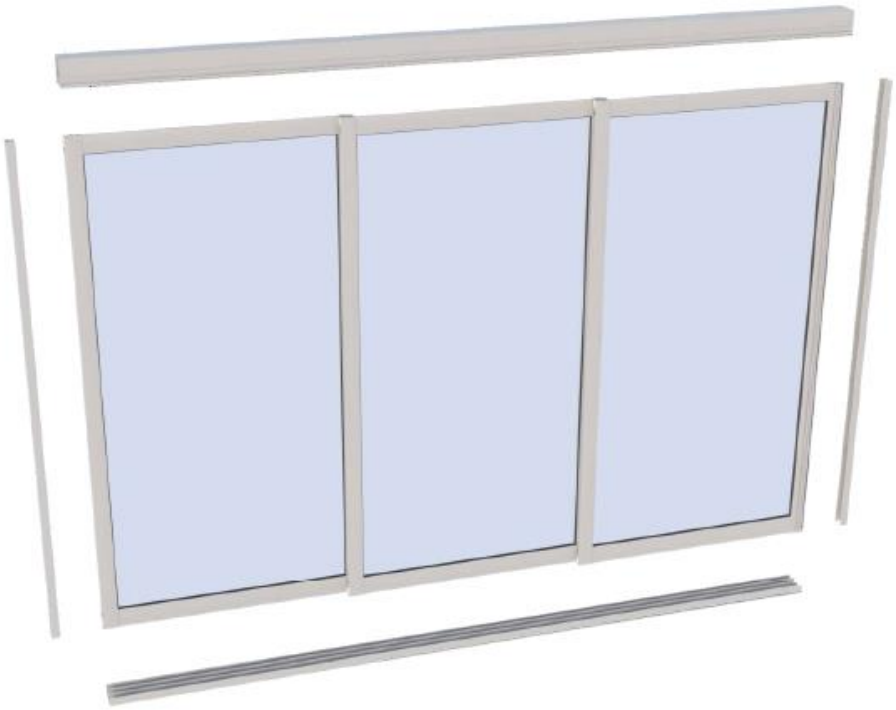
VENSKA

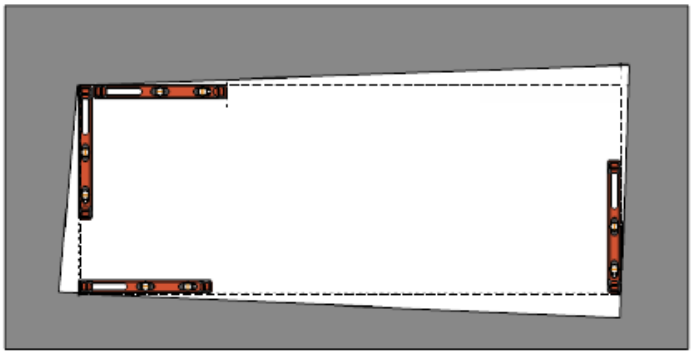
GENERAL INSTALLATION INSTRUCTIONS FOR A SLIDING SYSTEM

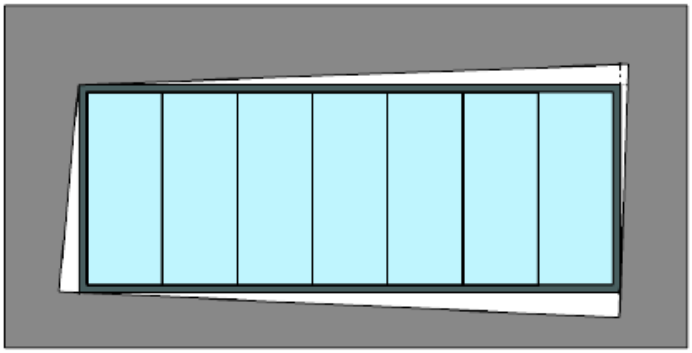


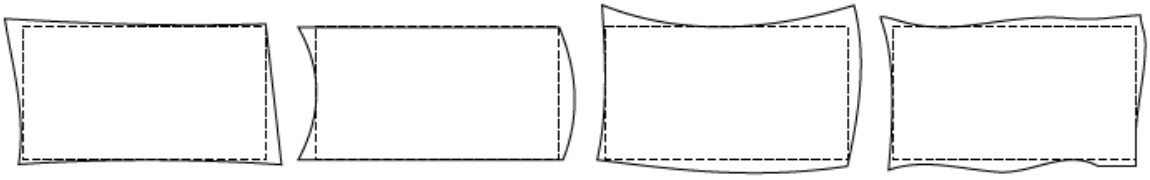
GENERAL INSTALLATION INSTRUCTIONS

Measurements

Balcony enclosure system is always installed in a rectangular space, horizontally and vertically, regardless of the shape of the balcony. When measuring the balcony, pay special attention to irregular shapes and unusual conditions, such as hanging ceiling, bent railing, inclined walls, etc.







Always measure the balcony at several points vertically (balcony height) and horizontally (balcony length). To determine the height and length of the balcony, use only the smallest vertical and horizontal measurement. Include mounting clearances (depending on your experience), not less than 5 mm.

See the figure above how to measure the dimensions and a few examples of enclosures installed in balconies with irregular shapes.

Placing an order

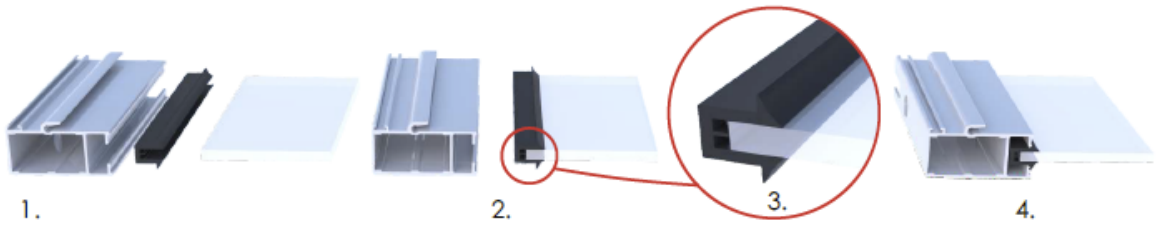
Orders are accepted in writing.

In the order, indicate the width and height of the enclosure as measured with the instructions on the first page.
Specify the number of panels, the type and thickness of infill, profile colour:
– acc. to RAL range (standard: RAL 9016 white)
– acc. to Decoral range (wood-like coatings)
– anodised,
and additional components, such as locks, seals, etc.

Indicate wind conditions at the place of installation (city, installation height above the ground level - which floor) and corrosivity (e.g. proximity to sea).

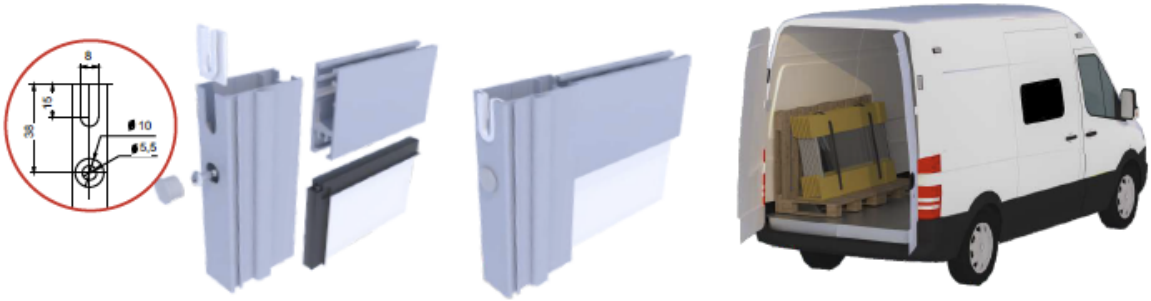
Installation of windows with glass - in the case of ordering a structure without glass

When ordering an enclosure without glass, place suitable seals and glass in it. While mounting the seal, it is recommended to use mild moistening agents.



Take notice not to insert the infill too deep into the seal.

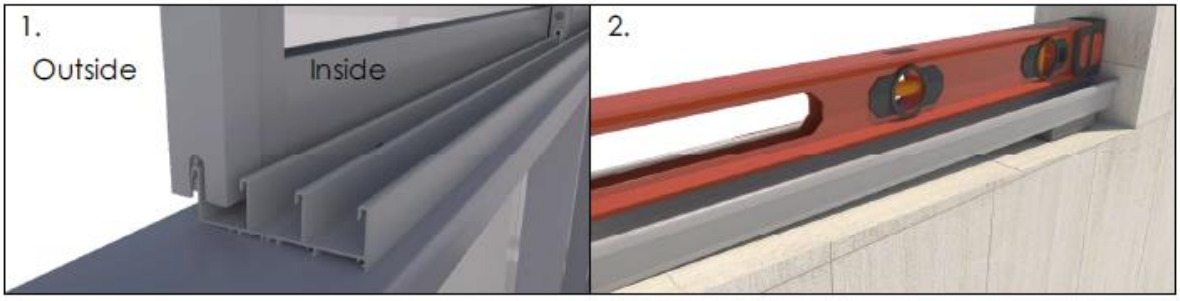
Dissasemble window panels or door leaves and secure them for transport to the installation site. The profiles should be adequately protected for transport (e.g. with spacers) to avoid abrasions and glass breakage.



The assembly of bottom guide bar (with drains)

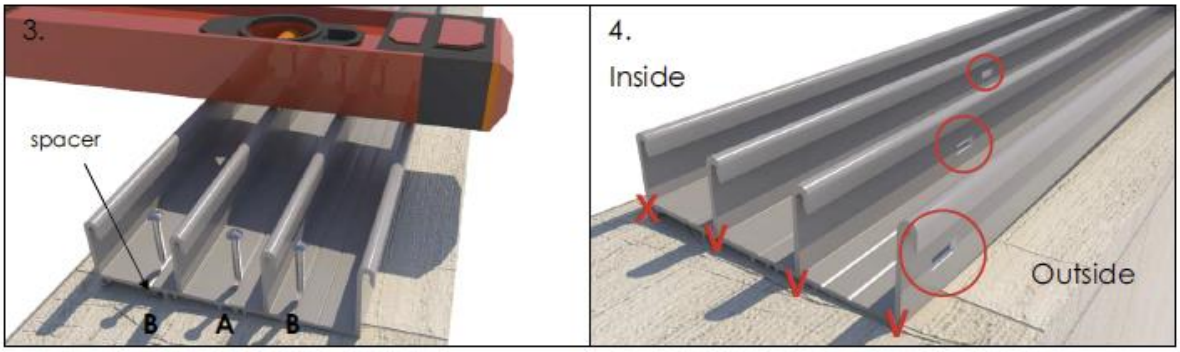
1. Guide bar positioning – set the guide bar with the slope outside to drain the rainwater.

2. Guide bar levelling – level the guide bar along the entire length and use washers, if necessary. Level the guide bar longitudinally and laterally. The guide bar must be supported over its entire length and width.



3. Guide bar installing – screw the guide bar between the rails to provide its stability and resistance against wind load. (**A** – main mounting point, **B** – alternative mounting point)

4. If the guide bar has no drainage, cut drain holes in the guide bar every 0.5-1m. Do not cut drain holes in the last internal rail.



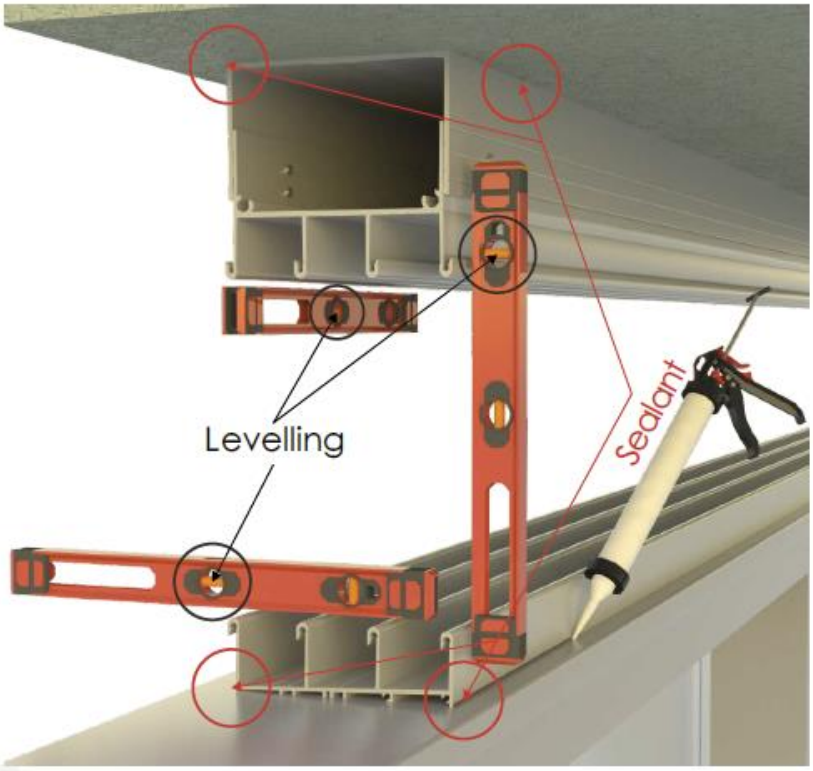
Mounting materials

To install the top and bottom guide bars, it is recommended to use mounting pins, dowels, and washers made of the rust resistant materials. These provide reliant and stable mounting. Use mounting systems in accordance with the manufacturer's guidelines (type and spacing selected for appropriate surface). Also, keep in mind the correct seal between the guide bars and the surface according to good engineering practices.

Assembly of top guide bar

1. The top guide bar must be mounted directly to the load-bearing surface. Maintain adequate distances from the edge of the balcony floor to the point of placing the pin/dowel/anchor. Do not mount the top guide bar through the existing thermal insulation. In the case of thermal insulation, remove it linearly or at specific points and use appropriate load-bearing spacers, e.g. aluminium profiles
2. Placing the guide bar – set the top guide bar parallel to the bottom guide bar. The guide bar rails should be in a vertical line and the distance between the top and bottom guide bars must be the same along the entire length.
3. Levelling the guide bar – when the location of the top guide bar with reference to the bottom guide bar is set, level it longitudinally and laterally.
4. Installing the guide bar – mount the guide bar to ensure its stability. Remember to seal the guide bar.

NOTE: Maintain the same distance between the guide bars over their entire length (accuracy up to ± 1 mm!). Pay special attention to ensure that the top sash overlaps the top guide bar by at least 5 mm (safe dimension of use).

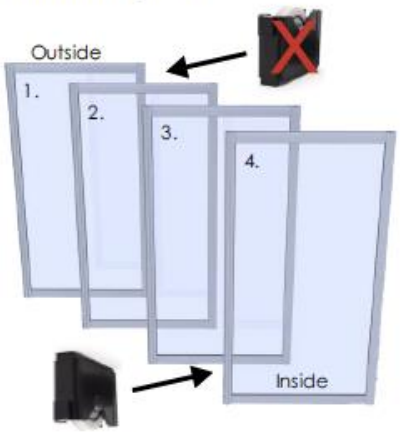


Mounting materials

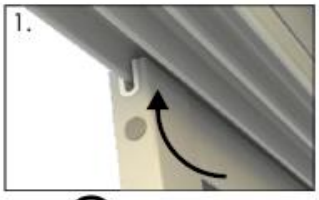
To install the top and bottom guide bars, it is recommended to use mounting pins, dowels, and washers made of the rust resistant materials. These provide reliant and stable mounting. Use mounting systems in accordance with the manufacturer's guidelines (type and spacing selected for appropriate surface). Also, keep in mind the correct seal between the guide bars and the surface according to good engineering practices.

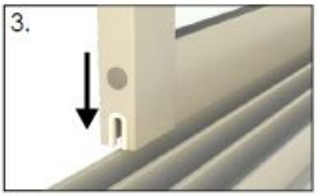
Panel inserting

Insert the windows, starting with the outermost panel. Note that rollers are mounted in the bottom horizontal profile.



1. Insert the top of the panel into the top guide bar until stop.
2. Set the panel vertically.
3. Drop the panel onto the bottom guide bar.
4. Check the clearance between the panel and the top guide bar along its entire length and adjust make the clearance, if necessary.

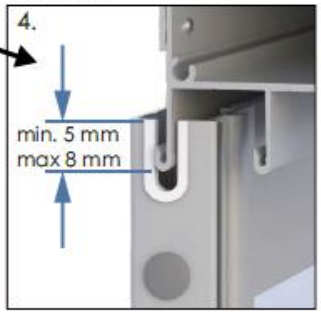




Important:
Remember to check the adjustment.

If the fitting is too tight, it will prevent the panels from being removed.

If the fitting is too loose, the panel may fall out (use safe dimension of use – the panel overlaps the top guide bar by at least 5 mm)



Mounting P304 side profile

1. Place the c-rail (P304) on the vertical profile of the panel.
2. Slide the window with P304 to the mounting place of the side profile.
3. Adjust the clearance between the window profile and P304 frame profile.
4. Draw the place of mounting.
5. Mount P304. If necessary, adjust, add washers, and seal the connection area between P304 and the wall.

Mounting materials

To install P304 c-rail, it is recommended to use mounting pins and washers made of rust resistant materials. In external enclosures, remember to seal the installed parts with the installation surface according to good engineering practices.

IMPORTANT: When completing the installation, remove plaster and mortar residues, metal filings, dust dirt, etc. Prevent leaving metal elements that are not-secured against corrosion.

Guide bar installation methods

Bottom guide bar installation methods depend on the type of balcony railing. The solutions presented below are only examples of those most commonly used.

Infill with different thicknesses

COPAL system is designed for infills with thicknesses between 4 and 18 mm. The figures show the preparation of the glass slit for infills with different thicknesses. Remember that if the sash weight is over 50 kg, use double bearings.

4 to 5 mm | 6 mm | panel or polycarbonate 8 mm | 16 mm | panel or polycarbonate 18 mm

Types of glasses in COPAL balcony and terrace enclosures:

A) SINGLE glass: standard float glass, 4, 5, 6 mm thickness; ESG tempered glass, 4.5 and 6 mm thickness; VSG laminated safety glass, thickness 6.4 mm (3.3.1)

B) DOUBLE glass: we recommend double pane set, thickness 16 mm, composed of two tempered glass panes, thickness 4 mm, on an 8 mm frame (ESG4-Ar8-ESG4).

In order to limit heat emission to the inside of the enclosure, panes with low-emission coating can be ordered.

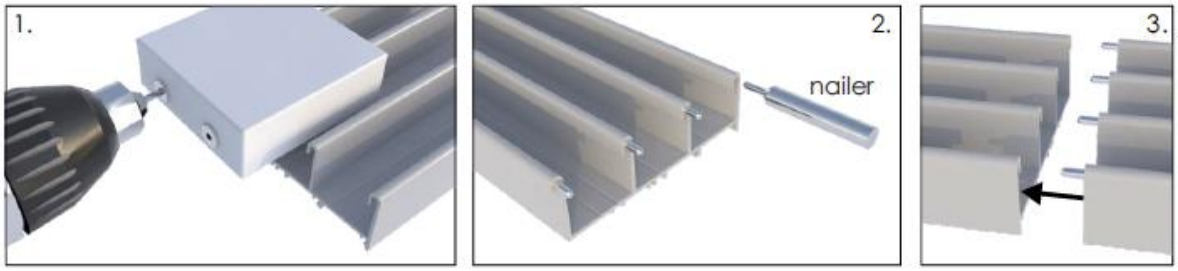
Tools and equipment

N-1 – presser for mounting P119
Tool for pressing P119 profile for quick and stable mounting to the main structure profile. After 1/4 turn, the two profiles are fixed together.

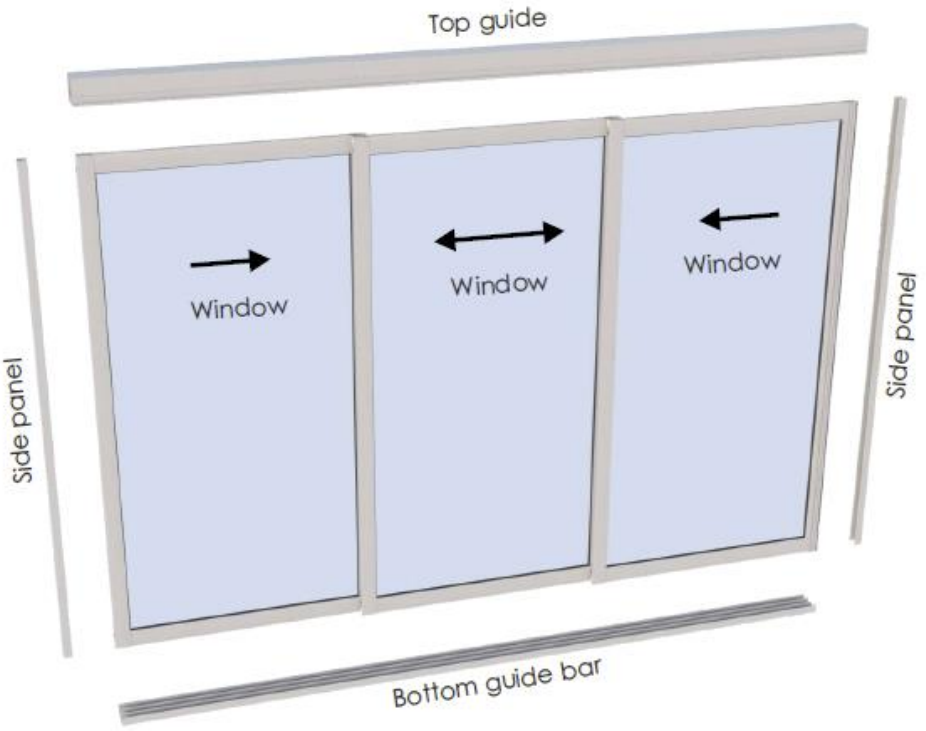
N2 pneumatic cutter (or N-9 scissors)
Cutter for making holes in guide bars. Tool for cutting drain holes at the surface of the bottom guide bar. Cut the holes alternatively in individual guide bar rails.

Joining guide bars

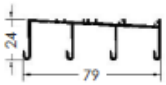
Joining, e.g., P3121 guide bar with an N-6 form, N-10 drill, and N-12 pin mounting tool:
1. Drill a through hole in the guide bar rails, diameter 2 mm, 7 mm depth. Use N-10 drill, 2.4 mm diameter.
2. In one of the guide bars, hammer fixing pins with N-12 nailer into the cut holes.
3. Next, join both pieces together and make sure they are not displaced.



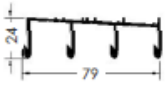
Structure plan



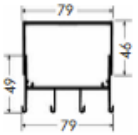
Railways



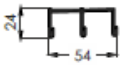
P 3121



P 121

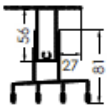


P3124+P3125
(only the top part)

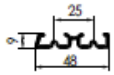


P 122

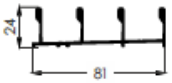
P 121/2T



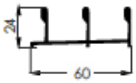
P103+P104
(only the top part)



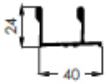
P 108
(bottom towards
a cupboard)



P 126-4T

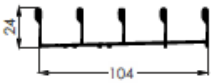


P 126-3T



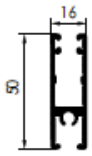
P 126-2T

P 126-1T



P126

Upper window profile - P3102



E 101 seal – 2 profile lengths
E 201 PTFE slider (only with P106 profile)
E 309 stainless screw – 2 per profile

Lower window profile - P3102

P 3102

E 203 – 2 or 4 pcs. per profile

For sashes weighing more than 50kg, join bearings in pairs.

E 309 – 2 pcs. per profile

E 101 – 2 profile lengths

E 205 – 2 pcs. per profile

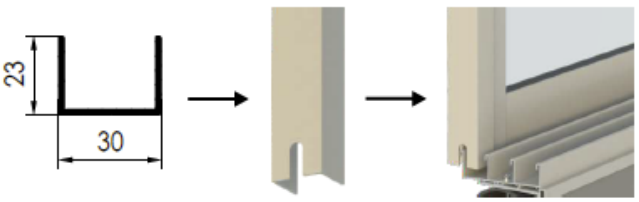
E 304 – 2 pcs. per profile

E 101 – 2 profile lengths

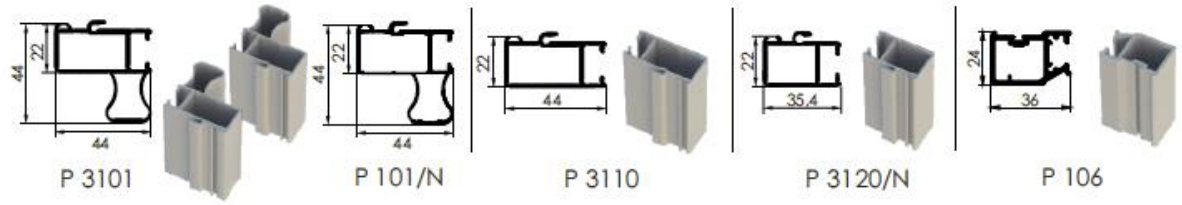
P. 107 – profile for cabinets, only with P 108 guiding bar and E 205 adjustable bearing

Side profile – P304

Side profile, closing
P304 – 2 pcs for single enclosure



Vertical profiles of a window



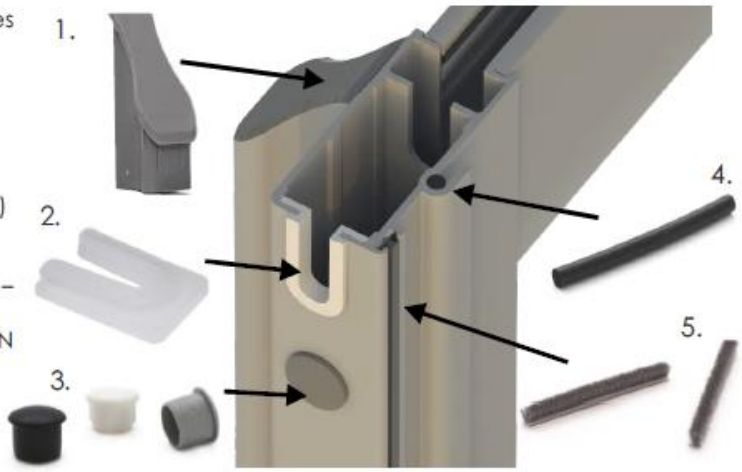
1. Cap for P3101 and P101/N profiles (white/grey/black)
2 pcs. per each profile (top/bottom)

2. Cover – E202
4 pcs. per window

3. Cap Ø10 – E 303 (grey, white, black)
4 pcs. per window

4. Shock absorber for vertical profiles – E109
two profile lengths (fits P3101, P101/N and P3110)

5. Brush seal – E101



Locks *

E 411 - Manual lock
Available in white (RAL 9016), black (RAL 9005), or grey (RAL 9006).

E 408 / E 408A - Bayonet lock, lockable on one side Available one set of keys to one or more locks.

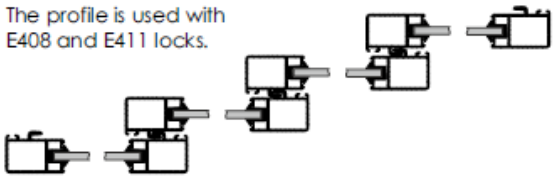
E 409 / E 409A - Hook lock – patented, lockable on both sides Available one set of keys to one or more locks.

* Standard installation height for locks is 300 mm for balcony enclosures and 1100 mm terrace enclosures.

Examples

P 3120/N — **Economic and functional**

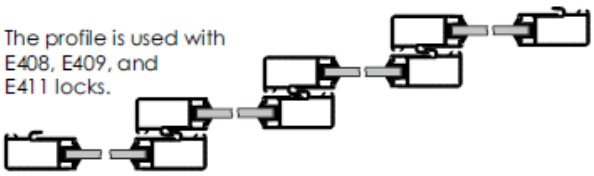
The profile is used with E408 and E411 locks.



The system is for low balcony enclosures mounted on railing, sliding windows, teller windows, and furniture with sliding components. E4203 and E4204 pulls can be used for opening.

P 3110 / P110 — **Economic and functional with increased strength parameters**

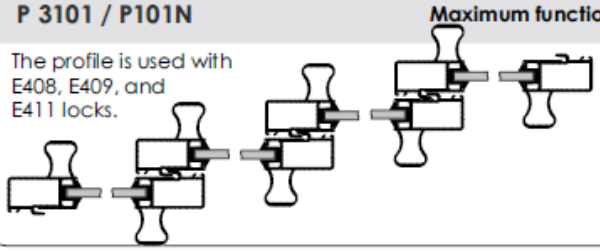
The profile is used with E408, E409, and E411 locks.



The system is for balcony and terrace enclosures, sliding doors, sliding walls, windows, and furniture with sliding components. E4203 and E4204 pulls can be used for opening.

P 3101 / P101N — **Maximum functionality thanks to pulls in profile and increased rigidity**

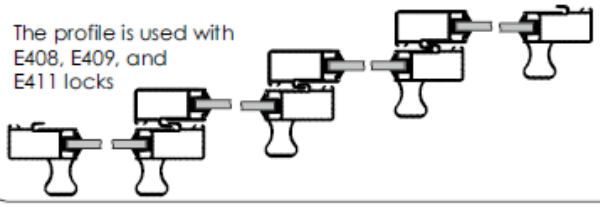
The profile is used with E408, E409, and E411 locks.



The system is used for terrace enclosures, sliding doors. The pull in the profile makes it easy to slide the components from both outside and inside of the enclosure. Additionally, this profile very well affects the rigidity of the whole structure.

P 3101 , P 101N / P3110 , P110 — **Functional pull on the inside of the enclosure**

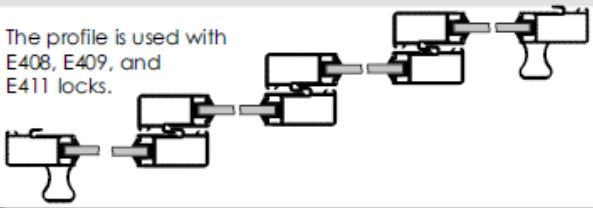
The profile is used with E408, E409, and E411 locks



The system is for balcony and terrace enclosures, sliding doors, sliding walls, windows. The pull on the inner profiles makes it easy to slide the components from the inside of the enclosure and increases the rigidity of the structure.

P 3101 , P 101N / P3110 , P110 — **Pull on the far profiles of the enclosure.**

The profile is used with E408, E409, and E411 locks.

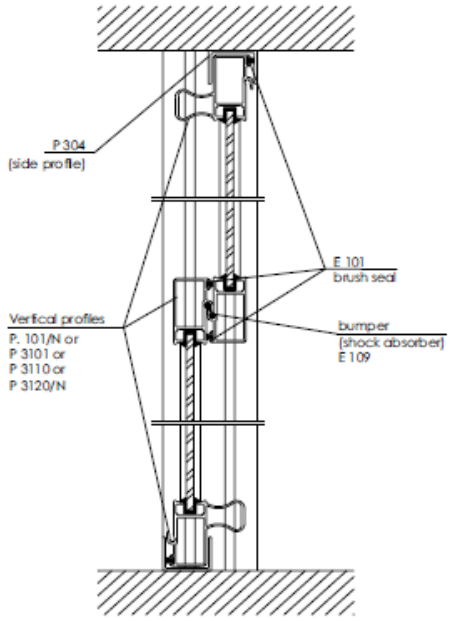


The system is for balcony and terrace enclosures, sliding doors, sliding walls, windows. The pull on the inner profiles makes it easy to slide the components from the inside of the enclosure and increases the rigidity of the structure.

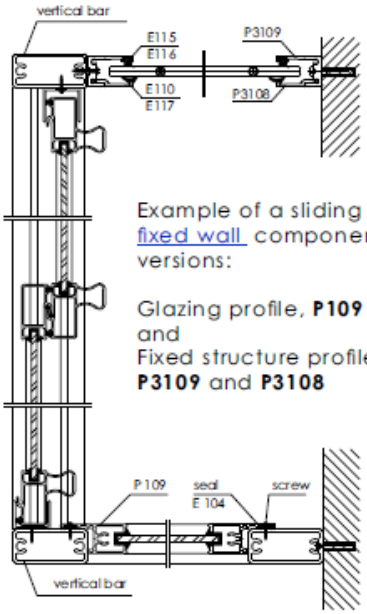
The size of a single window depends on the type of infill used and wind load, among others. If you have any further questions, please contact us by phone or email to receive a performance report of a given structure.

Examples

Horizontal cross-section of sliding enclosure



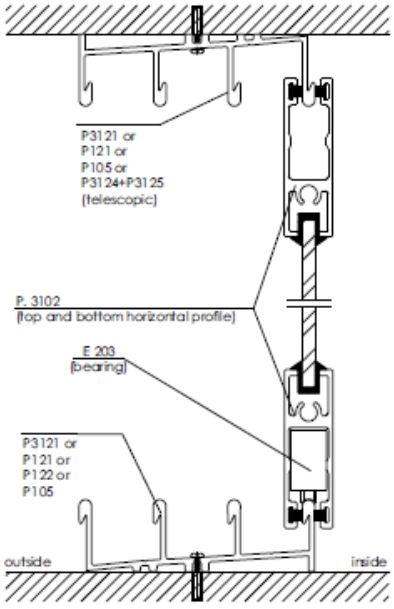
Horizontal cross-section of sliding enclosure with fixed components

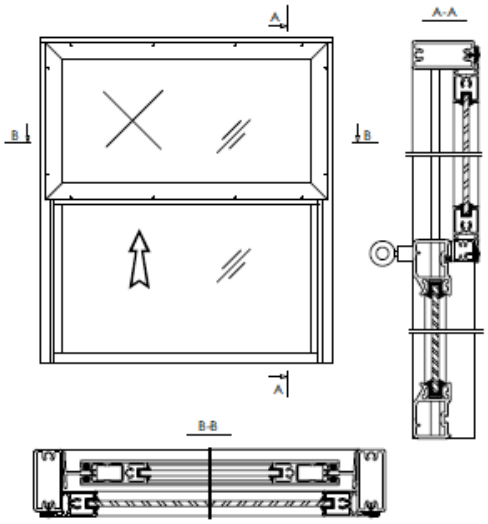


Example of a sliding wall with fixed wall components in two versions:

Glazing profile, **P109**
and
Fixed structure profiles:
P3109 and **P3108**

Vertical cross-section of sliding enclosure



Teller window cross-section, sliding up/down

The window can be equipped with a counterweight to position the sliding sash at any height.