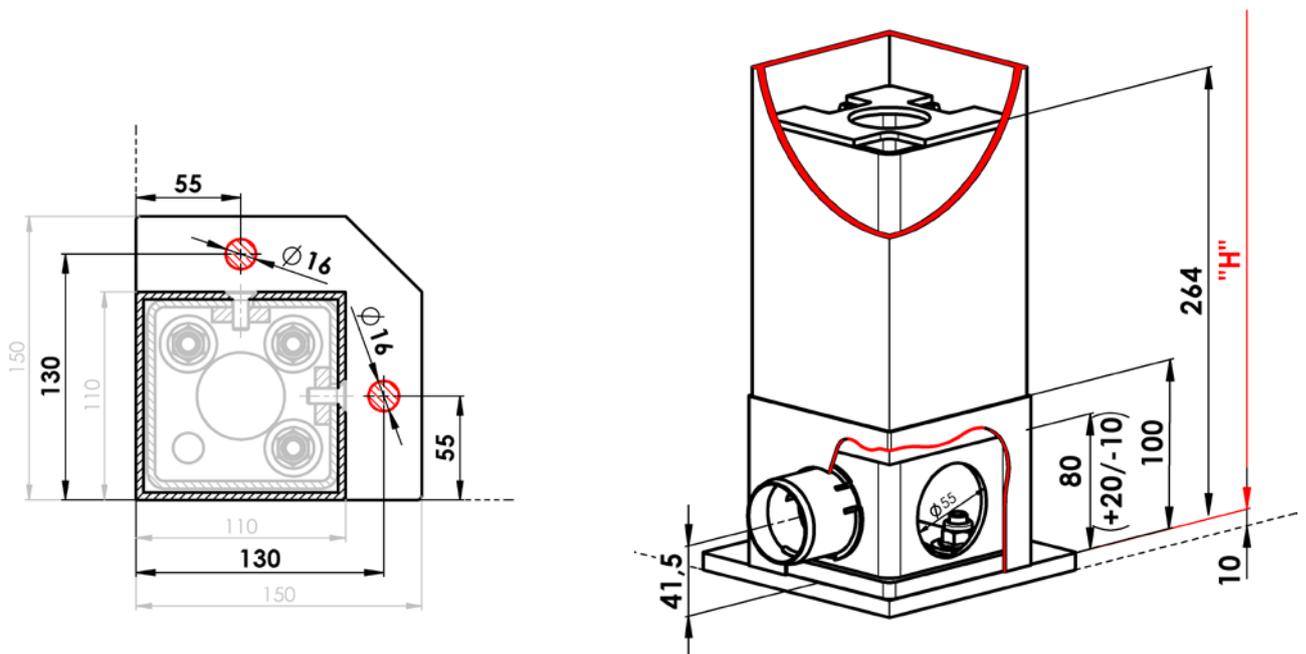
### Extended foot

The anchoring holes for the fasteners are visible on the foot.

The lower end of the foot is covered by a sheet-metal trim.

The foot allows additional adjustment of the passing height "H" by +20/-10 mm.

Foundation for anchoring the foot is part of neither the offer nor the delivery. The implementation of the foundation with regard to specific terrain conditions must be solved individually in cooperation with an authorized person (architect, construction company, etc...)



## Draining system – Basic information

The pergola is equipped with a system for the draining of rain water. From the slats, water flows to gutters installed inside the pergola around the perimeter frame, and then to poles intended for this purpose. Water leaves the pole foot via a drain hole (see below).

The pergola is primarily a shading element with limited rain protection. Detailed information can be found in the section Basic specification – Water resistance.

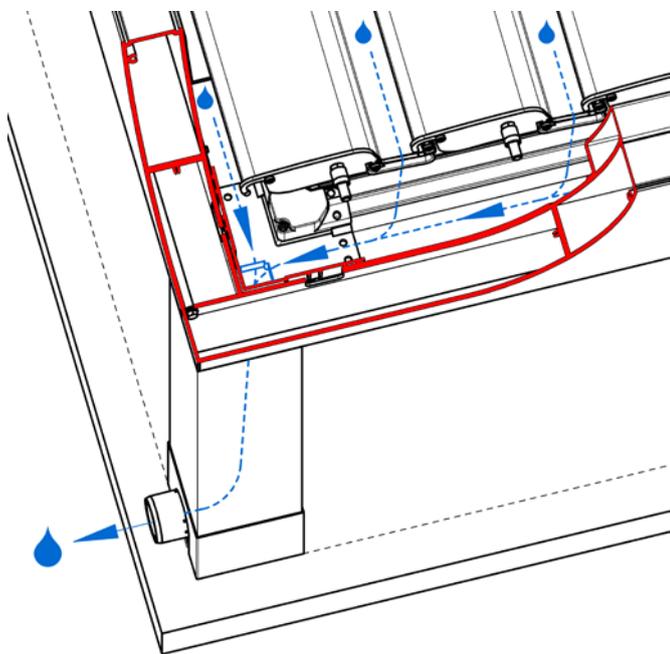
The pergola slats are always weathered away from their drive.

The minimum number of drains located opposite the motors:

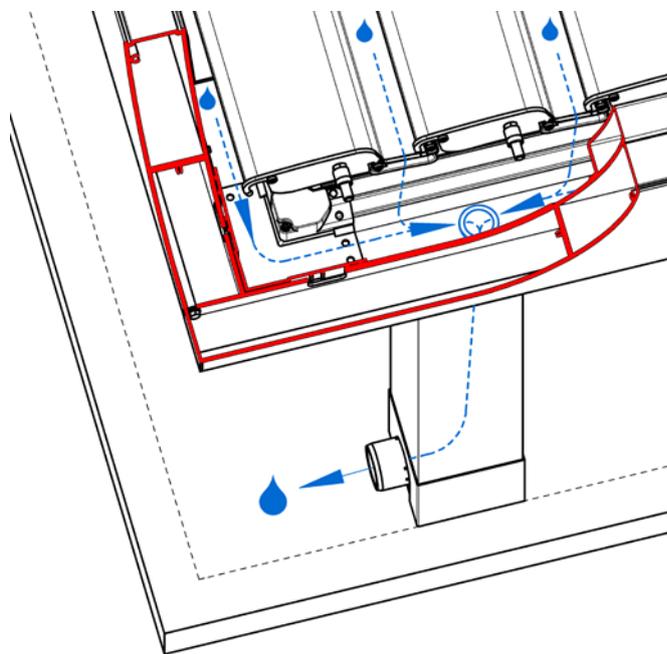
- Surface up to 12 m<sup>2</sup> – 1 drain
- Surface up to 24 m<sup>2</sup> – 2 drains
- Surface up to 24 m<sup>2</sup> – 3 drains

Each pergola pole can include a drain. The maximum number of drains is only limited by the number of poles.

## Direction of water flow in the pergola structure



Water flow direction to the pole with a drain located in the pergola corner

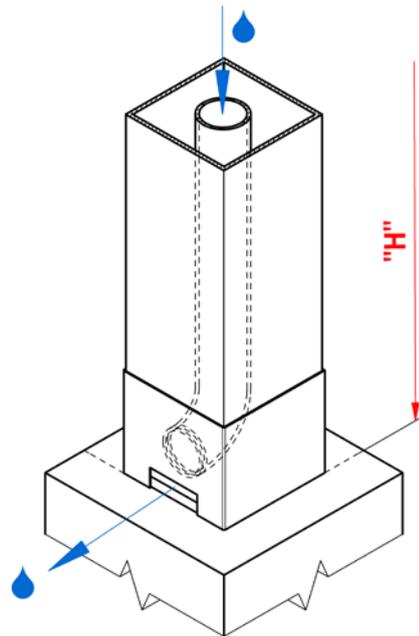


Water flow direction to the pole with a drain located outside the pergola corner

## Draining system – Pole drains

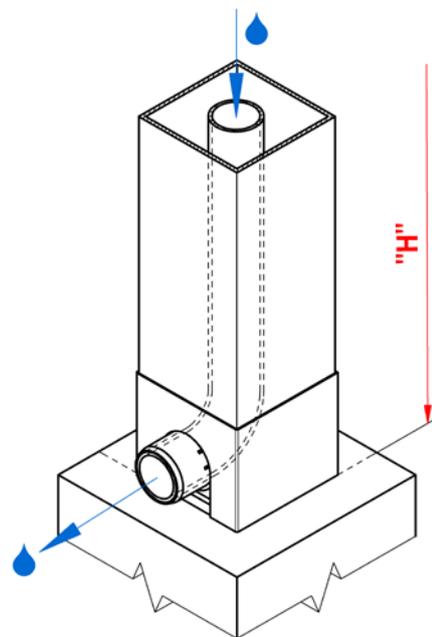
### Uncontrolled draining (rectangular opening)

- The spout hose outfall is directed outside the pergola
- The hose has a loose end
- The hose ends just after the sheet-metal trim inside the pole
- Water flows freely through the rectangular opening in the trim
- Hose length = "H" + min. 300 mm



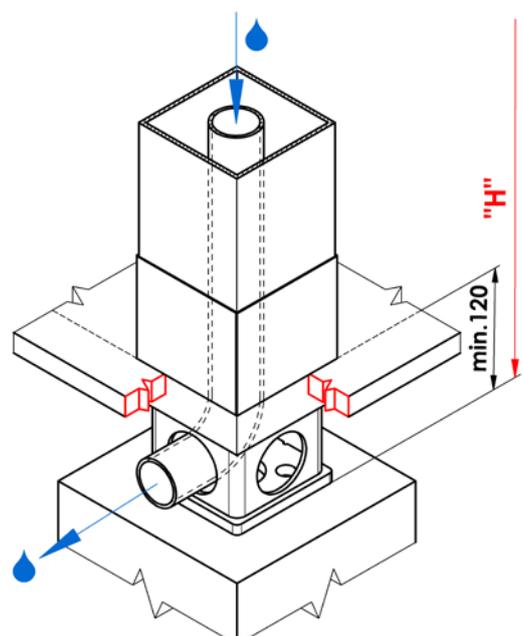
### Controlled draining (half-round opening)

- The spout hose outfall is directed outside the pergola
- The hose has a plastic socket
- The hose with the socket ends outside the sheet-metal trim
- Water flows freely through the plastic socket
- DN50 drain pipe may be connected to the plastic socket (not part of delivery)
- Hose length = "H" + min. 300 mm



### Draining outside the trim (full trim)

- This type of draining is primarily intended for cases where the foot is anchored under the final terrain level and further connection of the spout hose is under the final terrain level
- The spout hose outfall is directed outside the pergola
- The hose has a loose end
- Hose length = "H" + min. 300 mm



## Lighting

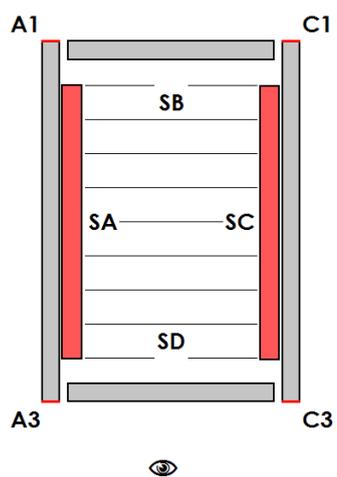
The pergola may be illuminated from the inside by a LED lighting system, which is to be installed in the groove of the gutter profile and covered by a light diffuser.

Light colour:

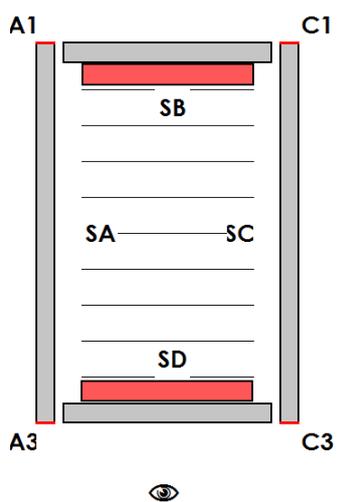
- Warm white
- Cold white

## Lighting placement

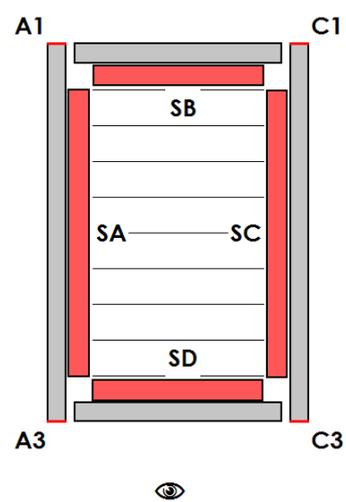
Lengthwise



Widthwise



Lengthwise and widthwise



## ARTOSI

### Optional accessories

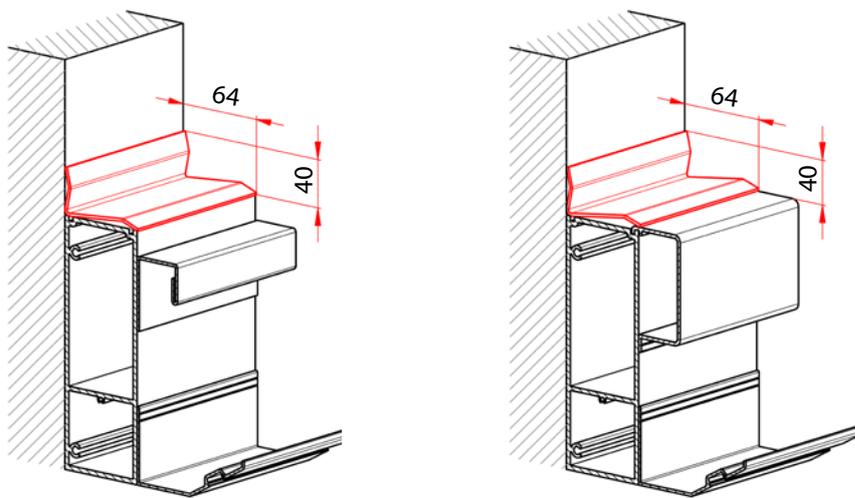
#### Cover sheets

This fitting element is intended to cover the gaps between the pergola and the adjacent structure. The sheets are manufactured to length, with max. length of one sheet being 4000 mm; material: AL. Surface treatment of the sheet may be selected from the standard ARTOSI colour card; other RAL colours are upon request for an extra charge.

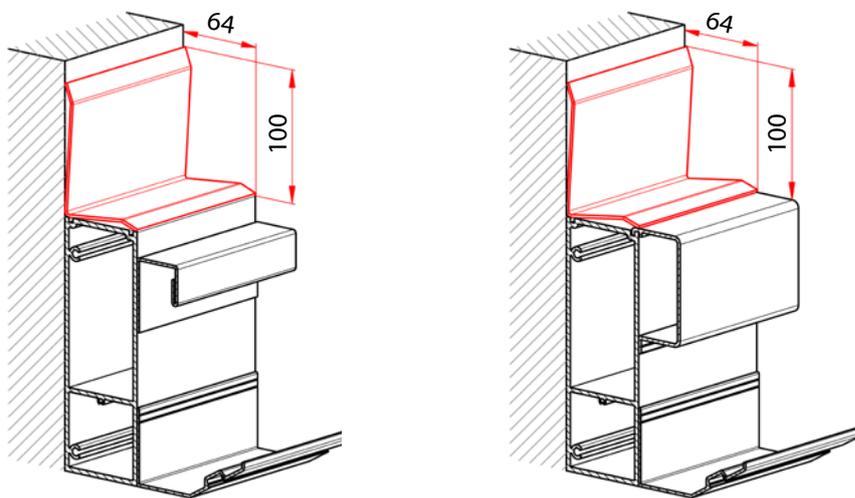
The sheets are not part of the pergola; they are optional accessories and must be ordered separately.

The manufacturer shall not be responsible for failures and defects caused by incorrect incorporation of the pergola to adjacent structures.

#### Sheet PG PK\_01

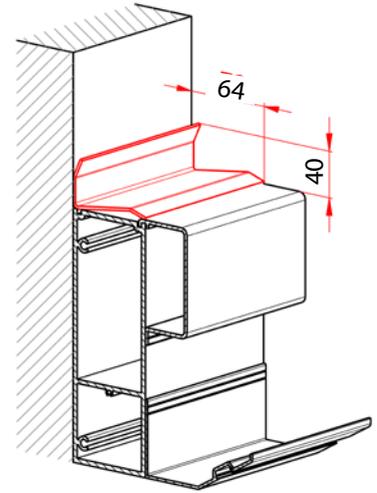
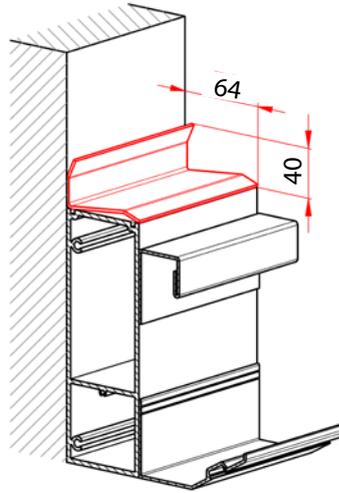


#### Sheet PG PK\_01/1

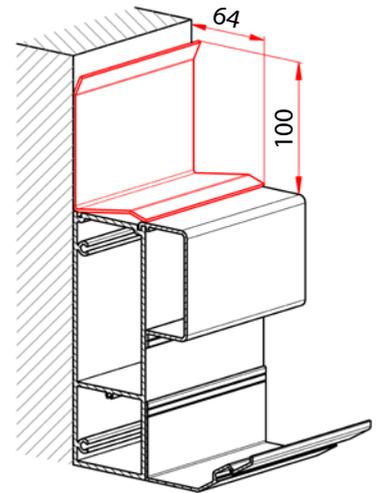
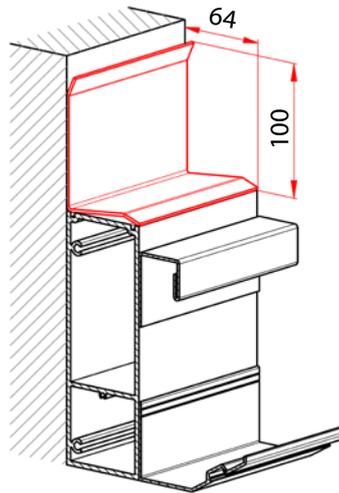


Cover sheets

Sheet PG PK\_02



Sheet PG PK\_02/1

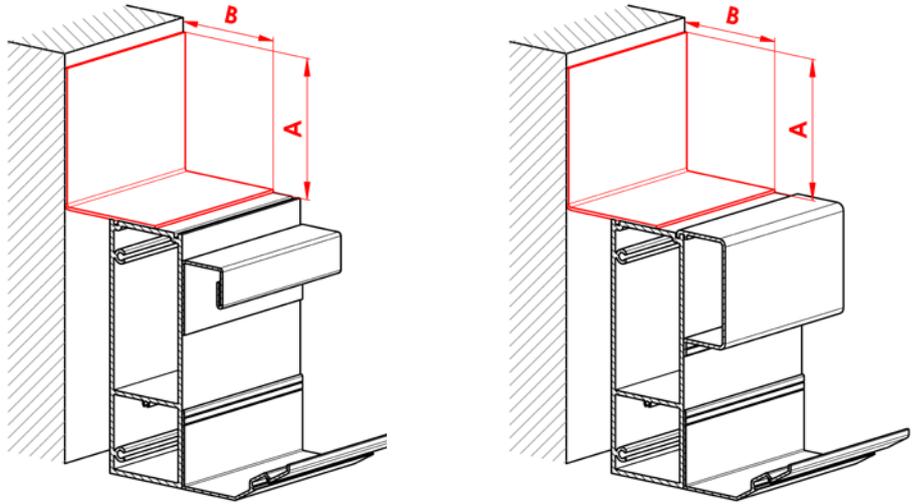


**Cover sheets**

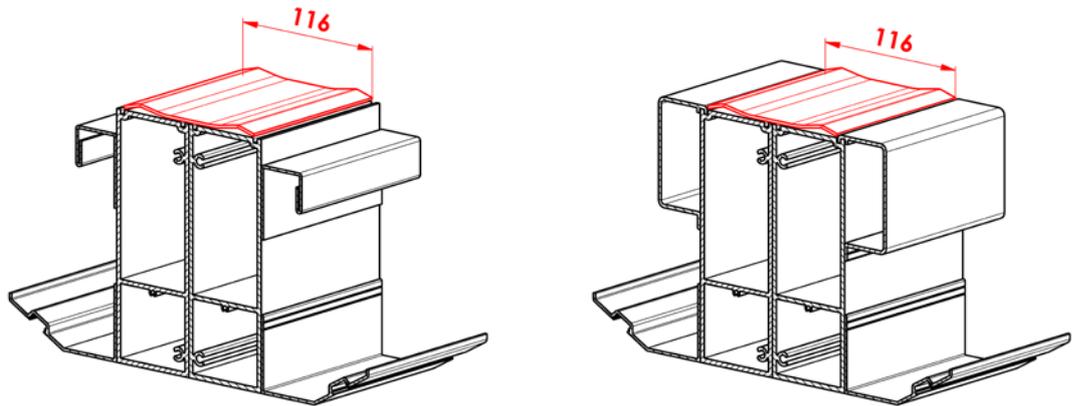
**Sheet PG PK\_03**

Dimension A optional  
min. 25 mm, max. 300 mm

Dimension B optional  
min. 25 mm, max. 300 mm

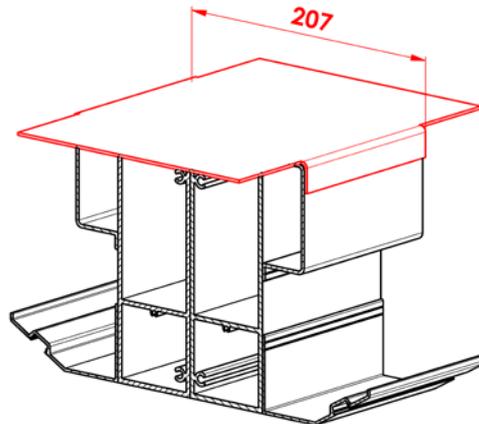


**Sheet PG PK\_04**



**Sheet PG PK\_05**

Cannot be combined with sealing brushes.



## Sealing brushes

Prevent light transmission and rain water flow between the slat and the perimeter frame.

The brush consists of an aluminium bearing profile and UV-stable black polypropylene bristles.

They are attached to the perimeter frame by TEX screws 3.5×9.5 (part of delivery).

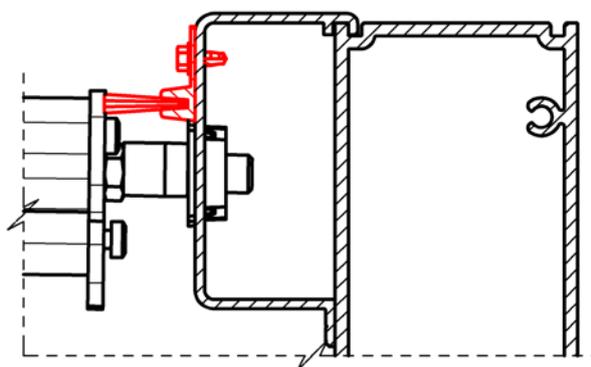
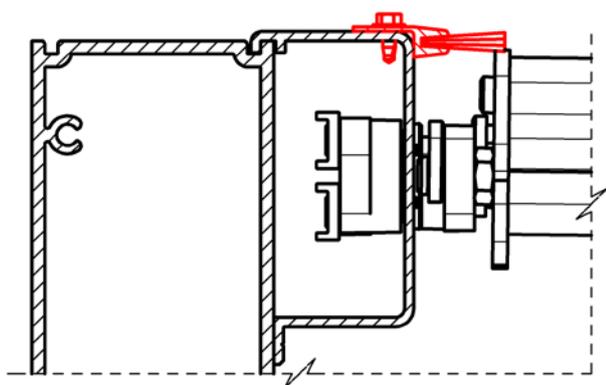
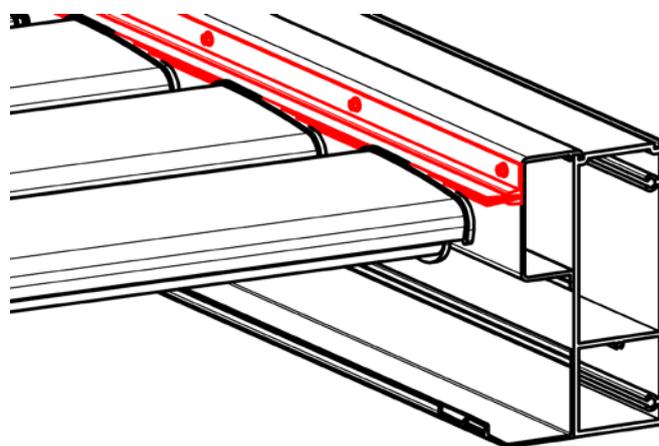
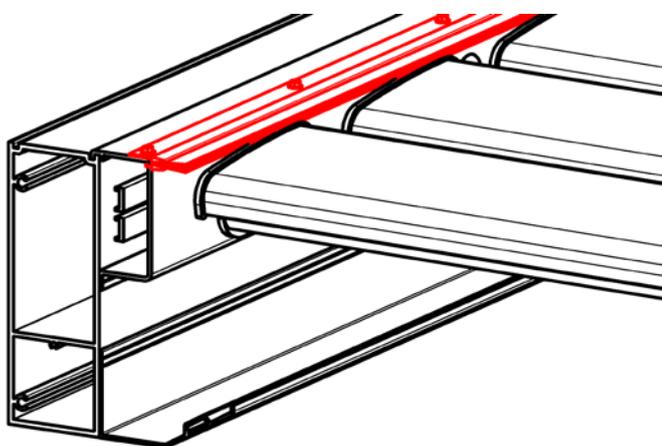
Surface treatment of the aluminium profile may be selected from the standard ARTOSI colour card; other RAL colours are upon request for an extra charge.

The sealing brushes consist of several segments and they are to be ordered according to the pergola length "L" and supplied in a set for both long sides of the pergola.

The brushes are not part of the pergola; they are optional accessories and must be ordered separately.

Motor side sealing brush

NON-motor side sealing brush



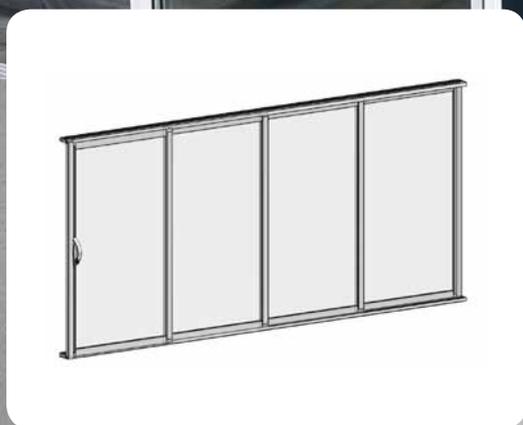
# ARTOSI GLASS



- ▲ protects from noise, dust and bad weather
- ▲ selection of the number of panels from two to six
- ▲ selection of the method of opening
- ▲ obstruction against forced entry
- ▲ easy installation thanks to pre-assembled system
- ▲ easy and fast operation and maintenance
- ▲ colour matching with the ARTOSI pergola as well as the ALFA screen roller blind thanks to a wide range of RAL colours used

**ISOTRA** *Quality*

# SLIDING FRAME GLAZING SYSTEM



- ▲ protects from noise, dust and bad weather
- ▲ obstruction against forced entry
- ▲ colour matching with the ARTOSI pergola as well as the ALFA screen roller blind
- ▲ locks against glass removal
- ▲ easy installation thanks to pre-assembled system
- ▲ easy and fast operation and maintenance
- ▲ selection of the number of panels and method of opening

## SLIDING FRAME GLAZING SYSTEM

### Basic specification

The sliding frame glazing system, made from aluminium profiles and glass inset is used for the glazing of the ARTOSI pergolas. The system features slide opening, i.e., the individual panels slide one behind the other. Two- to six-panel version of the system can be ordered. The special shape of the vertical profile also serves as a handle over its whole length, the glass used is transparent tempered glass of 6 mm thickness. The system can be equipped with stainless lockable handles.

### Product features

Weight	
Area weight of the system	16,48 kg/m <sup>2</sup> (when using ESG 6 mm glass)
Weight per regular meter	36,26kg (when height of 2,2m and using ESG 6 mm glass)
Used materials	Properties - classes
AL profiles	EN AW 6060 T66
Infill	Float 4-6 mm, ESG 4-6 mm, CONNEX 33.1*, Insulating double glass 4-8-4 mm
Plastic parts	PA6 – extruded polyamide TPE+PP – Thermoplastic elastomers, Polypropylene PP – Polypropylene PA6 GF30% - extruded polyamide, reinforced with glass fibres PE – Polyethylene

\* other types of infill on request

### Observed standards and certifications

Standard	Name
ČSN EN 12210	Windows and doors - Resistance to wind load - Classification
ČSN EN 1991	Load of building structures
ČSN 73 0810	Fire safety of buildings – Common provisions
ISO 9001:2015	Quality management system

Certification	Issued by
Manufacturer's statement No. AM/01 – Frame glazing systems	ALUMIST SE
Protocol on the product certification result No. 060-052700	Technický a zkušební ústav stavební Praha, s.p. pobočka Brno (Technical and Testing Institute of Constructions Prague, s.p. Brno branch)
Fire safety assessment for the product Railings and additional glazing of loggias and balconies Z220210089	PAVUS, a.s.
Quality management system for the production and installation of glazing systems – QMS-4920/	STAVCERT Praha, spol. s.r.o.
Certificate type e.13.906.804	TÜV Czech

### Standard dimensions and loading

Frame glazing system	Width (mm)		Height (mm)		Loading (kg/m <sup>2</sup> )	Loading (kg/BM)
	min.	max.	min.	max.	max.	max.
one panel	700	1000	500	2700	25*	65**
glazing area	1400	6000	500	2700	25*	65**

\* glass thickness 6 mm

\*\* glass thickness 6 mm and max. glazing height 2.7 m

## Technical description

### A. Material

The sliding window frames, panel guide profiles, rails and closing rails are made of aluminium alloys with grey anodised surface treatment or with the standard white powder coating (no type of surface treatment), extra-cost colours according to the RAL chart, with gloss, matt or structured surface treatment. The lower rails are always in anodised colour! Other components are not subject to weather effects and UV radiation (stainless steel, plastic). The glass used is tempered safety glass, 6 mm, transparent.

### B. Composition, design and function of the product

Glass is inserted and sealed with silicone in profiles with brush seals, connected with plastic angles with stainless self-lubricating bearings with plastic bandage and locks against glass removal. 2–6 sliding panels travel over the lower rail, being lead in the upper rail (not interfering with the inner area of the pergola). The sliding panels can move to one side, or symmetrically to both sides (curtain). The lower rail includes openings for the draining of rainwater and thawing snow. The side profiles and the design of the vertical profiles ensure increased tightness of the whole structure.

### C. Product installation

The system is pre-assembled, which facilitates the installation. The system is installed from the inside of the pergola. The guide rail is to be attached to the aluminium frame of the pergola using stainless metal screws. The lower rail is to be attached to the foundation by screws and plugs. The foundation must be supporting, stable and levelled, e.g., concrete, concrete pavers, interlocking pavement, brick wall, etc.

#### Note:

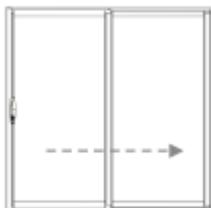
If the pergola is equipped with sliding glass panels, the user is required, in case of snowfall, to protect the equipment by opening the slats (i.e., turn the slats to vertical position). If snow has already covered the closed pergola, remove the snow cover from the pergola roof as soon as possible. Otherwise, the travel system of the panels, or even the whole glazing system is likely to get damaged.

If the length of the pergola is more than 5000 mm and glazing is installed, we recommend adding a central prop A2/C2 as a support against sagging of the perimeter frame of the pergola in case of possible snow load.

## Possible versions

### Number of panels

2D



3D



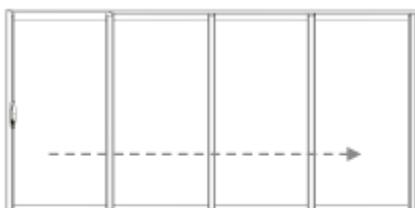
2x 2D



2x 3D



4D



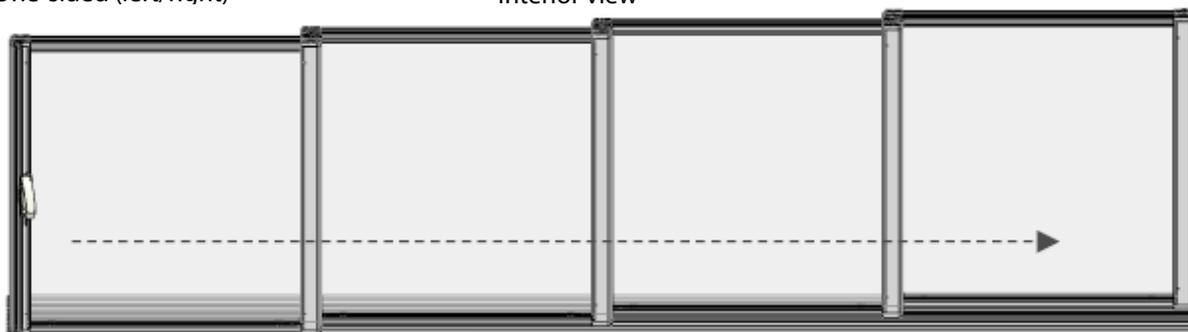
5D



### Možnosti otvírání

One-sided (left/right)

Interior view

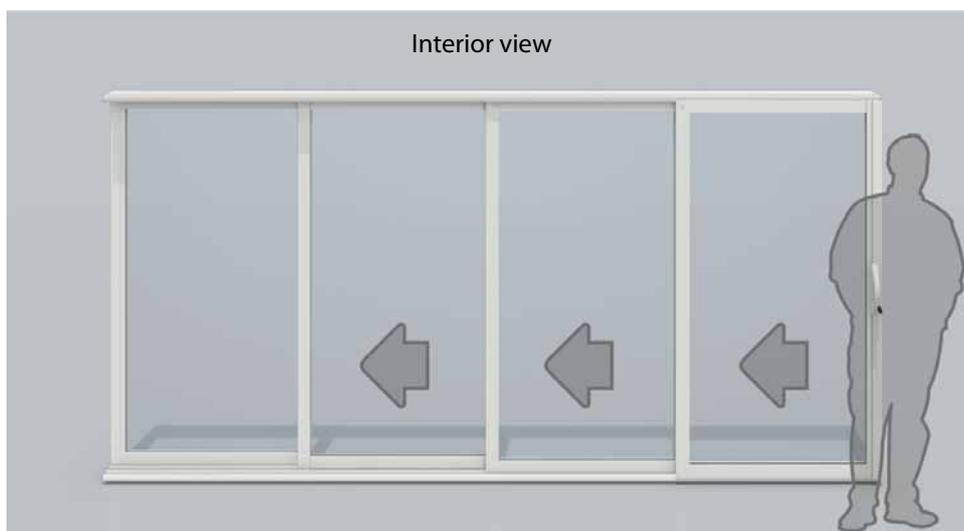


Double-sided (curtain type)

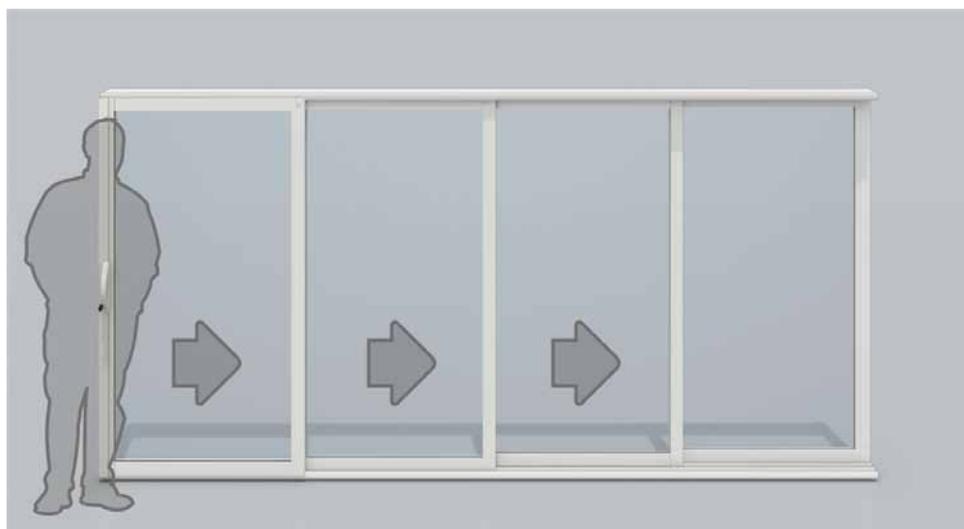


**Methods of opening**

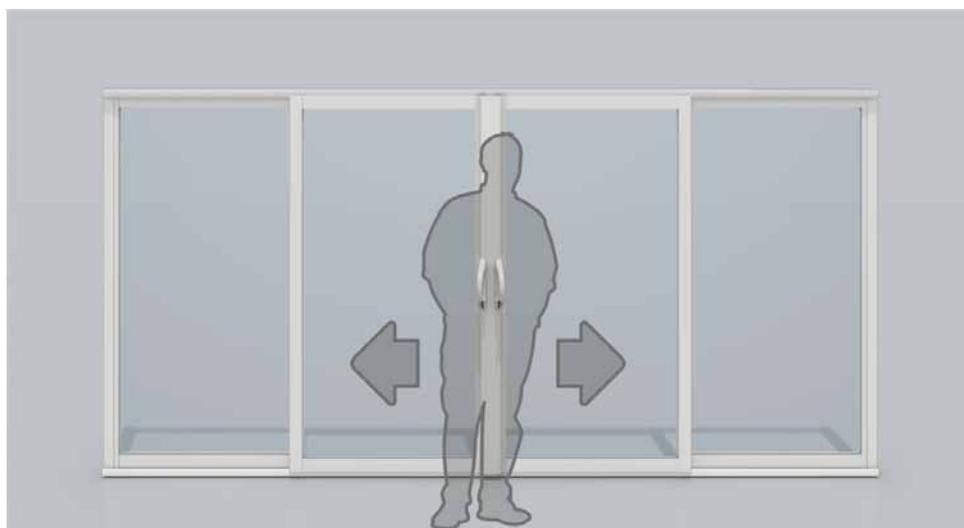
Opening to the left – the right panel is the outermost, is equipped with a handle (“handle on the right” or “panel folding to the left” can also be specified in the order)



Opening to the right – the left panel is the outermost, is equipped with a handle (“handle on the left” or “panel folding to the right” can also be specified in the order)

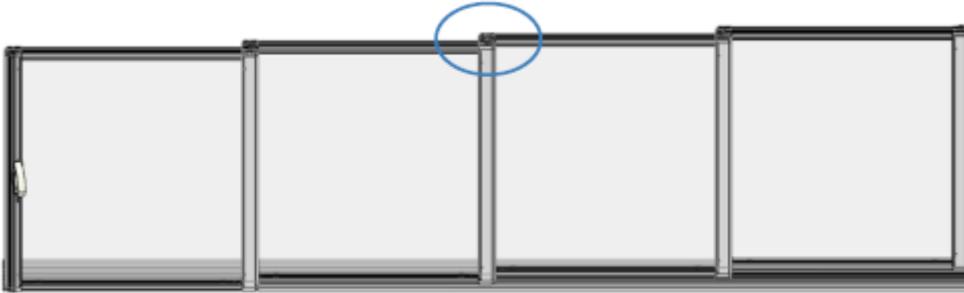
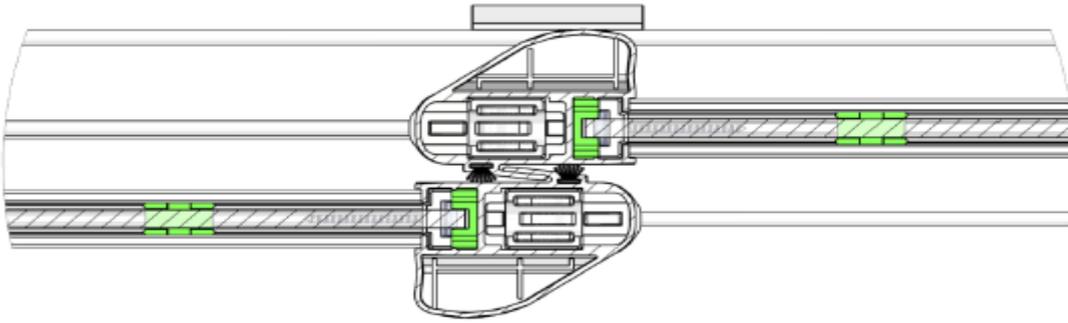


Curtain-type opening – the two panels in the centre are the outermost, are equipped with a handle (“handle on the left and right” or “curtain-type” can also be specified in the order)

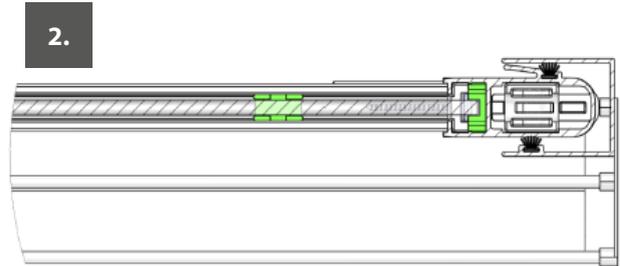
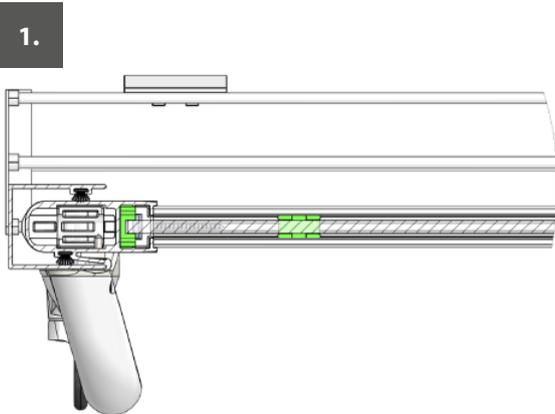


### Vertical profiles

Reinforced vertical profiles to be used in glazing for pergola passing heights up to 2700 mm.



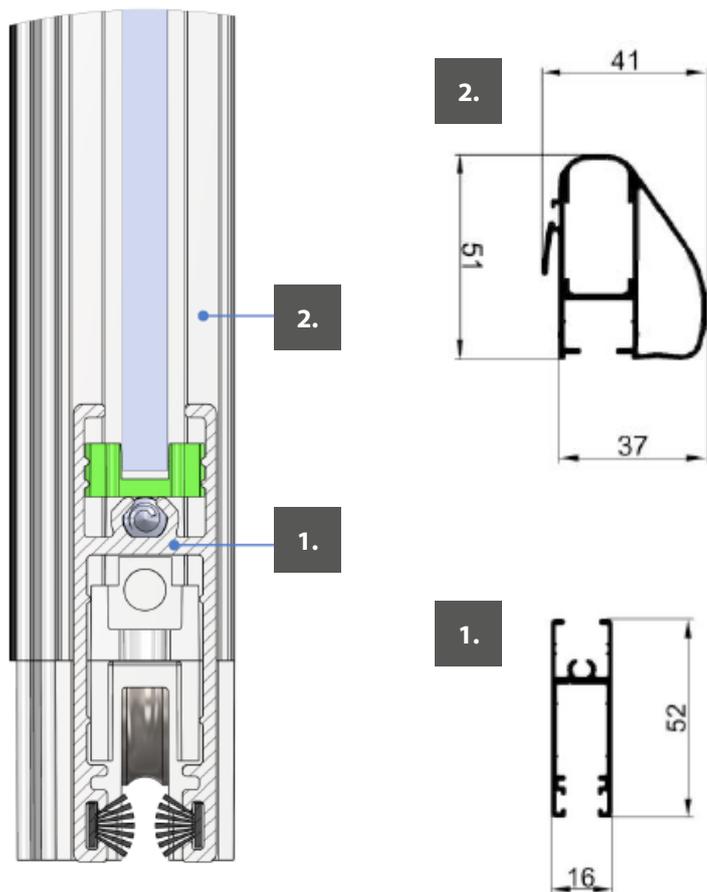
### End profiles



## Glazing

Cross-section – detail

Profiles for glazing from 6 mm tempered safety glass (ESG).



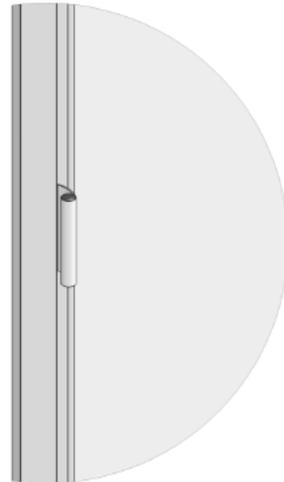
**Security against opening**

**Handles**

Metallic handle with lock



Normal handle  
100 mm



**Additional handle - only from exterior, does not belong to the standard equipment**

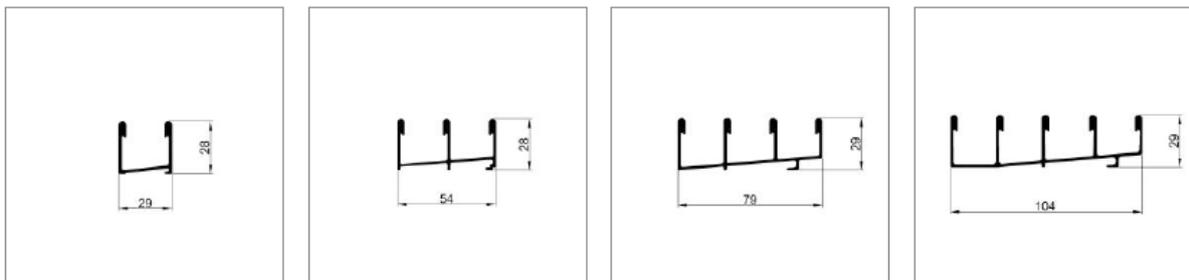
**Wing screw**

Located on the lower right or lower left side, depending on the selected opening method.



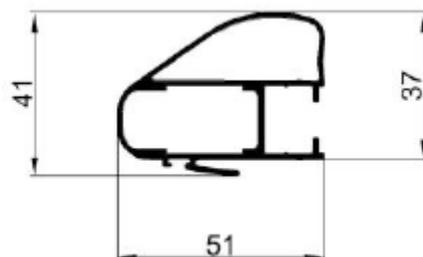
**Rail profiles**

Standard rails



**Vertical profile**

Profile for a simple glass pane, 6 mm (ESG). The profile is reinforced up to the glazing height of 2.7 m.

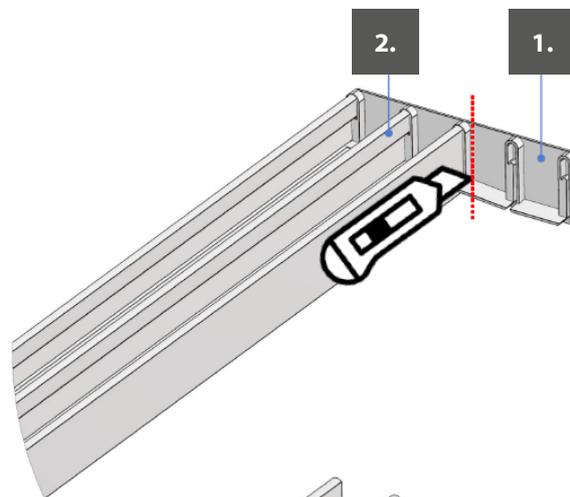


## Installation

### Rail cover

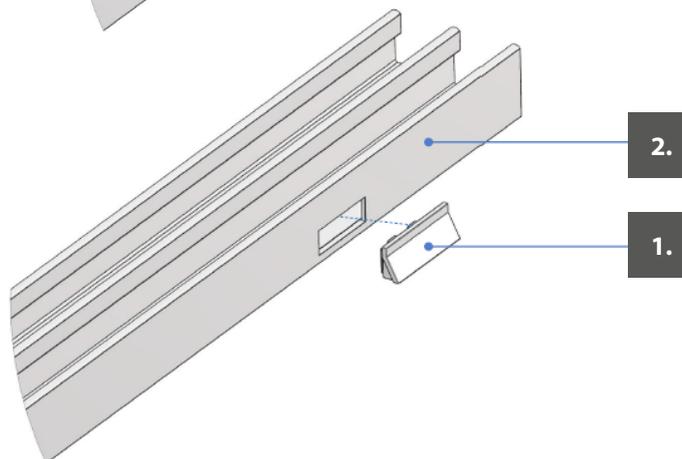
1. Rail cover
2. Rail

Put the covers to both ends of the rail. Use a knife to cut the overlapping part of the cover.



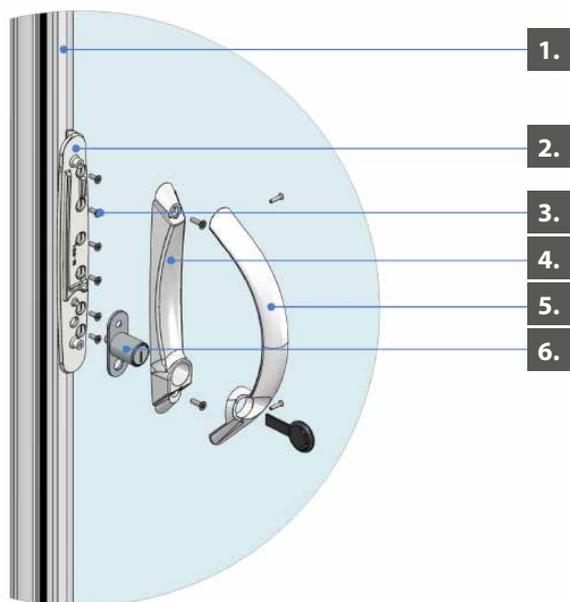
### Drain opening cover

1. Drain opening cover
2. Rail



### Handles

#### Metallic handle with a lock

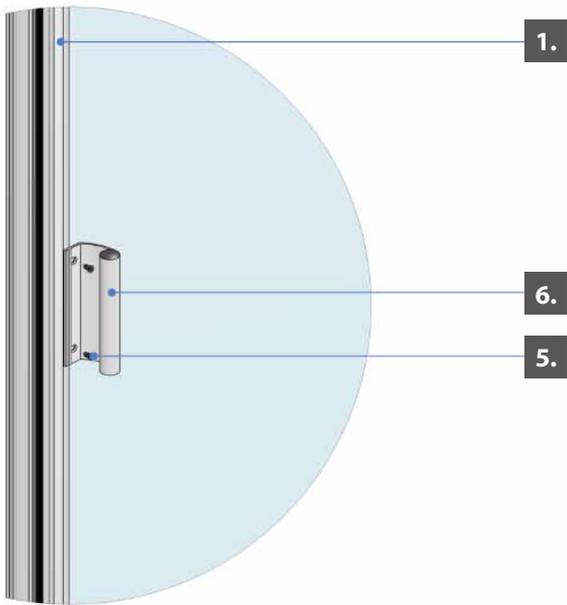


1. Vertical profile
2. Handle – base part
3. Handle – screw 2.9 × 6.5
4. Handle – lower part
5. Handle – lock
6. Handle – arch

1. Disassemble the supplied handle.
2. Apply the base part of the handle to the vertical profile of the panel, to the required height.
3. Use a drill bit  $\varnothing 2.5$  to prepare openings for screws to attach the base part of the handle.
4. Fasten the base part of the handle using the screws 2.9 × 6.5.
5. Slide the panel to the U-section and drill an opening for the bayonet lock pin (the opening passes through the U-section and the vertical profile wall).
6. Use the screws to fasten the lock and the lower part of the handle to the base part.
7. Use the screws to fasten the handle arch.
8. Test the lock function.
9. The diameter of the lock pin opening can be increased to facilitate locking.

Note: The lock insert is not double-sided (the lock does not pass through), i.e., the system can only be locked from the inside.

**Normal handle**

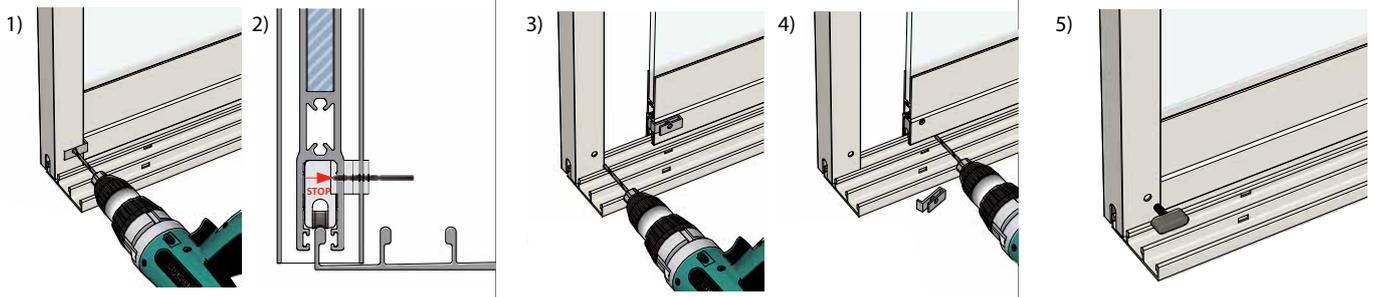
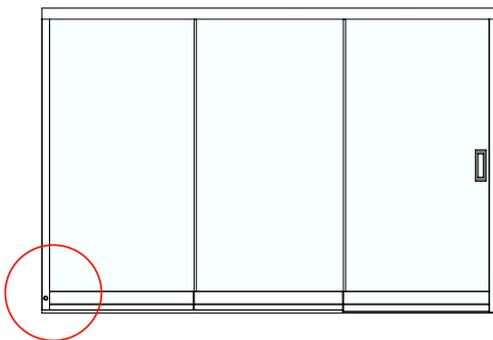


- 1. Vertical profile
- 2. Normal handle 100 mm
- 3. Handle – screw 2.9 × 6.5

1. Stick the handle to the vertical profile of the leaf, to the required height.
2. Use a drill bit  $\varnothing 2.5$  to prepare openings for screws to attach the handle. Do not damage the leaf glazing when drilling.
3. Adjust the openings on the handle by a countersink bit.
4. Fasten the handle using the screws 2.9 × 6.5.

**Securing**

**Wing screw – assembly**



obr. 1

- a) insert the wing into the U-profile
- b) drill a hole in the U-profile and horizontal profile of the wing with a  $\varnothing 5$  drill, using a drilling template
- c) drilling depth is shown in figure No. 2

obr. 3

- a) slide the wing out of the U-profile
- b) enlarge the hole in the U-profile with a  $\varnothing 7$  drill bit
- c) clean the drilled hole with a countersink

obr. 4

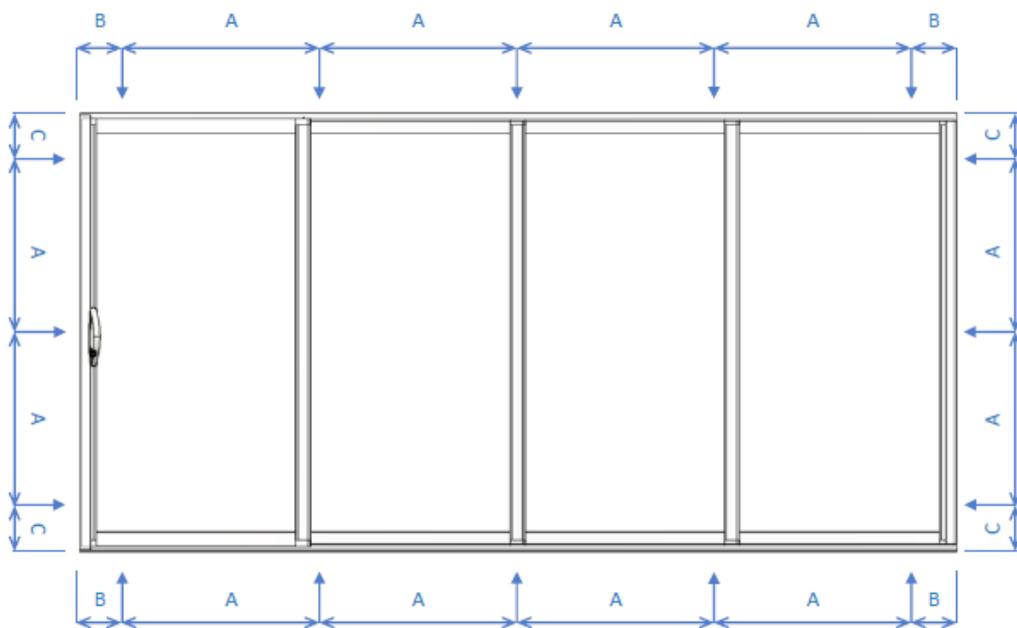
- a) cut the drill template from the counterpart of the wing screw
- b) enlarge the hole in the horizontal profile with a  $\varnothing 7$  drill bit
- c) be careful not to damage the thread of the nut, that is inserted in the counterpart, with the drill

obr. 5

- a) insert the wing into the U-profile
- b) secure the wing against opening with the wind screw

### Anchoring plan of the sliding frame glazing system

The rail must not be sunk in the floor – otherwise the glass will not fit.



#### anchor hole spacing

- A. max 750 mm
- B. max 150 mm
- C. max 300 mm

### Recommended fasteners



1. PLUG min. 8 × 50 + SCREW min. 5 × 60, anchoring to concrete/brick
2. SELF-TAPPING SCREW min. 4.8 × 32, anchoring to metallic materials
3. SCREW min. 5 × 50, anchoring to wood

# SLIDING FRAMELESS GLAZING SYSTEM



- ▲ ensures unobstructed view of the garden
- ▲ protects from noise, dust and bad weather
- ▲ colour matching with the ARTOSI pergola as well as the ALFA screen roller blind
- ▲ locks against glass removal
- ▲ easy installation thanks to pre-assembled system
- ▲ easy and fast operation and maintenance
- ▲ selection of the number of panels and method of opening

## SLIDING FRAMELESS GLAZING SYSTEM

### Basic specification

The sliding frameless glazing system, made from aluminium profiles and self-supporting glass inset is used for the glazing of the ARTOSI pergolas. The system features slide opening, i.e., the individual panels slide one behind the other. Two- to six-panel version of the system can be ordered. The self-supporting glazing is transparent safety tempered glass of 10 mm thickness, with stainless lockable handles to facilitate handling.

### Product features

Weight	
Area weight of the system	25,36 kg/m <sup>2</sup> (when using ESG 10 mm)
Weight per regular meter	55,81 kg (when height 2,2m and using ESG 10 mm)
Used materials	Properties - classes
AL profiles	EN AW 6060 T66
Infill	Safety glass ESG 10 mm – drilled with ground edges
Cover of the horizontal profile	Stainless steel
Silicone gasket	PVC – typ 01043 TPV – 70BI86
Plastic parts	TPE + PP – Thermoplastic elastomers, Polypropylene PP – Polypropylene PA6 GF30% - extruded polyamide, reinforced with glass fibres
Plastic parts glue	Clearseal Glasklar transparent

### Observed standards and certifications

Standard	Name
ČSN EN 12210	Windows and doors - Resistance to wind load - Classification
ČSN EN 1991	Load of building structures
ČSN 73 0810	Fire safety of buildings – Common provisions
ISO 9001:2015	Quality management system

Certification	Issued by
Manufacturer's statement No. AM/02 - Frameless glazing systems	ALUMIST SE
Protocol on the product certification result No. 060-052700	Technický a zkušební ústav stavební Praha, s.p. pobočka Brno (Technical and Testing Institute of Constructions Prague, s.p. Brno branch)
Fire safety assessment for the product Railings and additional glazing of loggias and balconies Z220210089	PAVUS, a.s.
Quality management system for the production and installation of glazing systems – QMS-4920/	STAVCERT Praha, spol. s.r.o.
Certificate type e.13.906.805	TÜV Czech

### Standard dimensions and loading

Frameless glazing system	Width (mm)		Height (mm)		Loading (kg/m <sup>2</sup> )	Loading (kg/BM)
	min.	max.	min.	max.	max.	max.
one panel	700	1000	500	2700	28*	70**
glazing area	1400	6000	500	2700	28*	70**

\* glass thickness 10 mm

\*\* glass thickness 10 mm and max. glazing height 2.7 m

## Technical description

### A. Material

The panel guide profiles, rails and closing rails are made of aluminium alloys with grey anodised surface treatment or with the standard white powder coating (other extra-cost colours according to the RAL chart). The lower rails are always in anodised colour! Other components are not subject to weather effects and UV radiation (stainless steel, plastic). The glass used is tempered safety glass, 10 mm, transparent.

### B. Composition, design and function of the product

Glass is inserted and sealed with silicone in profiles with foam-plastic seals in the lower and upper parts. Smooth movement is ensured by castors (stainless, self-lubricating bearings with plastic bandage) in the lower aluminium profile. Two to six sliding panels travel over the lower rail, being lead in the upper rail. The sliding panels can move to one side, or symmetrically to both sides. The lower rail includes openings for the draining of rainwater and thawing snow. The side closing angle sections and silicone seals on the sides of the panels ensure increased tightness of the structure. It is possible to compensate up to 50 mm structural unevenness thanks to a special arrangement of the upper rail.

### C. Product installation

The system is pre-assembled, and is installed from the inside of the pergola. It is to be attached to the existing pergola frame using stainless metal screws. The lower rail is to be attached to the foundation by screws and plugs. The foundation must be supporting, stable and levelled, e.g., concrete, concrete pavers, interlocking pavement, brick wall, etc.

#### Note:

If the pergola is equipped with sliding glass panels, the user is required, in case of snowfall, to protect the equipment by opening the slats (i.e., turn the slats to vertical position). If snow has already covered the closed pergola, remove the snow cover from the pergola roof as soon as possible. Otherwise, the travel system of the panels, or even the whole glazing system is likely to get damaged.

If the length of the pergola is more than 5000 mm and glazing is installed, we recommend adding a central prop A2/C2 as a support against sagging of the perimeter frame of the pergola in case of possible snow load.

## Possible versions

### Number of panels

2D



2x 2D



3D



2x 3D



4D



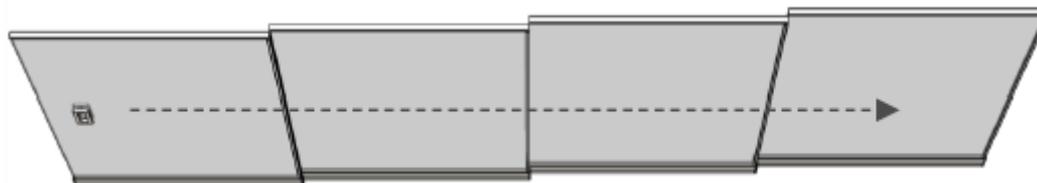
5D



### Opening possibilities

One-sided (left/right)

Interior view

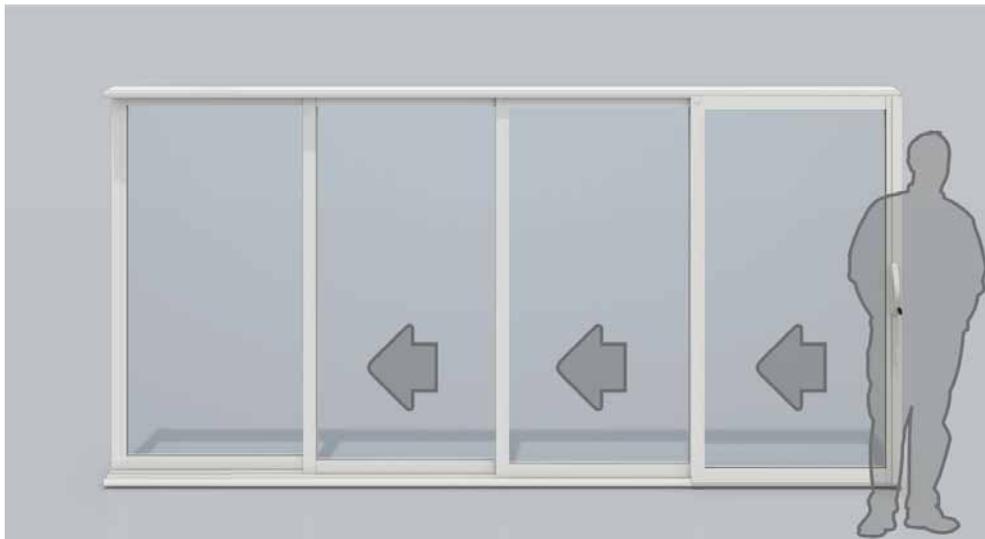


Double-sided (curtain type)

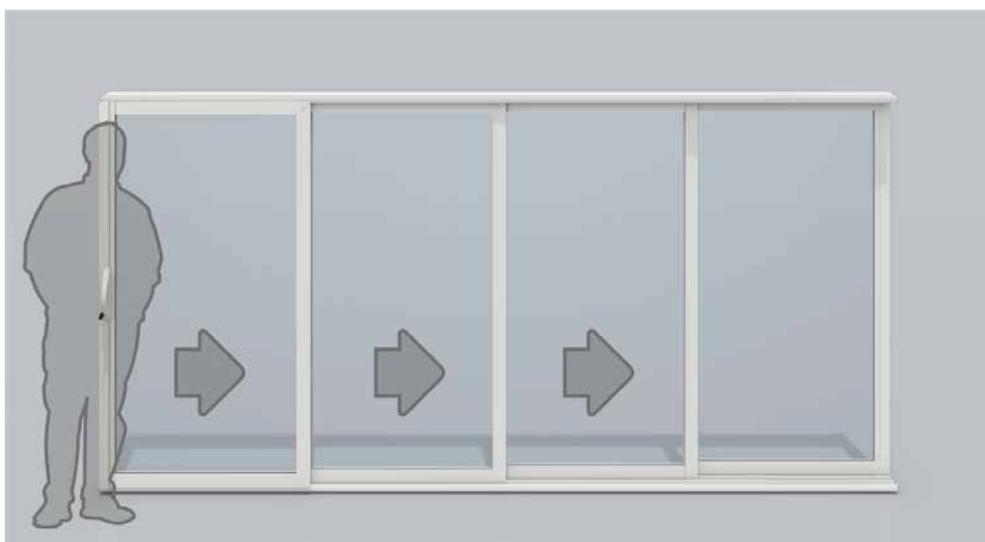


### Methods of opening - Interior view

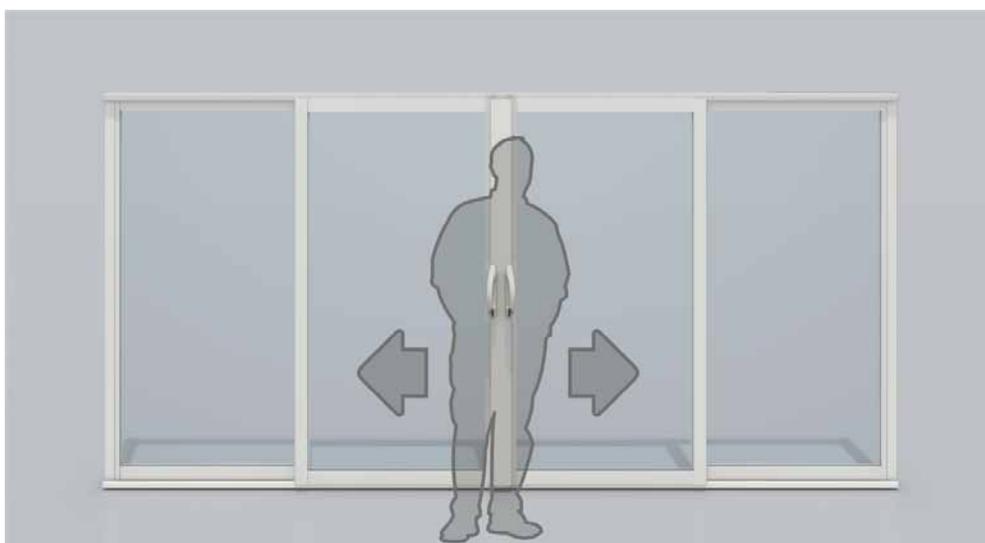
Opening to the left – the right panel is the outermost, is equipped with a handle (“handle on the right” or “panel folding to the left” can also be specified in the order).



Opening to the right – the left panel is the outermost, is equipped with a handle (“handle on the left” or “panel folding to the right” can also be specified in the order).



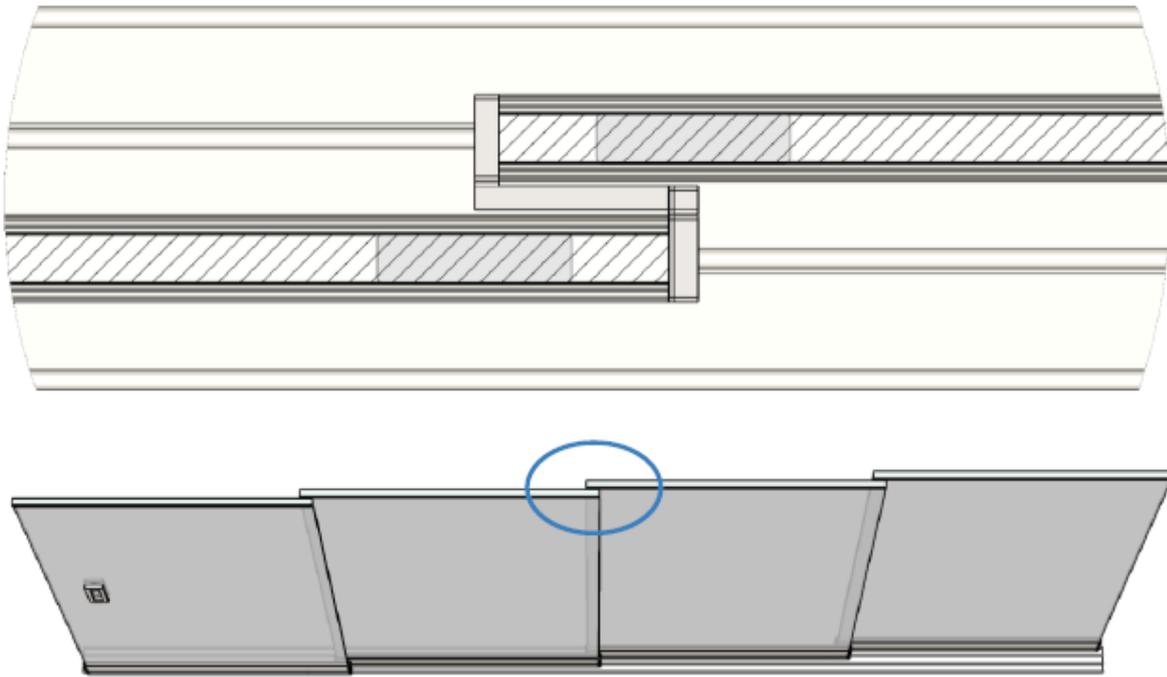
Curtain-type opening – the two panels in the centre are the outermost, are equipped with a handle (“handle on the left and right” or “curtain-type” can also be specified in the order).



**Panel overlap**

*(view from the interior)*

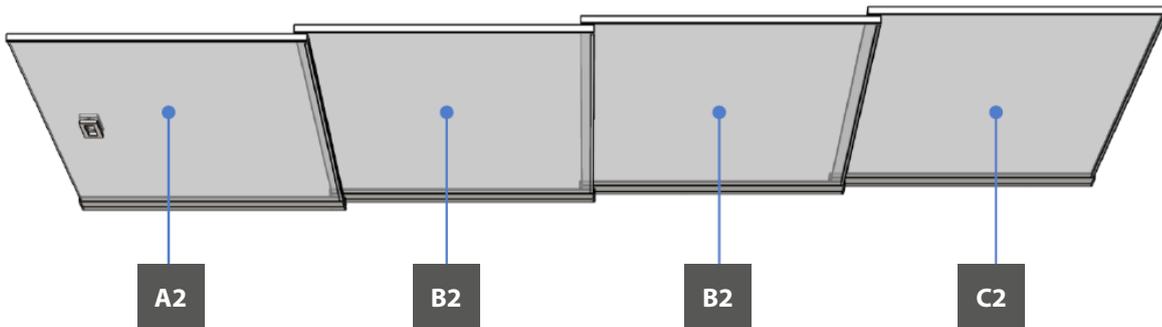
Version with the panel overlap of 35 mm. Better mutual cover of the glazing.



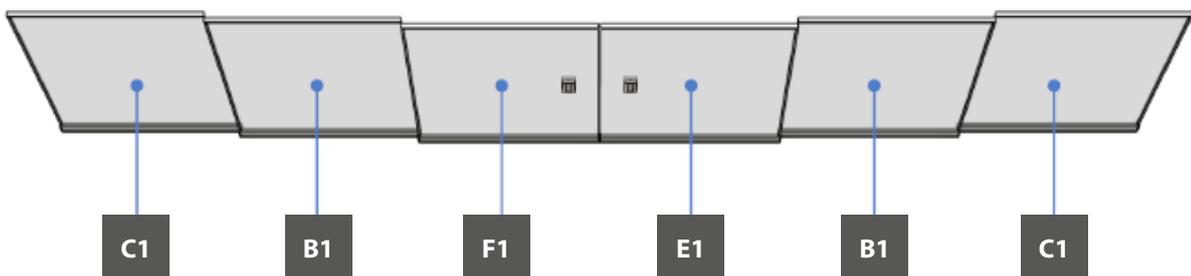
**Handles and locks** *(views from the interior)*

**Version with handle**

folding to one side



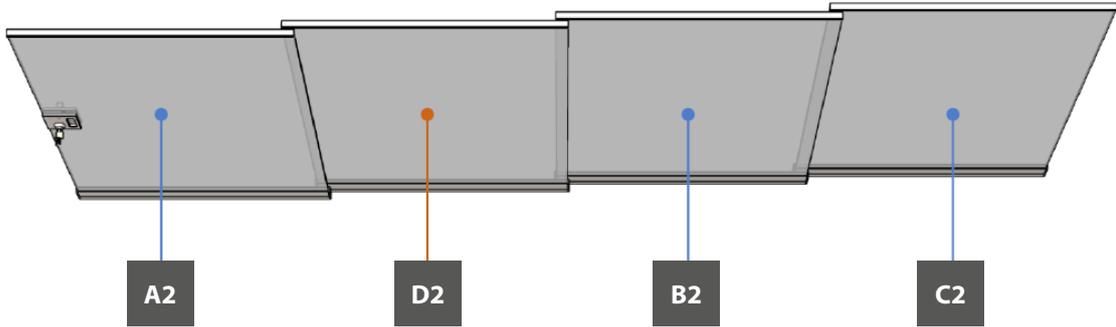
curtain-type folding



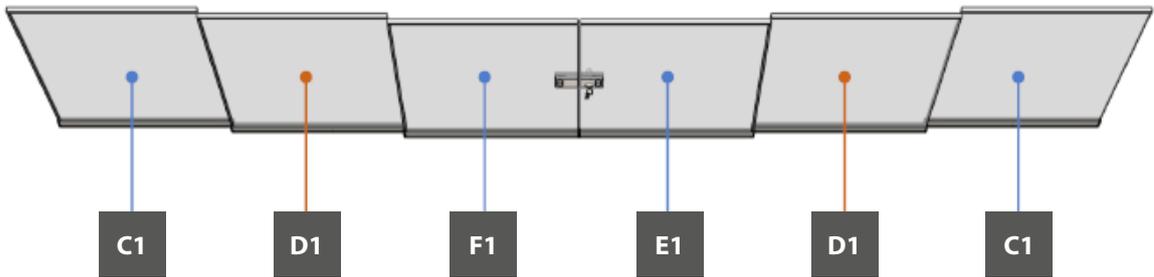
**Version with lock**

folding to one side

The panel with the lock is 150 mm wider than the remaining panels.



curtain-type folding



Rectangular handle 153x50 stainless

Lock A194S stainless

Lock A194D for curtain stainless



Wing screw



**Rail profiles**

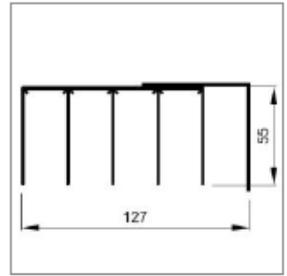
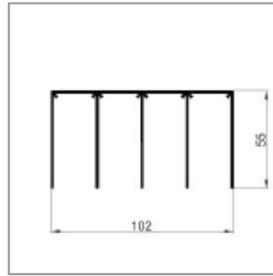
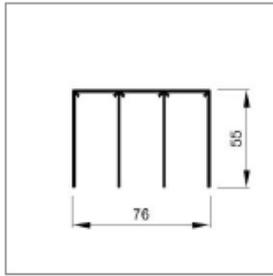
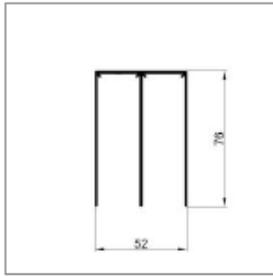
version 2D/2x2D

version 3D/2x3D

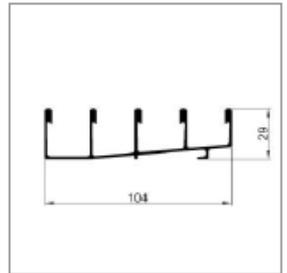
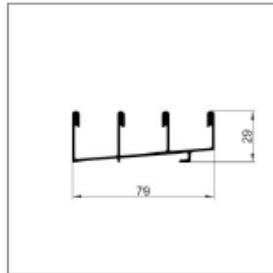
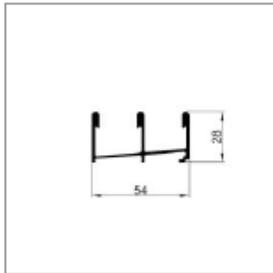
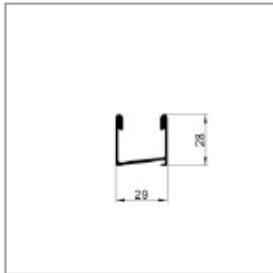
version 4D

version 5D (4+1L)

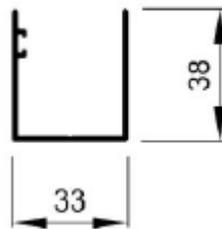
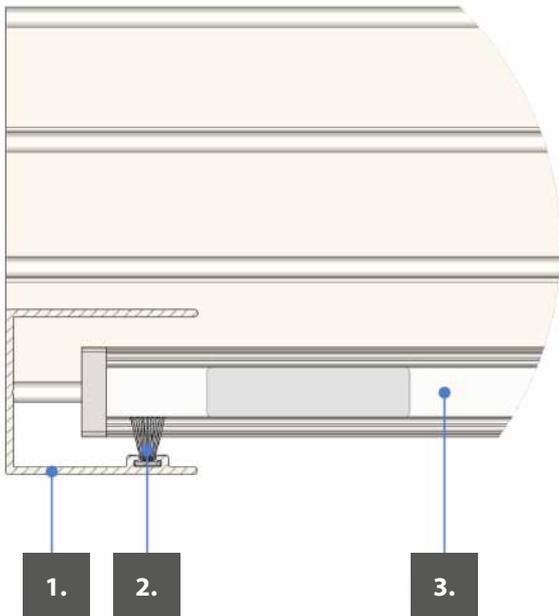
upper guide profile



lower rail



**End profiles**



- 1. U-section with slot
- 2. Brush-type seal for U-section 4.8 × 15
- 3. Tempered safety glass 10 mm

**Glass sealing**

Silicone seal for glass



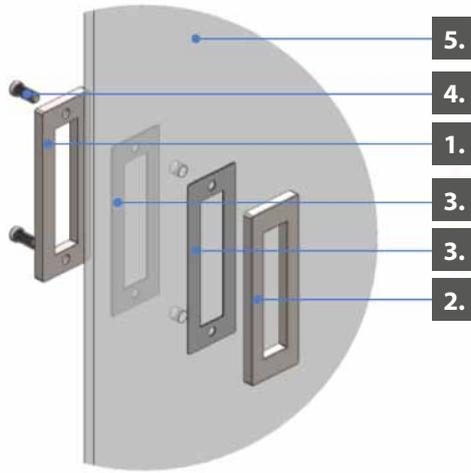
Silicone seal for glass – curtain



## Installation

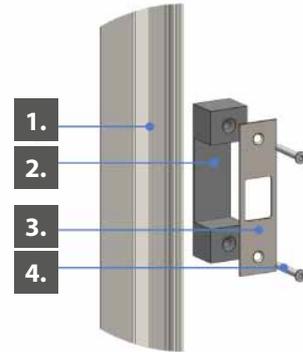
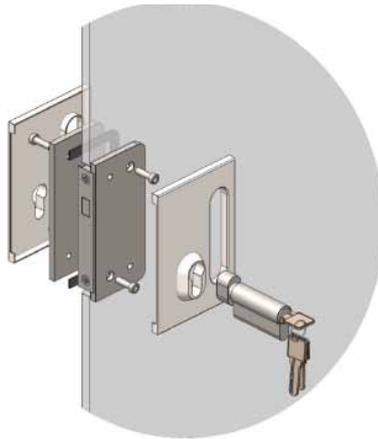
### Handle and lock

Rectangular handle 153x50 stainless



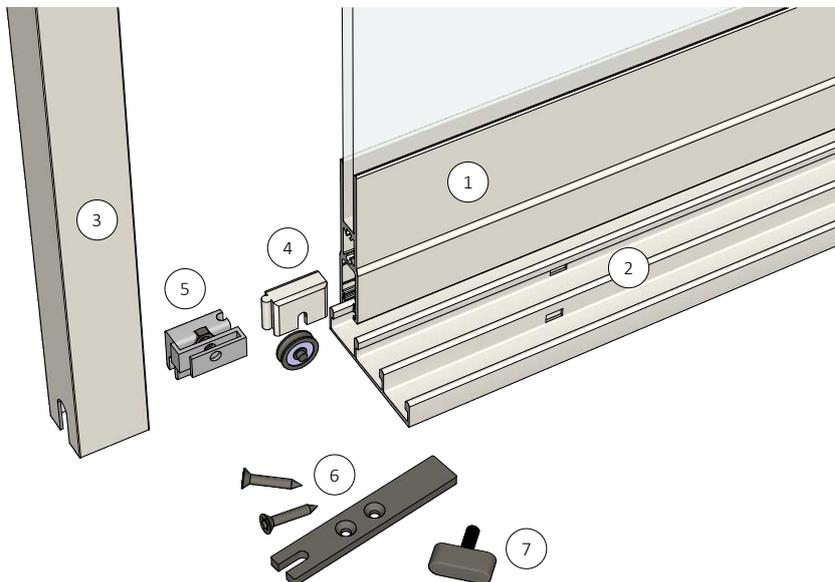
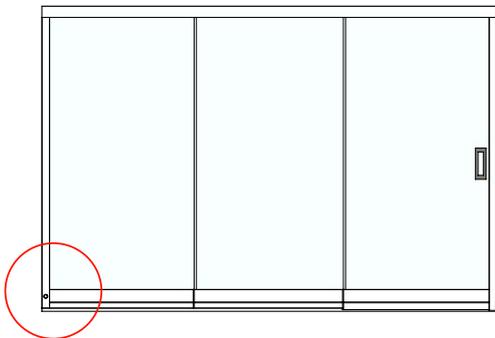
1. Handle – inner part
2. Handle – outer part
3. Handle – seal
4. Handle – screw
5. Tempered safety glass 10 mm – drilled

### Lock A 194S and lock counterpart

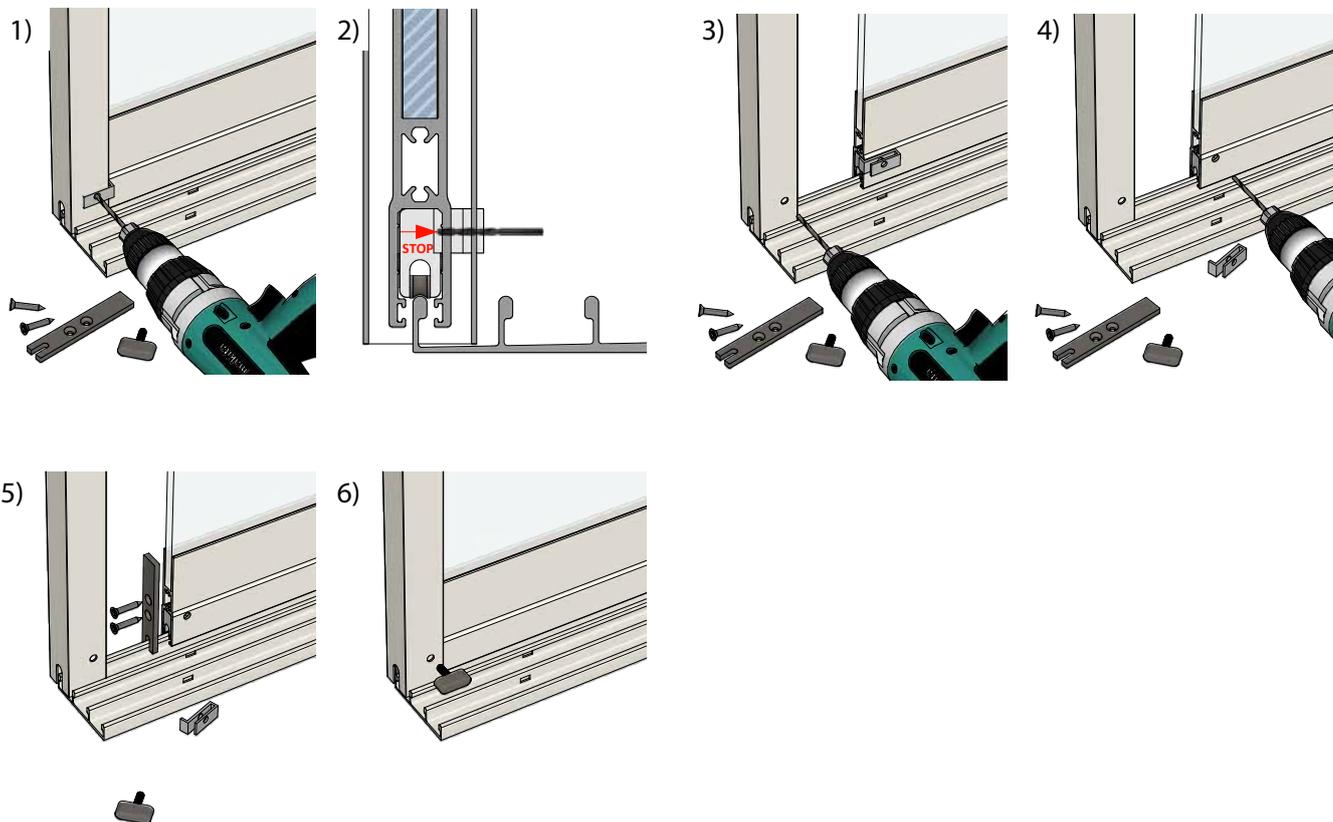


1. U-section with slot
2. Lock counterpart – plastic
3. Lock counterpart – stainless
4. Screw 3.9 × 32

### Wing screw assembly



- 1 AluFlexi 10 wing
- 2 bottom rails
- 3 U - profile
- 4 carriage with bearing
- 5 wing screw counterpart
- 6 profile cover
- 7 wing screw



obr. 1

- a) insert the wing into the U-profile
- b) drill a hole in the U-profile and horizontal profile of the wing with a  $\varnothing 5$  drill, using a drilling template
- c) drilling depth is shown in figure No. 2

obr. 3

- a) slide the wing out of the U-profile
- b) enlarge the hole in the U-profile with a  $\varnothing 7$  drill bit
- c) clean the drilled hole with a countersink

obr. 4

- a) cut the drill template from the counterpart of the wing screw
- b) enlarge the hole in the horizontal profile with a  $\varnothing 7$  drill bit
- c) be careful not to damage the thread of the nut, that is inserted in the counterpart, with the drill

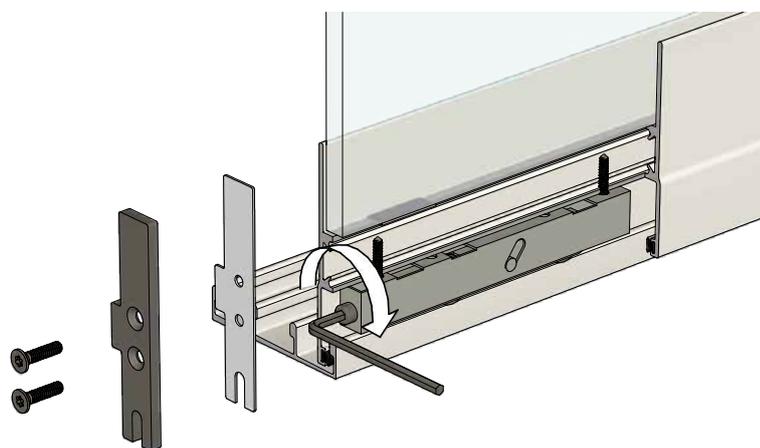
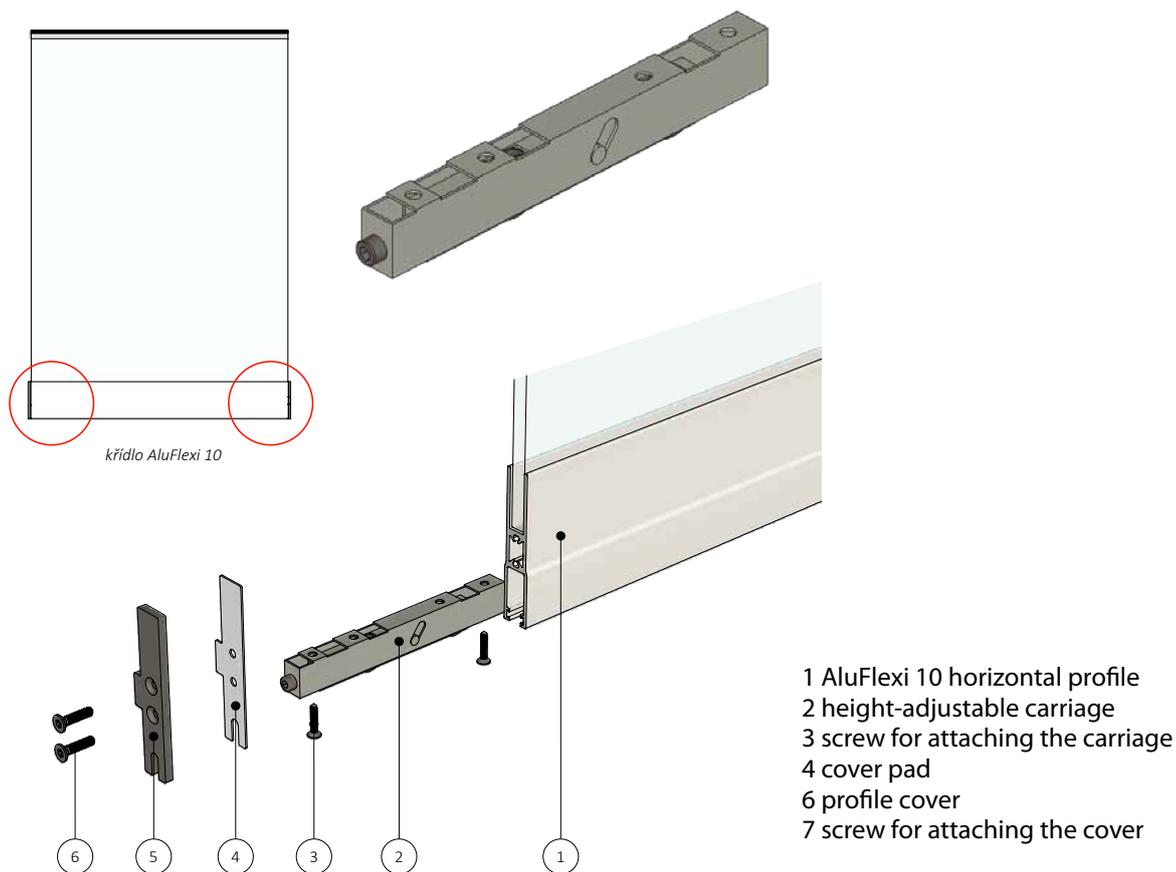
obr. 5

- a) Install the stainless steel cover of the horizontal profile

obr. 6

- a) insert the wing into the U-profile
- b) secure the wing against opening with the wind screw

## Assembly procedure - height-adjustable carriage

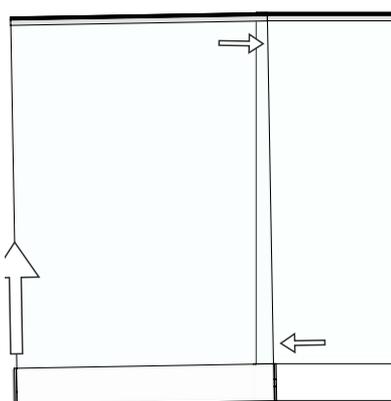


### Installation process:

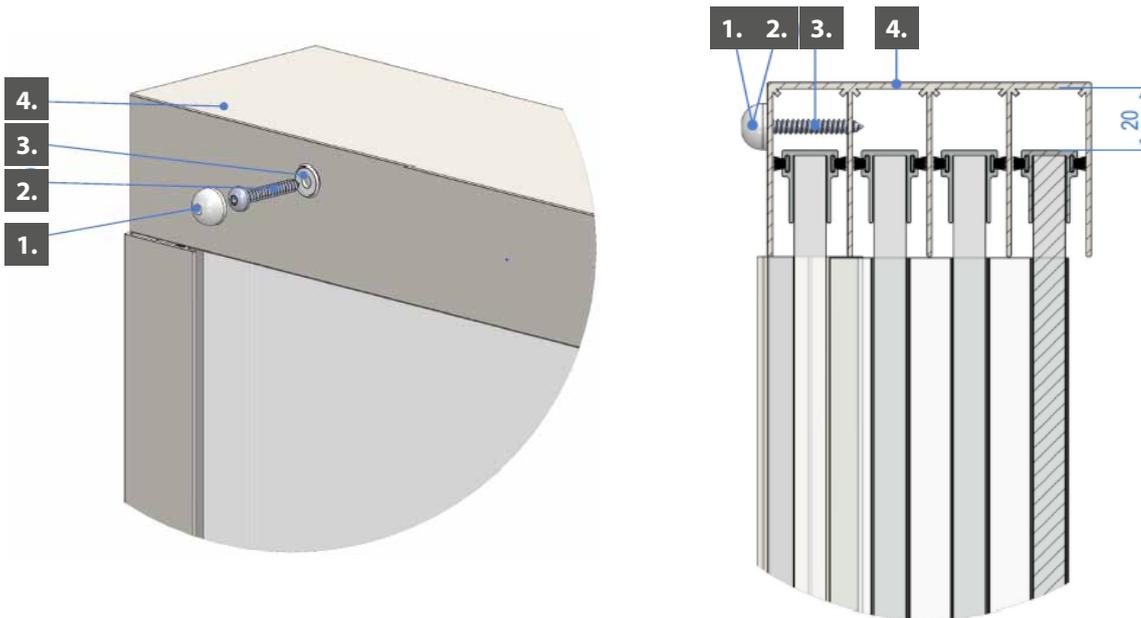
- fit the sliding wings of the system to the rail
- check vertical parallelism of the sliding wings

### Wing correction using height-adjustable carriage

- remove covers from the horizontal profile of the sliding wings
- correction, in case the wings are not parallel, can be done using the rectification screw of the carriage

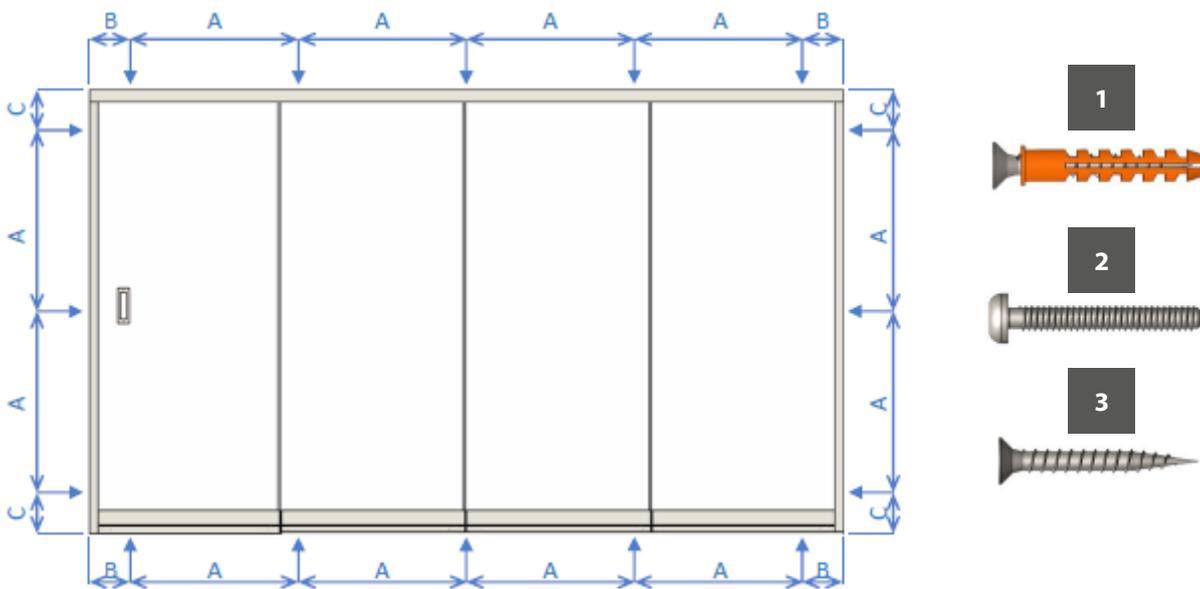


**Protection against glass removal**



- 1. Round cover 12.8 plastic
- 2. Washer m5 12.8 plastic
- 3. Screw 4.8 × 32
- 4. Guide rail – ceiling

**Anchoring plan of the system and recommended fasteners**



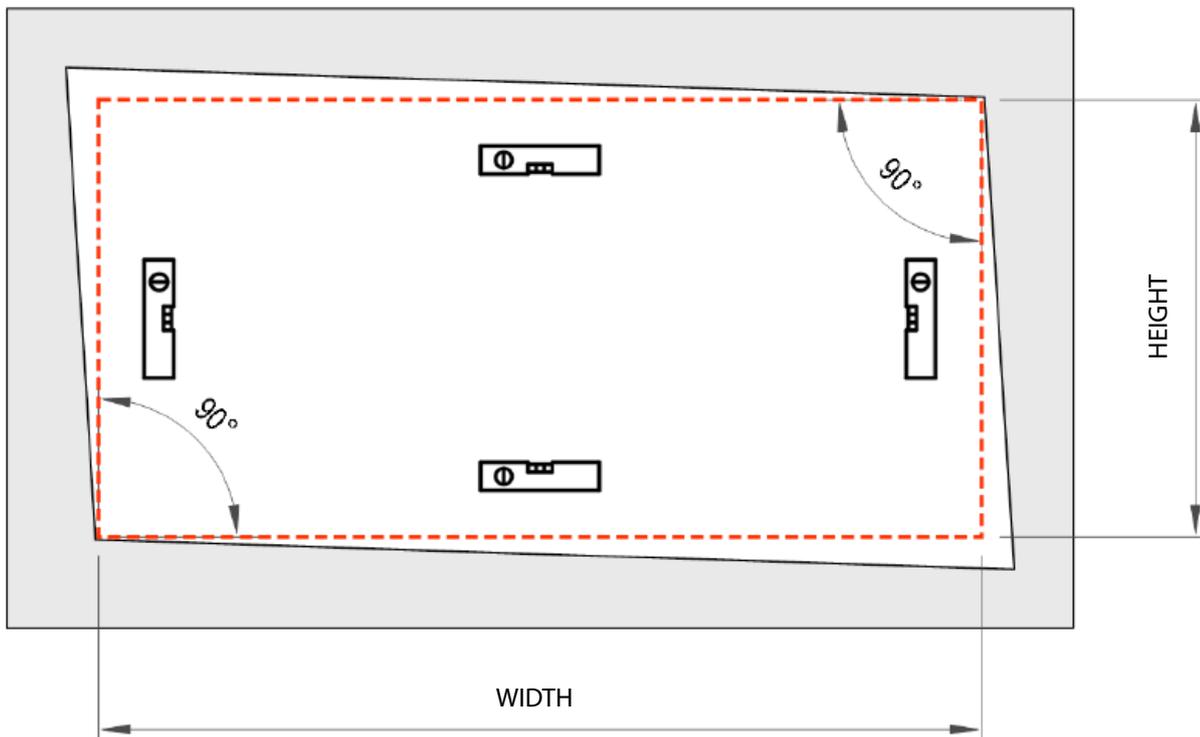
**anchor hole spacing**

- A. max 750 mm
- B. max 150 mm
- C. max 300 mm

- 1. PLUG min. 10 × 50 + SCREW min. 6 × 50, anchoring to concrete/brick
- 2. SELF-TAPPING SCREW min. 6 × 30, anchoring to metallic materials
- 3. SCREW min. 6 × 50, anchoring to wood

## ARTOSI GLASS SLIDING GLAZING SYSTEMS

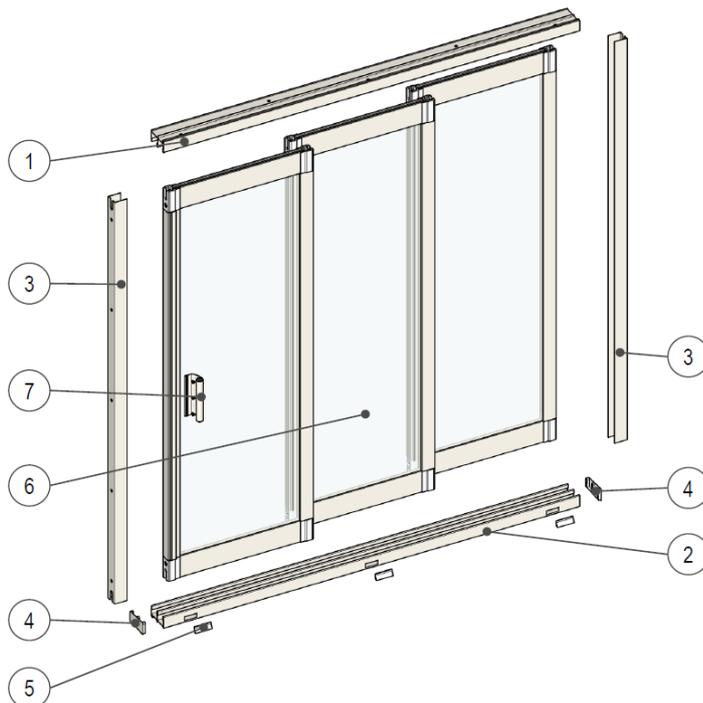
### Measuring the building opening



1. The substrate for the glazing system installation must have sufficient load-bearing capacity and be consolidated and free of cracks.
2. If the glazing system is to be installed in existing metallic structures, the frames and anchoring elements must be free of corrosion and there must be no horizontal and vertical deflection.
3. The glazing system dimensions are determined by the smallest building opening dimension measured.

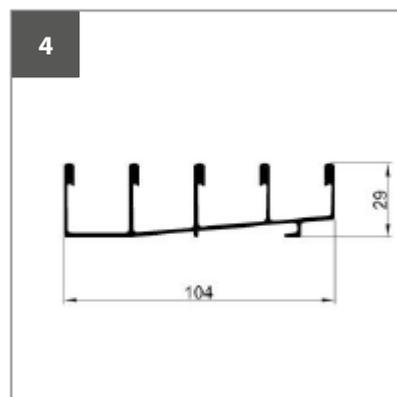
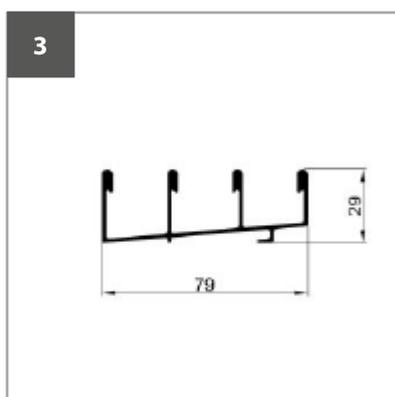
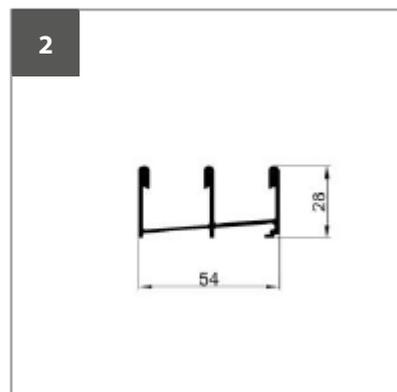
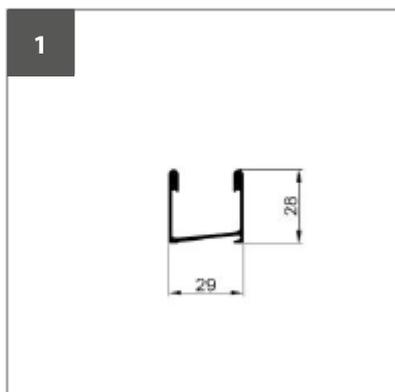
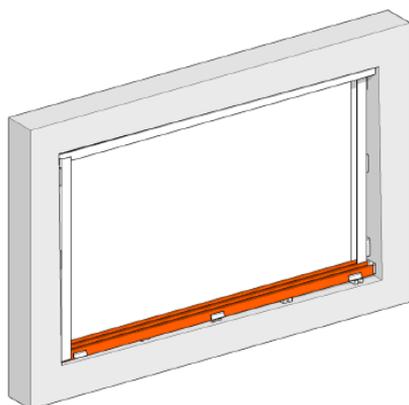
### Description of the sliding system elements

The individual sliding system elements may differ visually depending on the system and version.



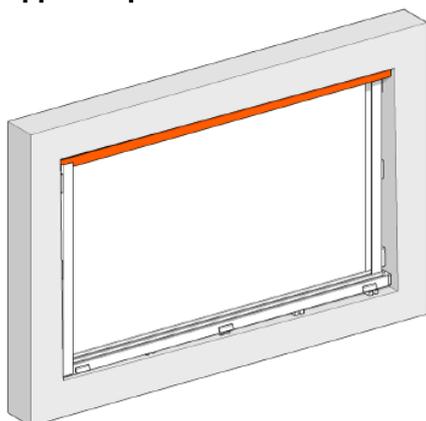
1. Upper rail
2. Lower rail
3. Stop profile
4. Stop cover
5. Drain point cover
6. Sliding wing
7. Handle

**Lower rail profiles**



- 1. 2-rail profile standard
- 2. 3-rail profile standard
- 3. 4-rail profile standard
- 4. 5-rail profile standard

**Upper rail profiles**



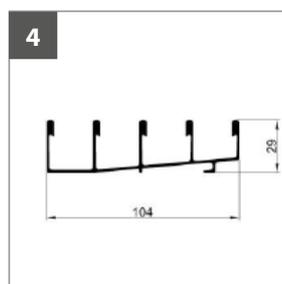
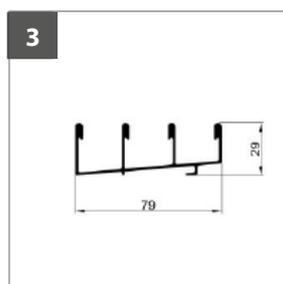
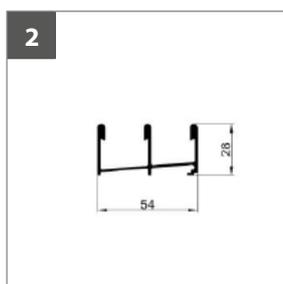
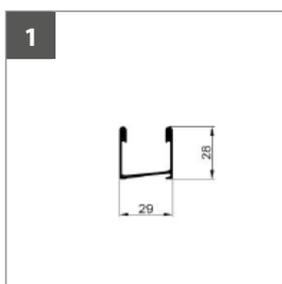
**Frame system**

- 1. 2-rail profile standard
- 2. 3-rail profile standard
- 3. 4-rail profile standard
- 4. 5-rail profile standard

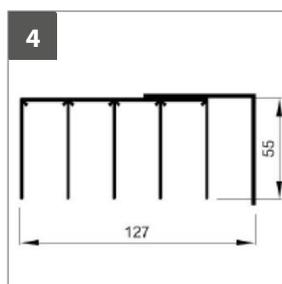
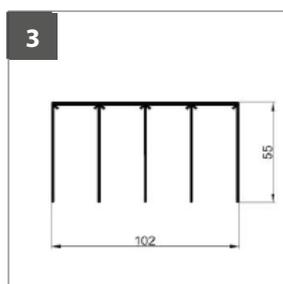
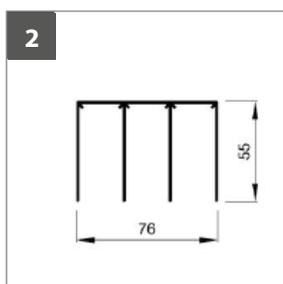
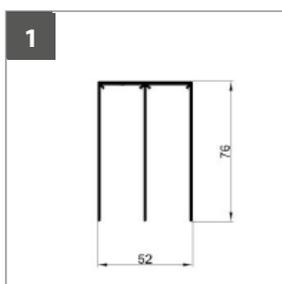
**Frameless system**

- 1. CEILING GUIDE PROFILE-2
- 2. CEILING GUIDE PROFILE-3
- 3. CEILING GUIDE PROFILE-4
- 4. CEILING GUIDE PROFILE-4, PROFILE L 60 × 60 × 2 (4 + 1 L)

**Frame system**

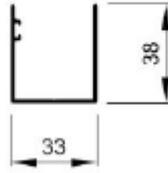
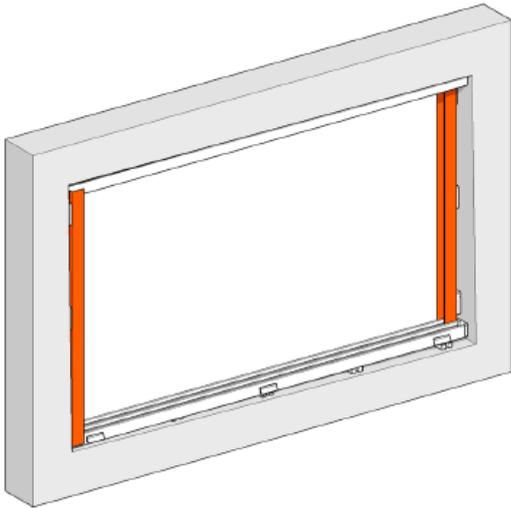


**Frameless system**



**Stop profile**

U-profile – with a groove for sealing for the frame system



**Other accessories**

Levelling plate  
1 mm



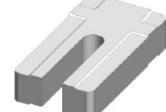
Levelling plate  
3 mm



Levelling plate  
5 mm



Levelling plate  
10 mm



Lockable metallic handle  
for frame system



Normal handle  
for frame system



Stainless grip  
for frameless system



Stainless grip with lock  
for frameless system



Wing screw

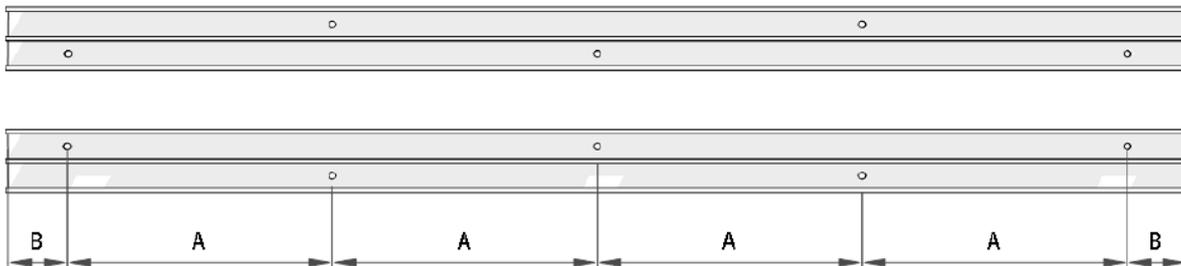


### Anchoring holes

stop profiles



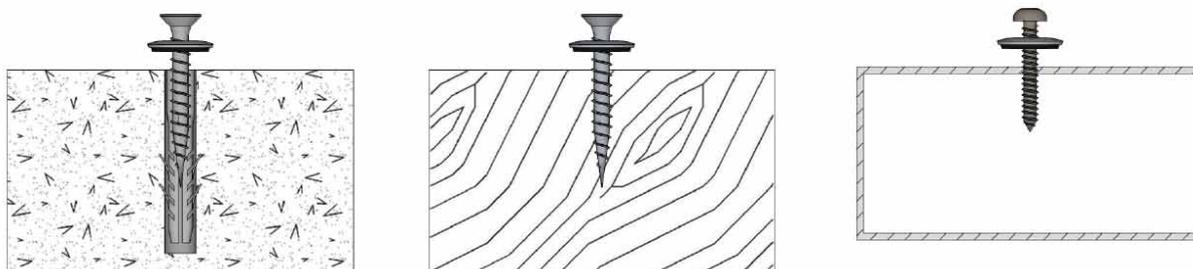
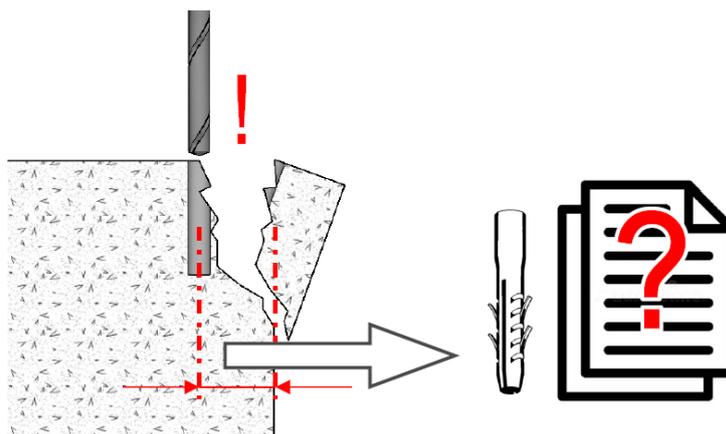
rail profiles



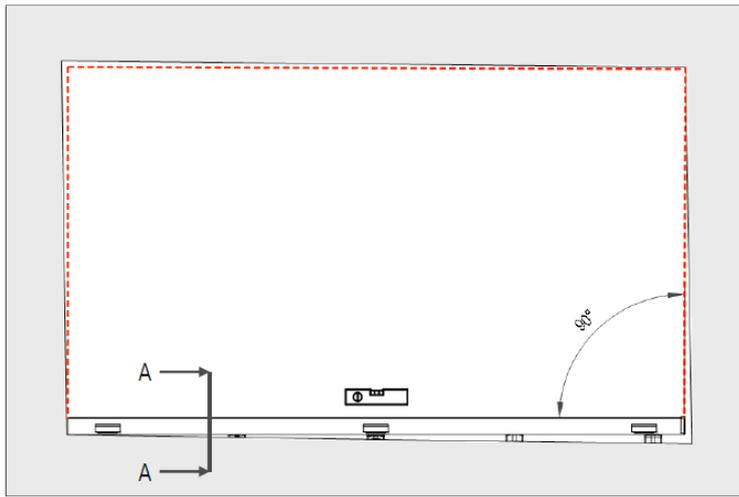
Anchors to materials	Anchor type	Max. spacing of anchoring points A (mm)				
		Wind area				
		I	II	III	IV	V
concrete, stone, sild brick	plastic wall plug $\varnothing 8 \times 46$ + screw $\varnothing 6$ mm, inox A2	900	700	600	500	350
perforated brick	plastic frame wall plug $\varnothing 10 \times 80$ + incl. screw	900	800	700	550	400
porous concrete, gas silicate	plastic frame wall plug $\varnothing 10 \times 80$ + incl. screw	700	550	450	350	250
steel profile, th. min. 2 mm	self-tapping screw $\varnothing 4.8$ + steel 8.8 - galv. zinc-pl.	950	900	800	750	500
aluminium profile, th. min. 2 mm	self-tapping screw $\varnothing 4.8$ + inox -A2	800	600	500	400	300
solid timber	screw $\varnothing 5$ mm + inox -A2	800	600	500	400	300

max. spacing B: 150 mm

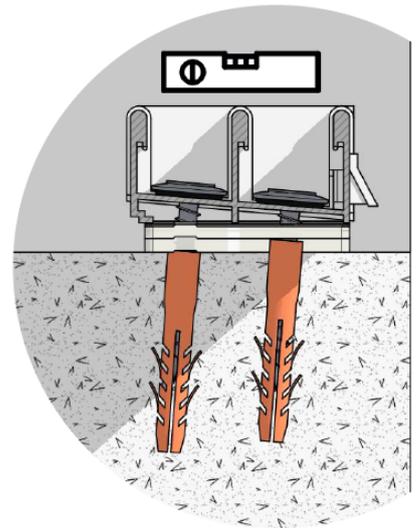
### Anchor elements



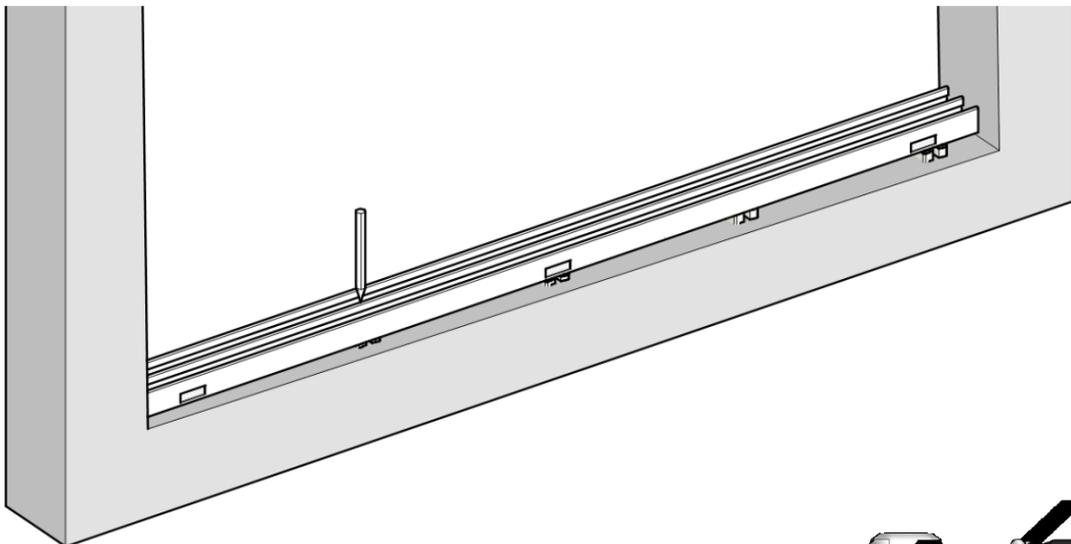
### Lower rail profile



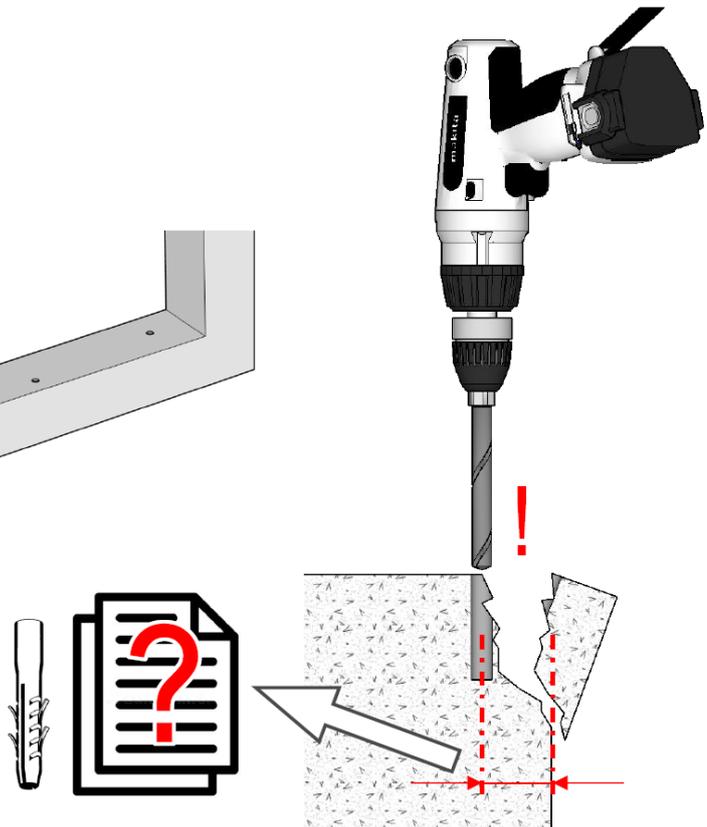
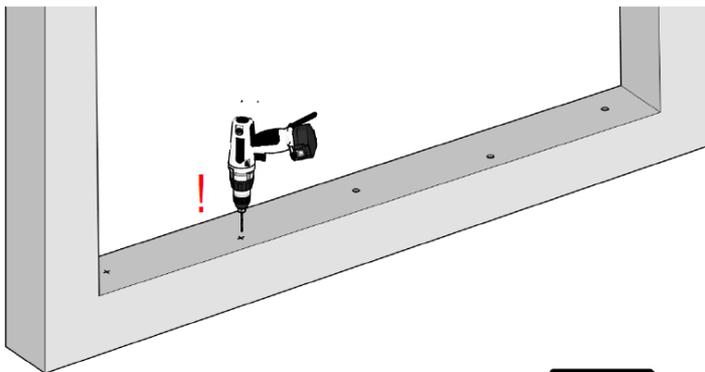
Exterior view



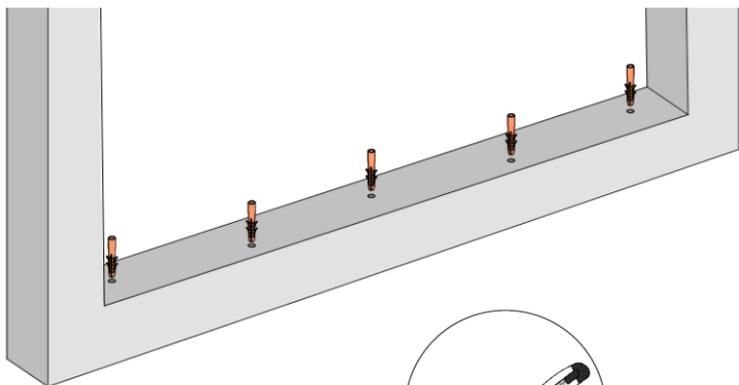
1



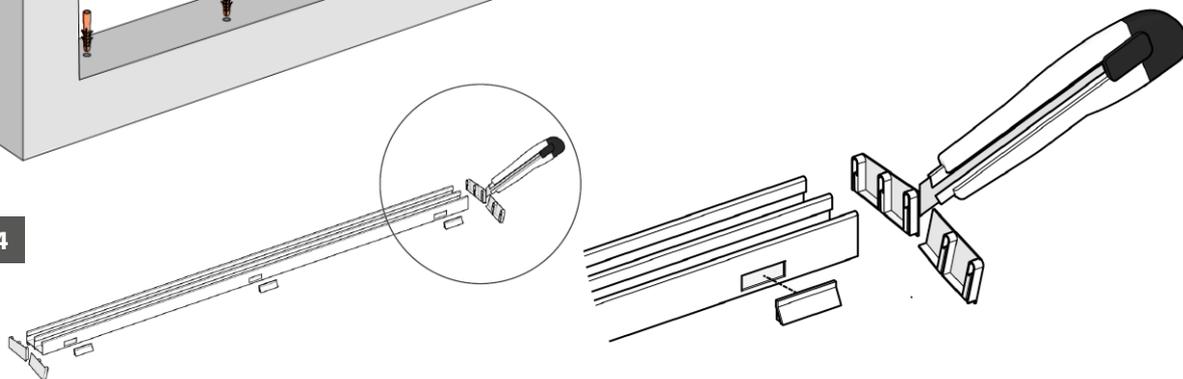
2



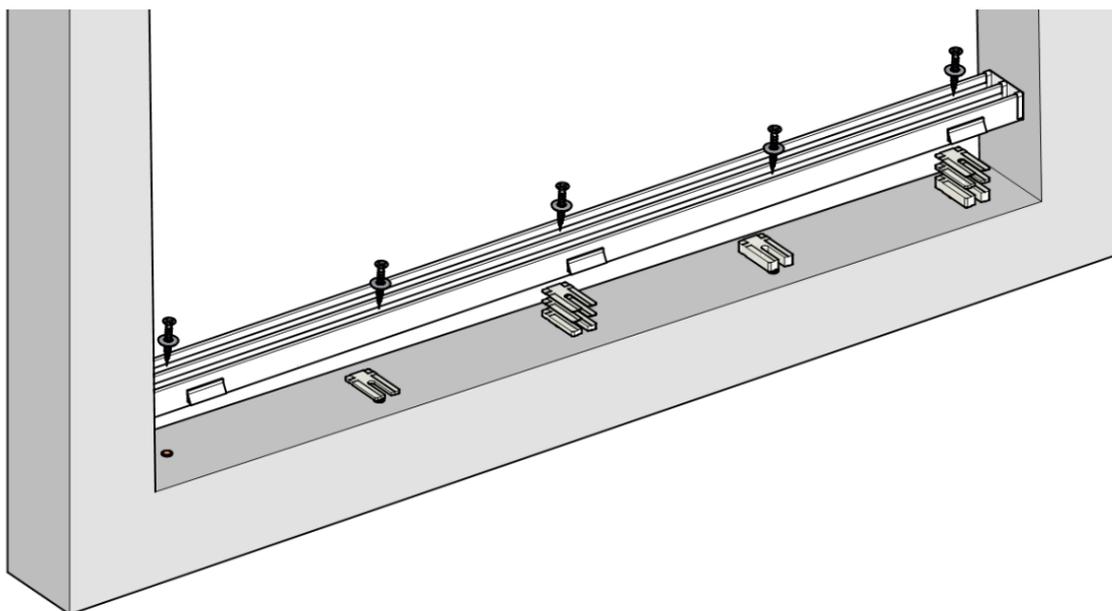
3



4

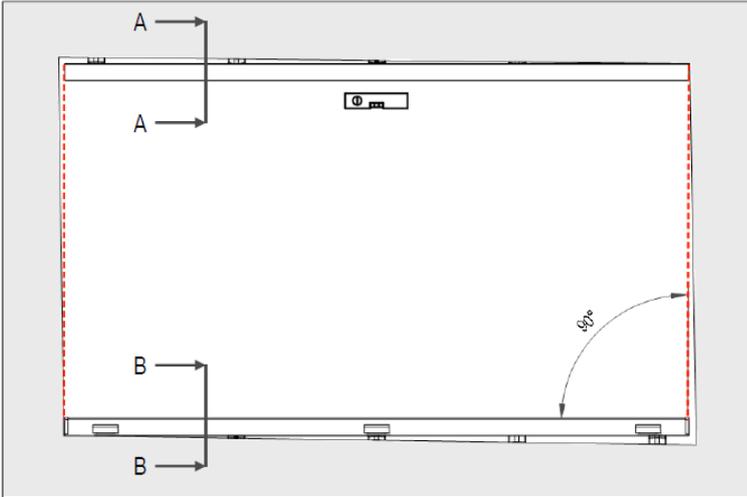


5



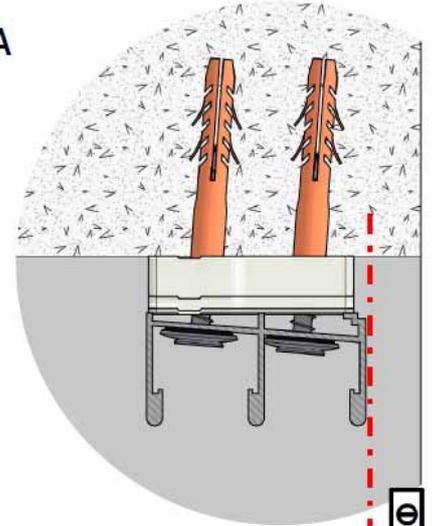
**Upper rail profile**

**Frame system**

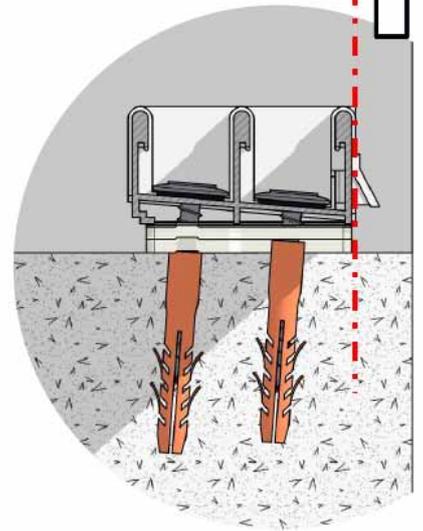


Repeat procedure from "Lower rail profile" 1, 2, 3, 4

**A - A**

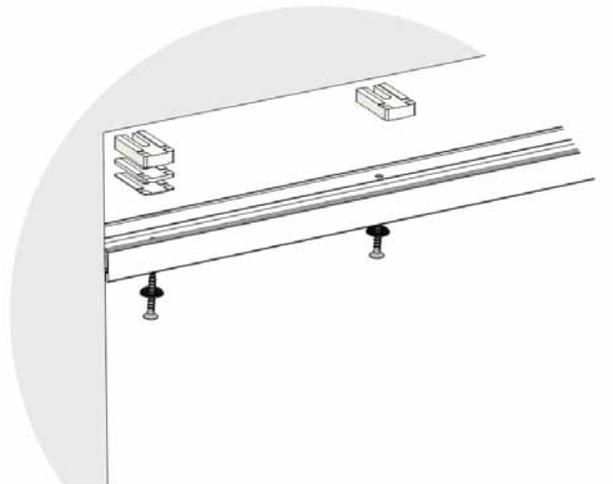
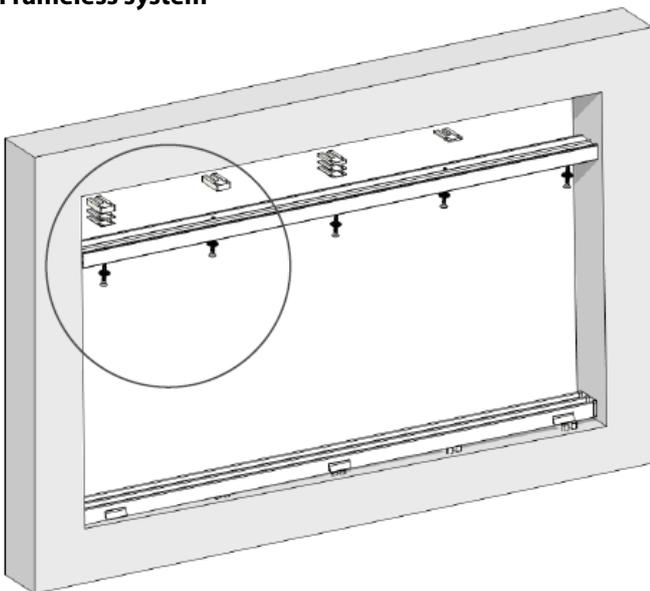


**B - B**



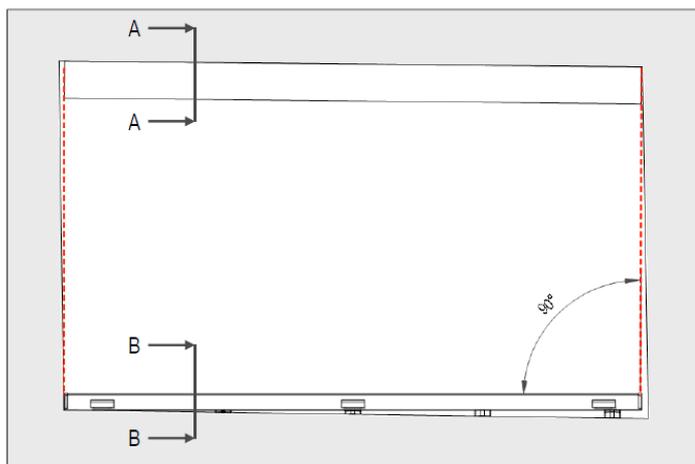
**Upper rail profile**

**Frameless system**

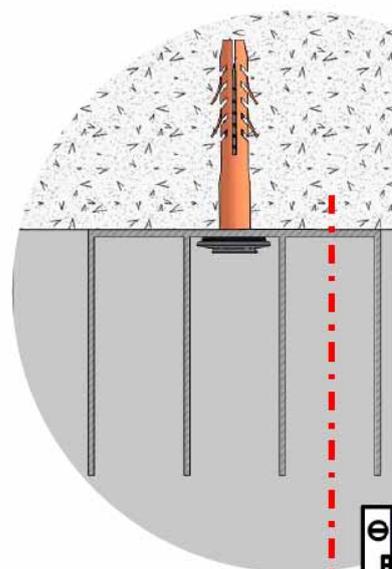


## Upper rail profile

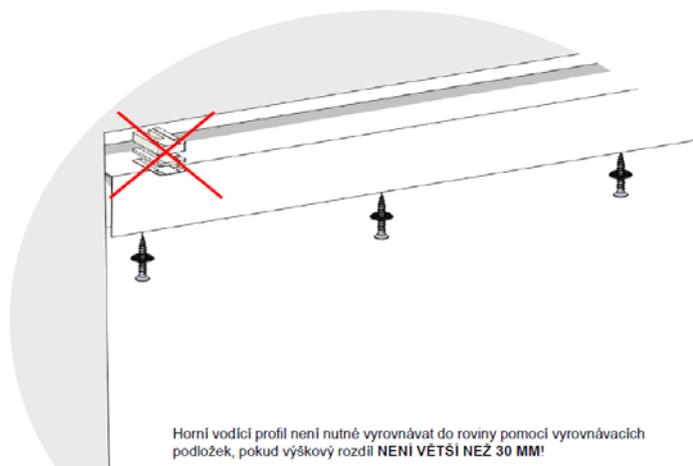
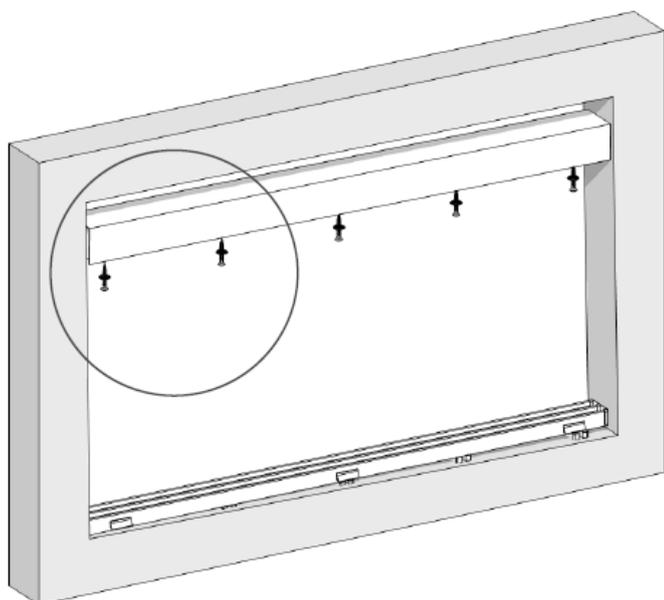
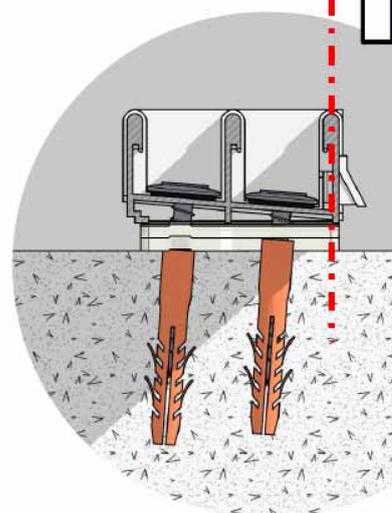
### Frameless system



A - A



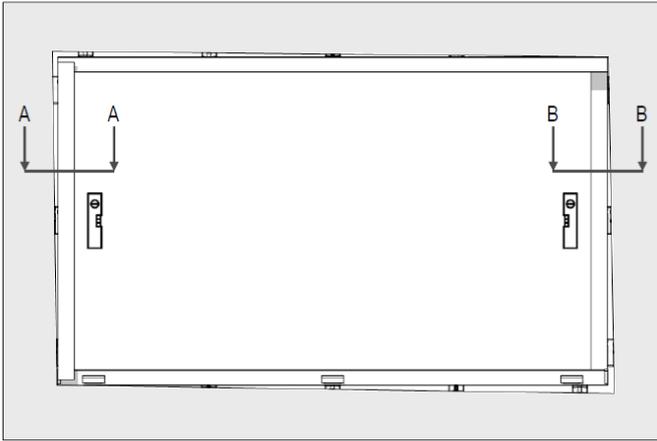
B - B



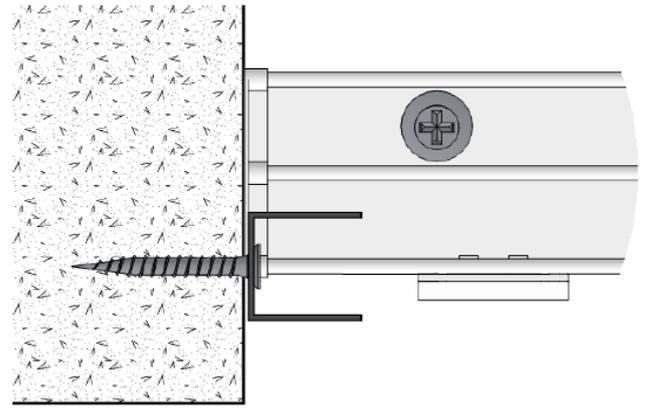
Repeat procedure from "Lower rail profile" 1, 2, 3, 4.

It is not necessary to level up the upper guide profile by levelling plates if the height difference DOES NOT EXCEED 30 MM!

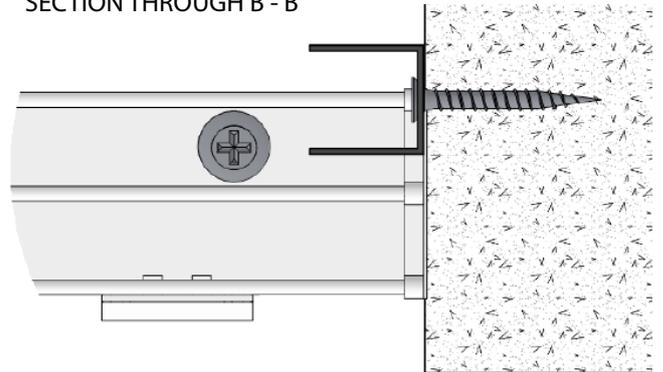
### Stop profiles



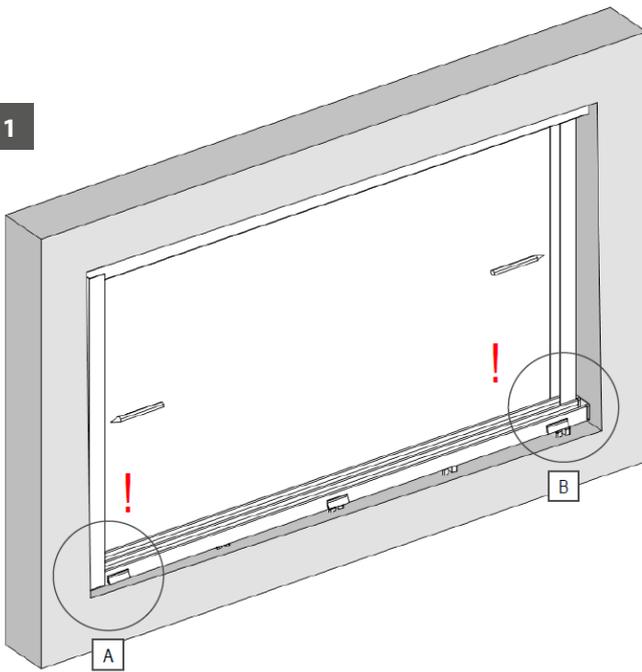
SECTION THROUGH A - A



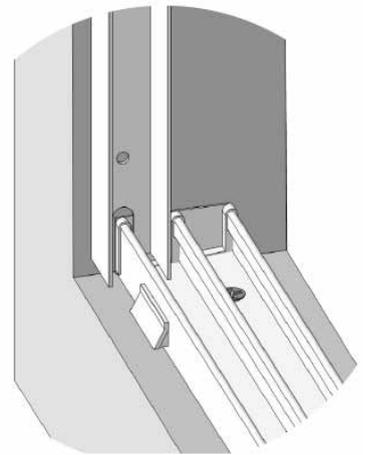
SECTION THROUGH B - B



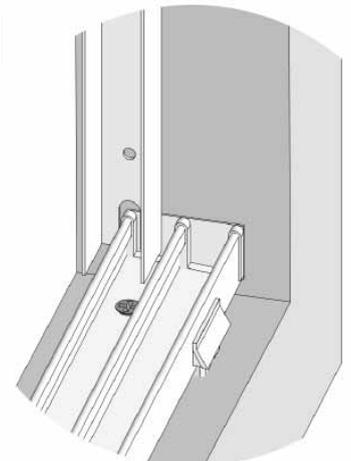
1

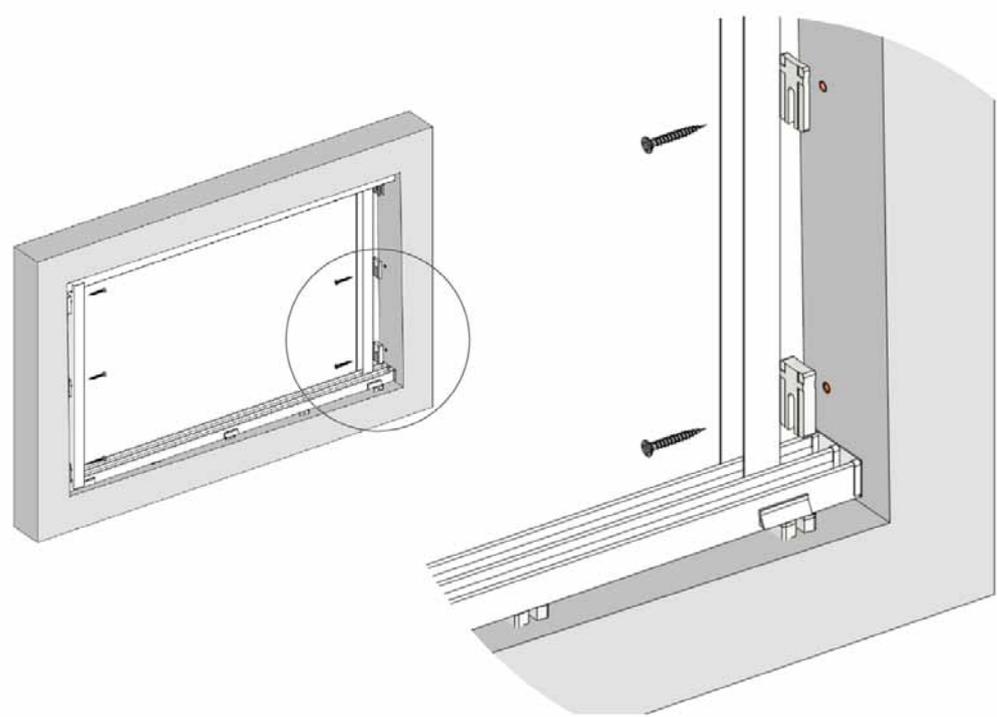
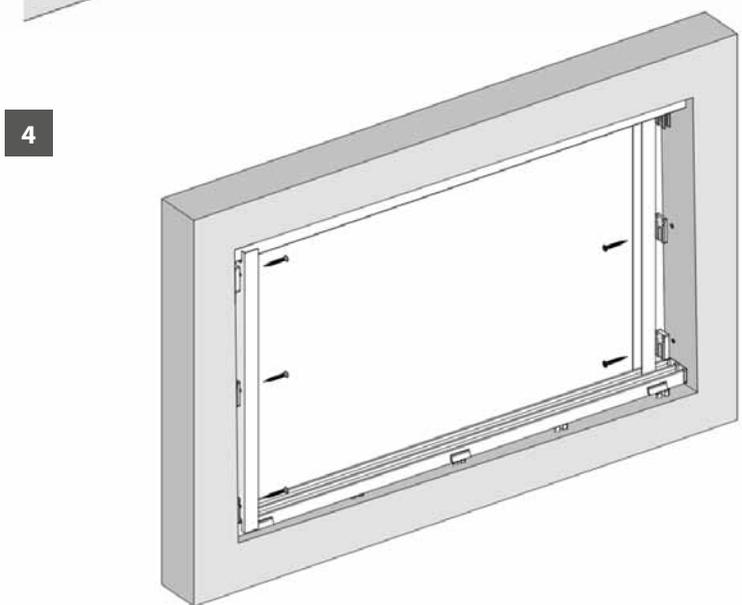
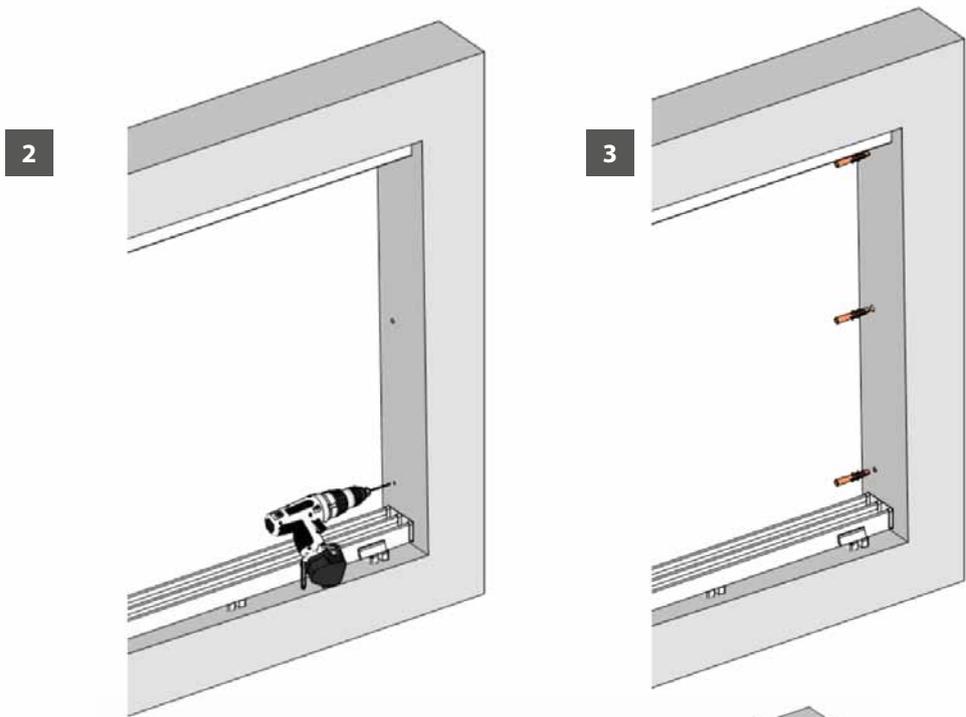


A



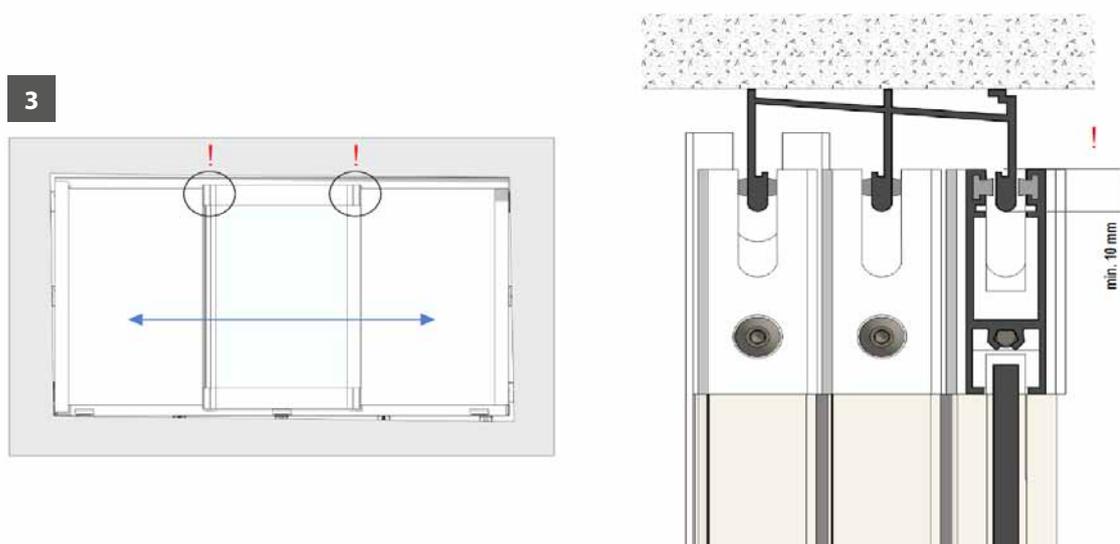
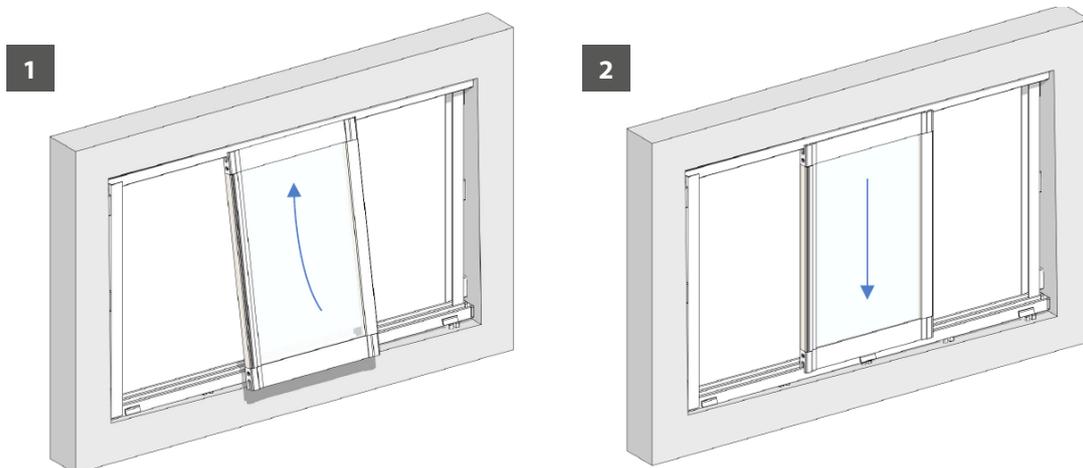
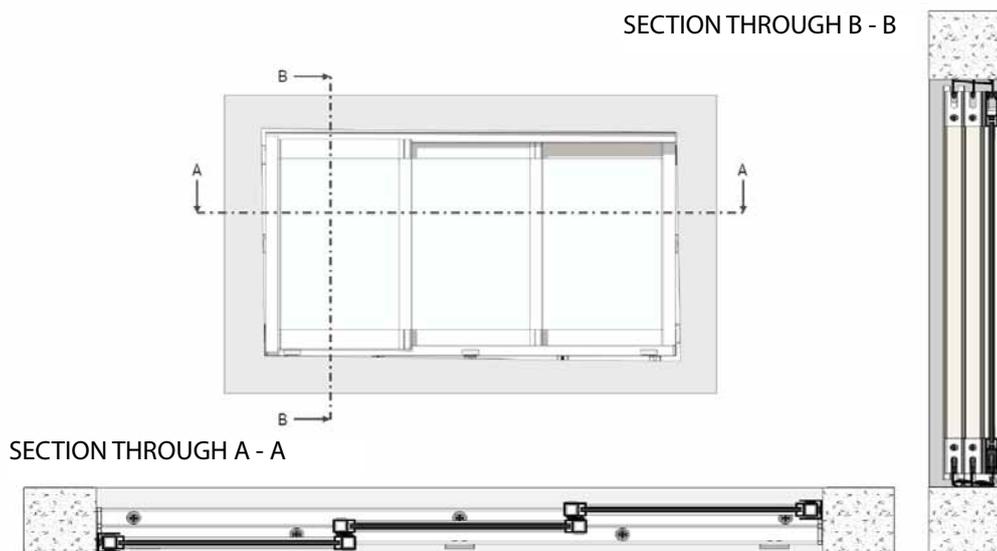
B





## Sliding wing

## Frame system

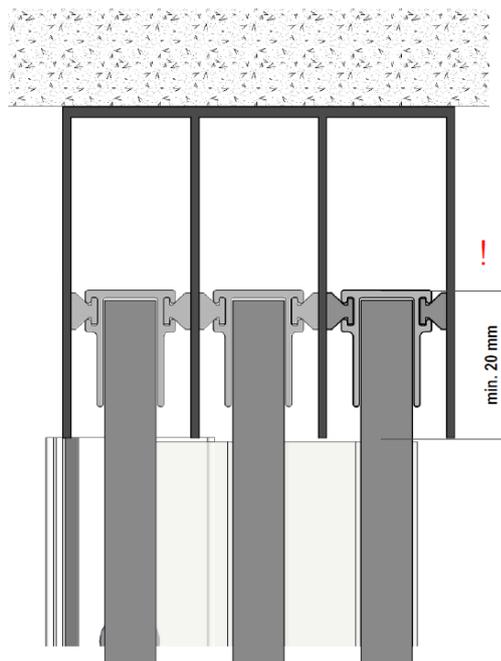
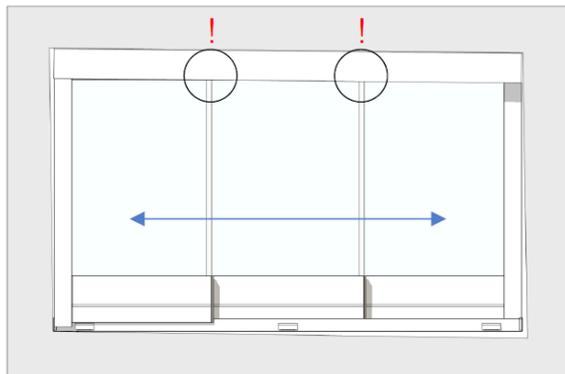


1. Check the wing overlap against the upper rail (Fig. 1) over the whole glazing length of the installed sliding wing.
2. Repair by lowering (addition of levelling plates) or raising (removal of levelling plates) the upper rail in places where the wing embedding is not optimal.
3. Install the remaining sliding system wings.

## Frameless system

(only Fig. 3 is different for the frameless system)

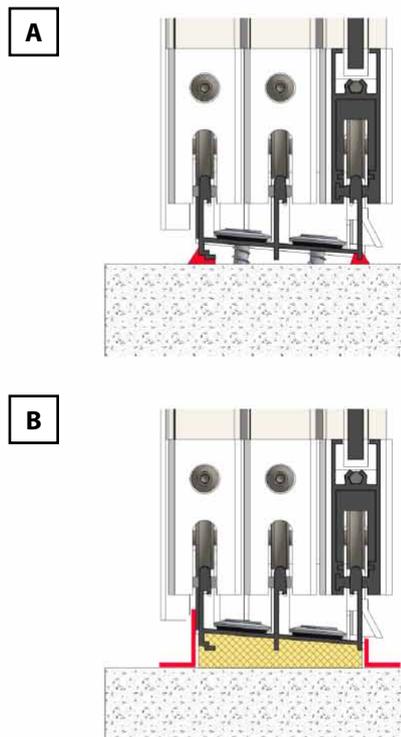
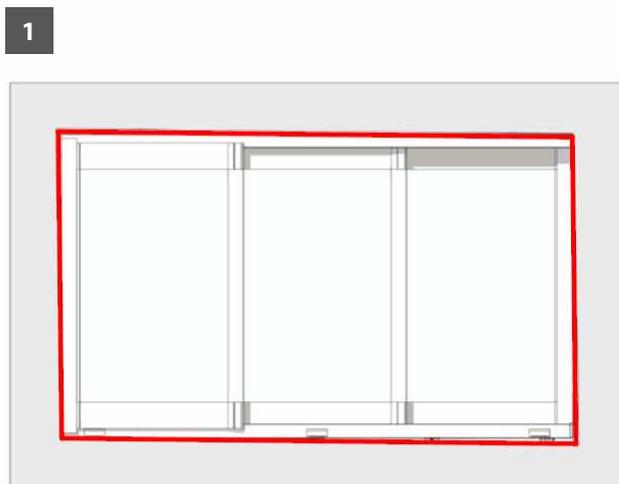
4



1. Check the wing overlap against the upper rail (Fig. 1) over the whole glazing length of the installed sliding wing.
2. Repair by lowering (addition of levelling plates) or raising (removal of levelling plates) the upper rail in places where the wing embedding is not optimal.
3. Install the remaining sliding system wings.

## Finishing treatment

### Finishing the connecting joint



1. Connecting joints up to 5 mm (Fig. A) should be finished from the interior or exterior using silicone or acrylic sealant.
2. In case of joints exceeding 5 mm (Fig. B), we recommend filling the joint with PU foam and then cover the joint with aluminium bars after the foam has hardened and been trimmed.
3. The bars can be attached by a suitable weather-resistant binding material.







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