Garden Zone

Inspired design for people

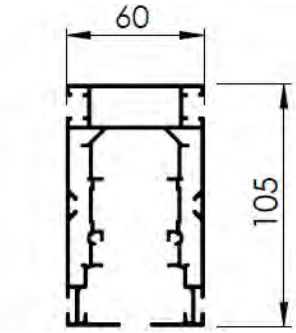
SunGuard

Wall-mounted aluminum pergola with a retractable roof made of waterproof fabric

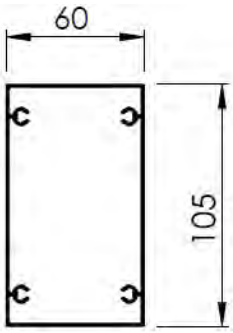
INSTALLATION INSTRUCTIONS

May 2025: version 1.0

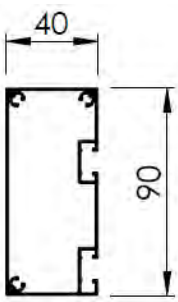
BASIC PROFILES:



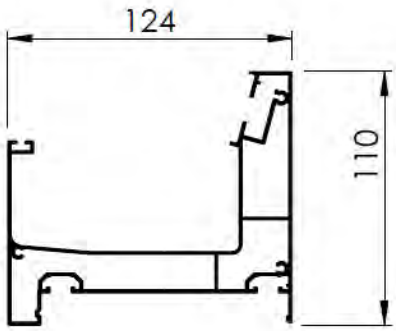
Runner



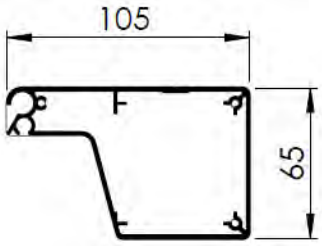
Pole



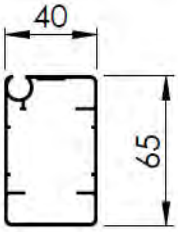
Bar supporting



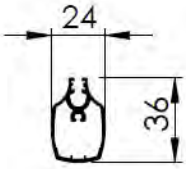
Gutter



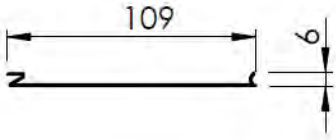
Bar tensioning



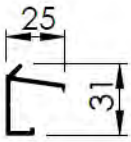
Bar fabric



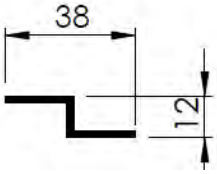
Curtain profile engine



Gutter cover



drip cap



Visor frame

Reservation

Due to continuous improvements and product development by the manufacturer, the product, its technical features and design are subject to change without prior notice.

1. The delivered pergola structure is custom-made according to the order. Installation of the pergola on the site must be performed according to the dimensions determined during the measurements. A dimension sheet is provided with each product. The purpose of the sheet is to determine the position of the structural profiles, the correct installation of which will ensure the proper angle of the pergola and the associated proper drainage of rainwater. The dimensions presented will facilitate the planning of the holes to be drilled in the wall and ground.
   Characteristic pergola dimensions:
   - **overhang**: distance from the wall to the outer plane of the columns,
   - **width**: distance between the outer planes of the pergola guides,
   - **front height**: clearance between the ground and the bottom of the gutter,
   - **mounting height**: distance from the ground to the bottom of the wall bracket, measured at the wall.

An example dimension sheet is presented on the next page.

Attention : The pergola assembled by the manufacturer does not have pre-programmed motor end positions. Only after securing the fabric and screwing in the fixed beam can the installer program the end positions according to the instructions for the selected drive.

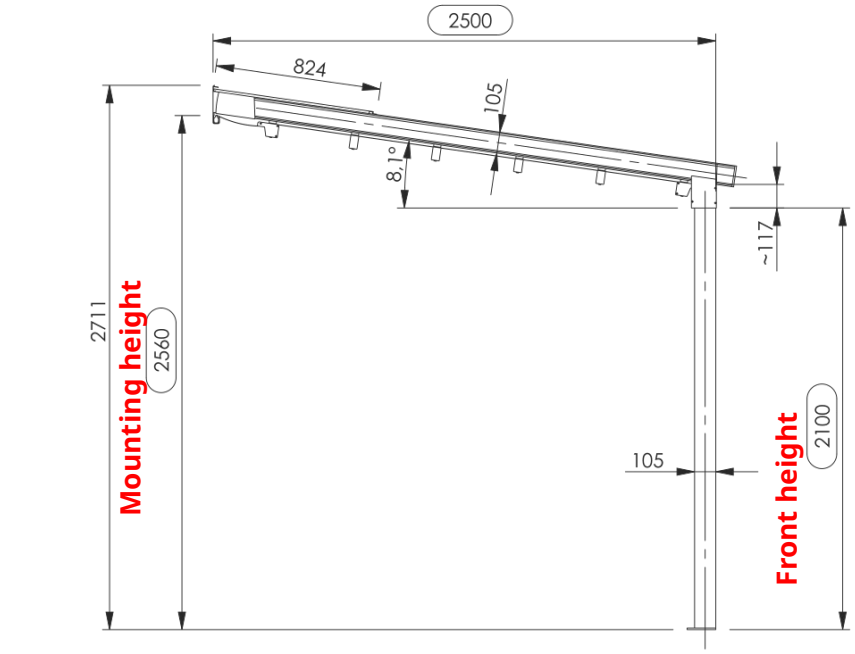
Nr pergoli: **SHA-###**
Klient: **Nazwa klienta**

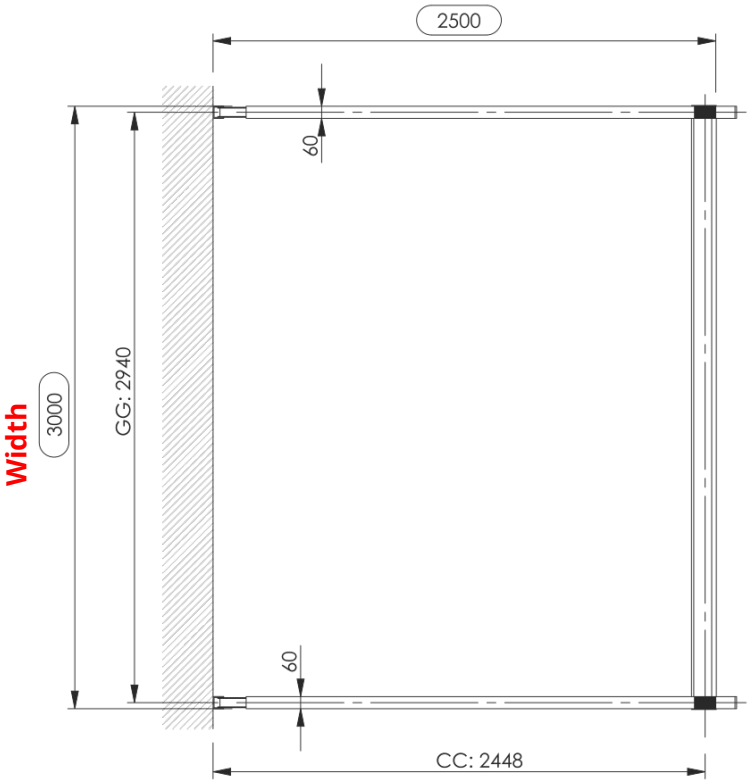
Zalecany kąt pochylenia 8-14°.
Poniżej 8° nie jest udzielana gwarancja odpływu wody z poszycia.

L. modułów	Szerokość	Wysięg	Wysokość przednia	Wysokość mocowania	Kąt pochylenia
1	3000	2500	2100	2560	8,1°

* - rysunek nie przedstawia rzeczywistej liczby belek tkaninowych.

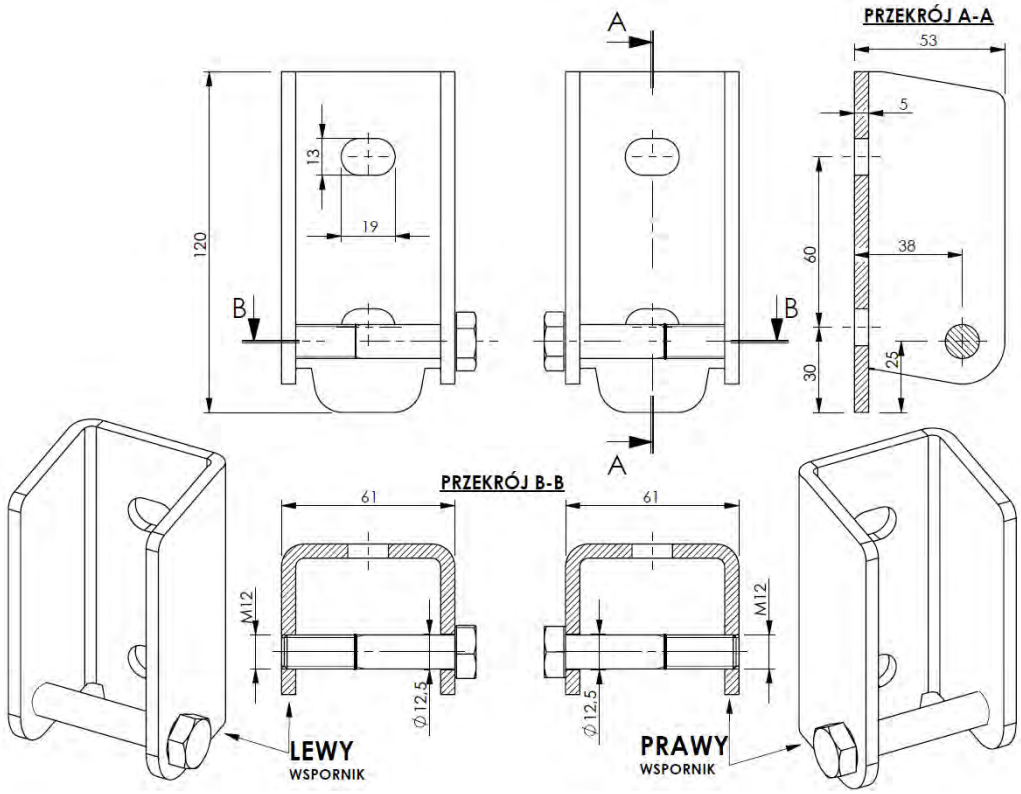
SAMPLE DIMENSION CARD



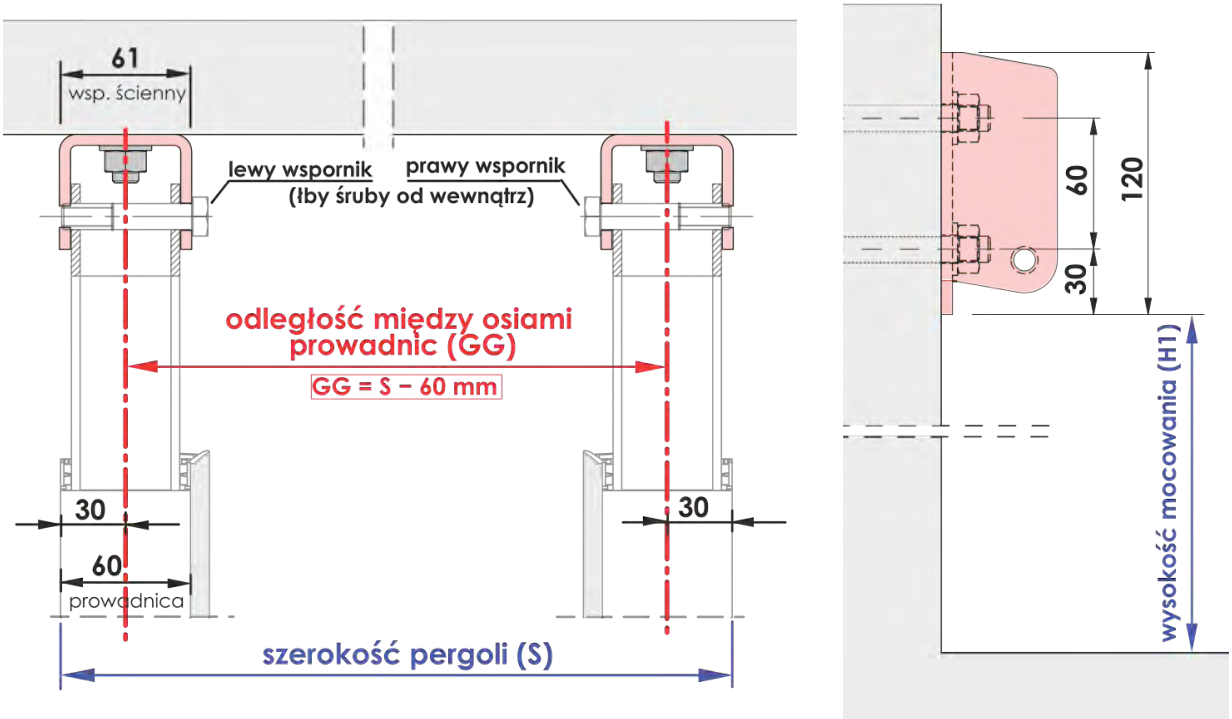


GG - odległość między osiami prowadnic; CC - odległość od ściany do osi słupa

2.The supporting structure of a wall-mounted pergola is assembled on the site by screwing the guide rail wall brackets to the wall and the post bases to the ground. The pergola features a symmetrical pair of header wall brackets: a left and a right piece. The brackets differ in the side on which the thread is located and the M12x60 screw is screwed in.



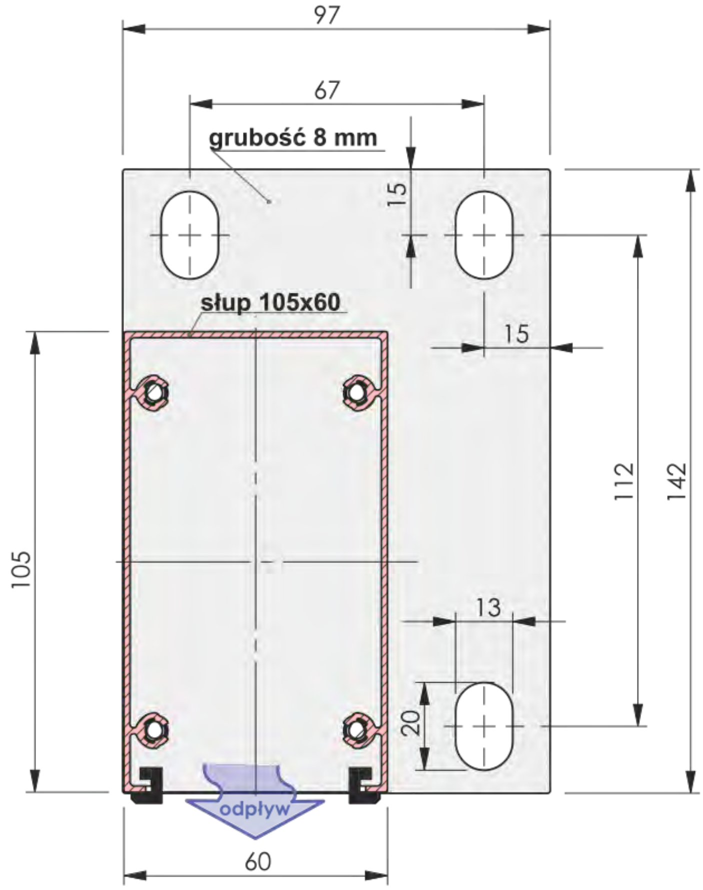
The mounting side, right or left, is identified by looking at the wall of the building, i.e., from the outside, at the front of the pergola being installed. When the brackets are properly installed, the heads of the M12x60 screws protrude towards the inside of the pergola's outline.



Position wall brackets for guides is determined based on the nominal dimensions of the pergola. The mounting height (**H1**) of the bracket is determined as the distance from the ground (or terrace level) to the lower edge of the bracket. The horizontal arrangement of the brackets is determined in relation to the width of the pergola, where the brackets for the outer guides are located 30 mm from the nominal outline of the pergola width. An important control parameter during the planning and installation of the brackets is the distance between the guide axes (**GG**), which in the case of a single-module pergola is:

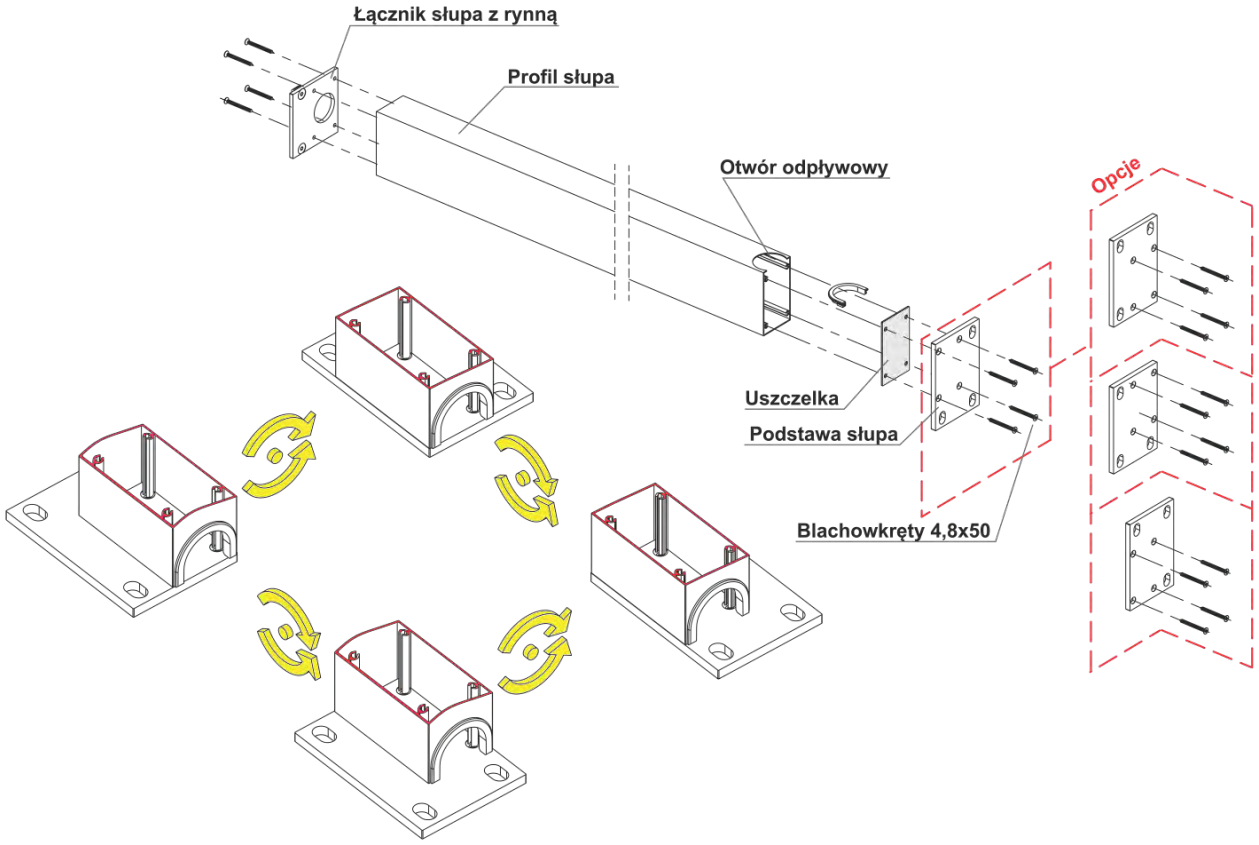
$$= - 60 \text{ mm}$$

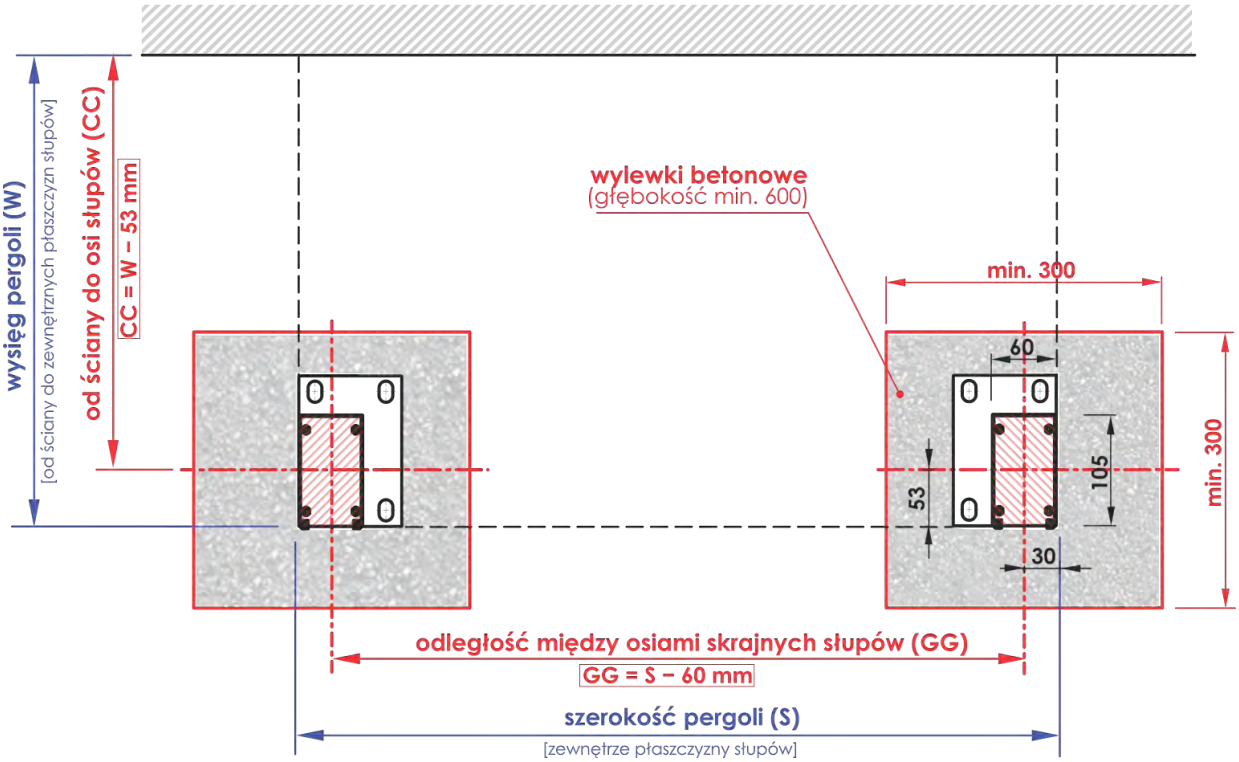
For mounting vertical poles to the ground, a pole base plate is used, with the following dimensions:



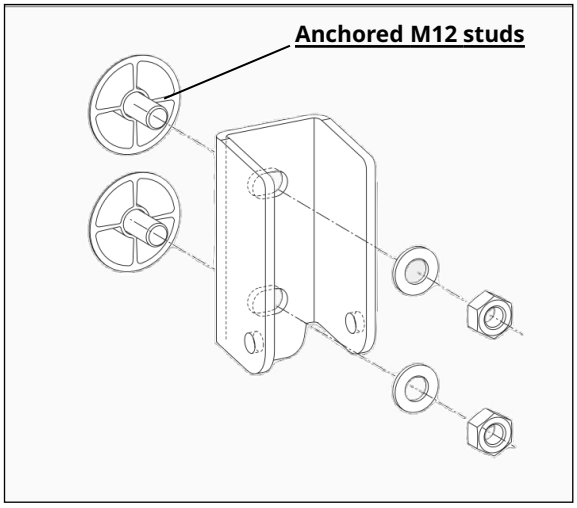
To ensure versatile pole installation for various building conditions, each base plate is reversible. This allows for proper orientation of the base plate depending on the conditions encountered (e.g., adjacent wall, end of terrace, or other obstacles). The final configuration is determined by screwing the plate to the pole profile using 4.8x50 sheet metal screws (these are screwed into the pole profile upon delivery), while taking into account the location of the drainage hole (default: from the front of the structure).

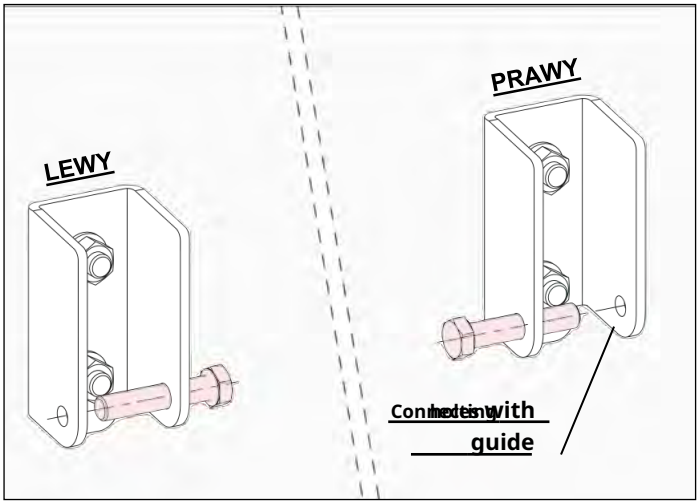
The column bases must be attached to a substrate with adequate load-bearing capacity, preferably a concrete floor. If such conditions do not exist in the facility, it is recommended to place concrete screeds at the point where the column bases are attached. The concrete screeds should be placed centrally relative to the column axis, the position of which is determined based on the nominal dimensions of the pergola: width (**S**) and reach (**IN**). Concrete screeds should be made with a common level in mind, and if this is not possible, the difference in level between the screeds should be taken into account when ordering the pergola, which will affect the length of the individual pillars.


Łącznik słupa z rynną
Profil słupa
Otwór odpływowy
Opcje
Uszczelka
Podstawa słupa
Blachowkręty 4,8x50


wysięg pergoli (W)
[od ściany do zewnętrznych płaszczyzn słupów]
od ściany do osi słupów (CC)
CC = W – 53 mm
wylewki betonowe
(głębokość min. 600)
min. 300
60
105
53
30
min. 300
odległość między osiami skrajnych słupów (GG)
GG = S – 60 mm
szerokość pergoli (S)
[zewnętrze płaszczyzny słupów]

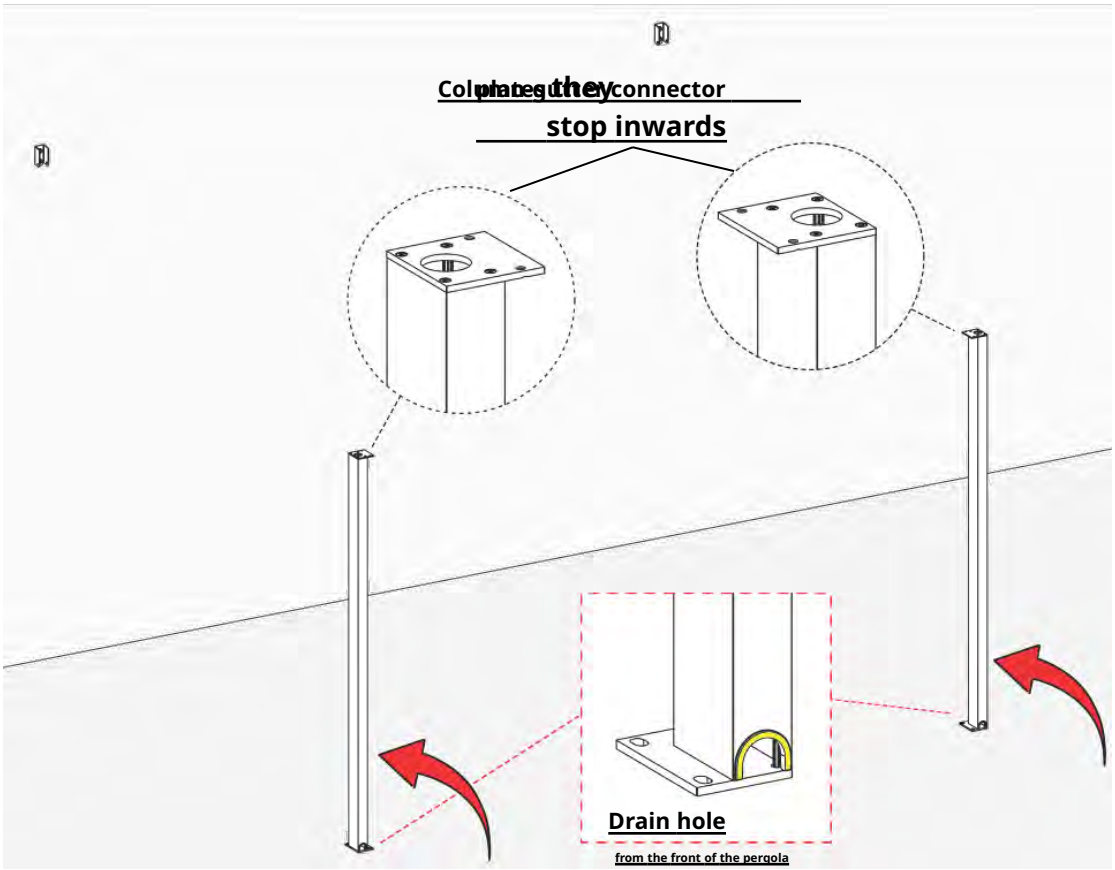
3.The wall brackets for the guides are attached to the wall through elongated (slotted) holes. Make sure that the holes connecting to the guide are located at the bottom of the bracket and that the bracket is correctly identified: left and right.



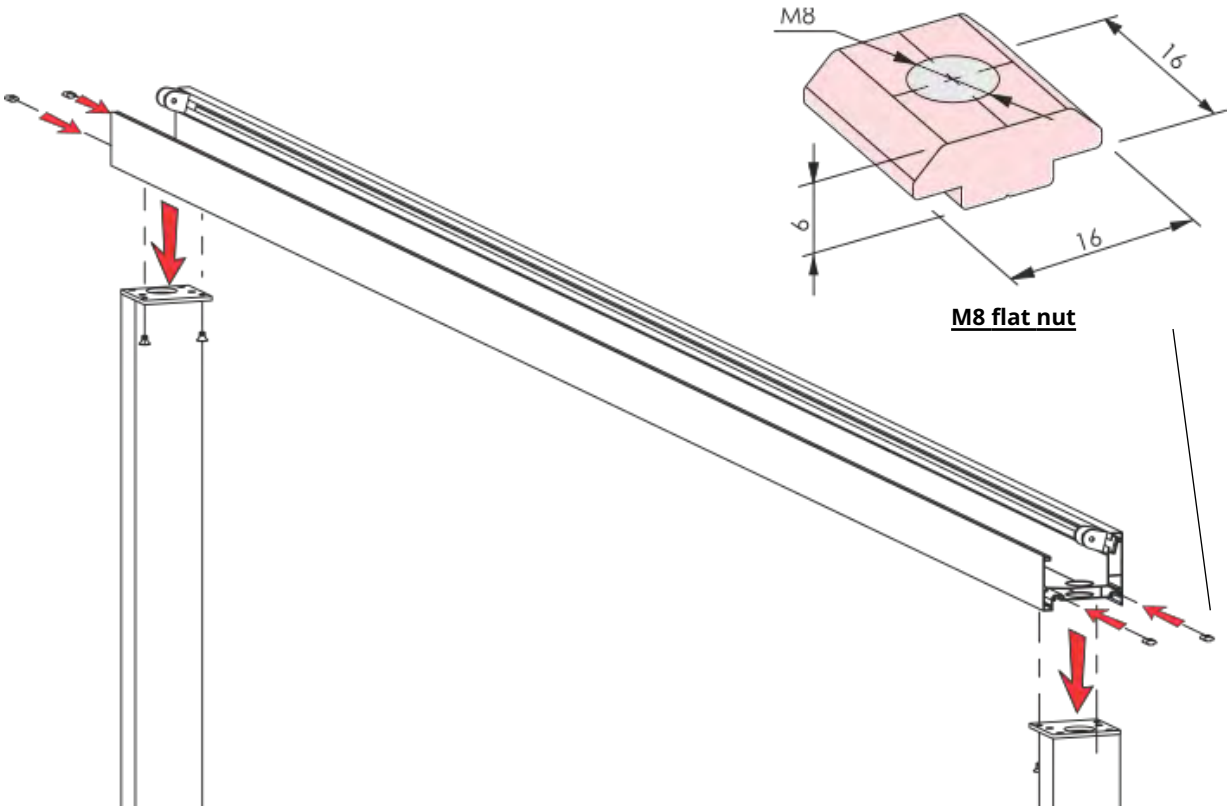


Attention : The selection of mounting components should be made individually for the existing installation conditions, taking into account the type and quality of the substrate. Typically, M12 rods are used to mount wall brackets on insulated facades, embedded using chemical anchors and aluminum spacers.

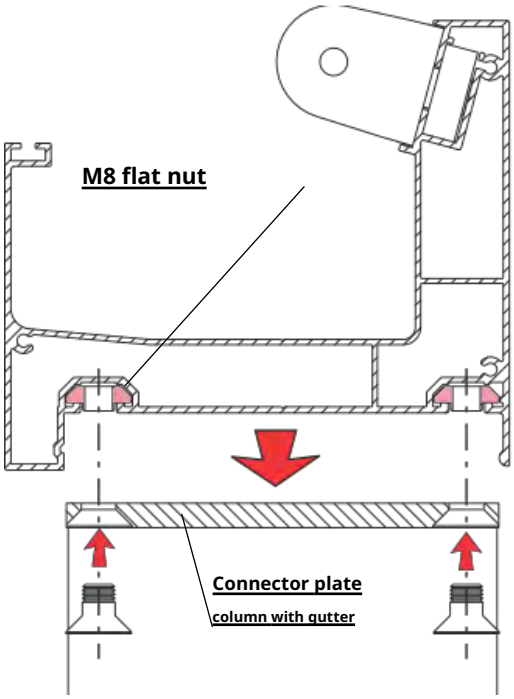
4.Place the posts vertically and align them with the nominal pergola outline, defined by the pergola's projection and width. Ensure the posts are properly oriented: the lower drainage hole should be at the front of the pergola, while the gutter connector plates should face the inside of the pergola.

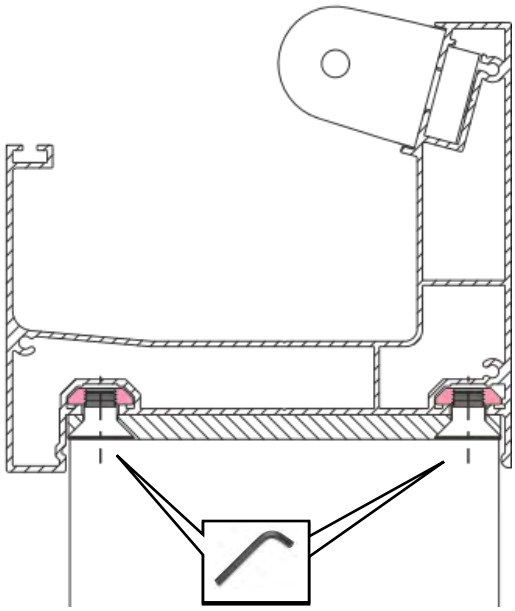


5.Place the gutter on the upright posts. The gutter will be connected using conical bolts and M8 flat nuts. The M8 flat nuts should be inserted into the dedicated gutter channels (two nuts per post).

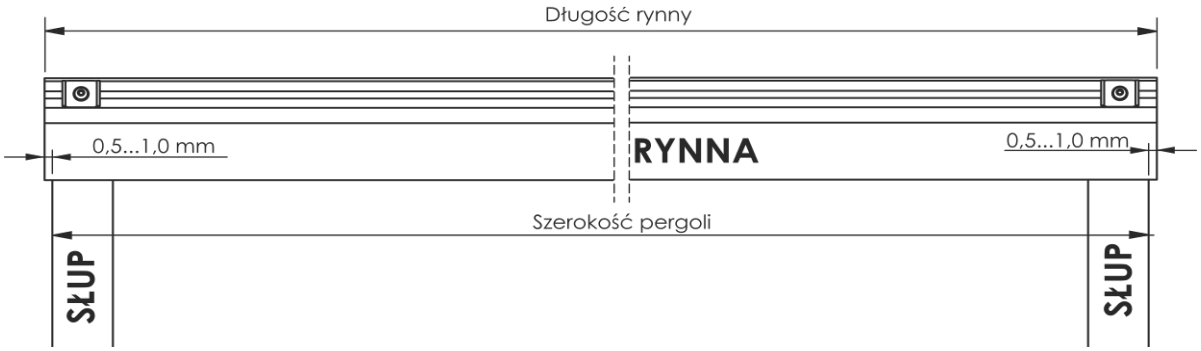


There is a recess in the gutter profile that overlaps the column-gutter connector plates.

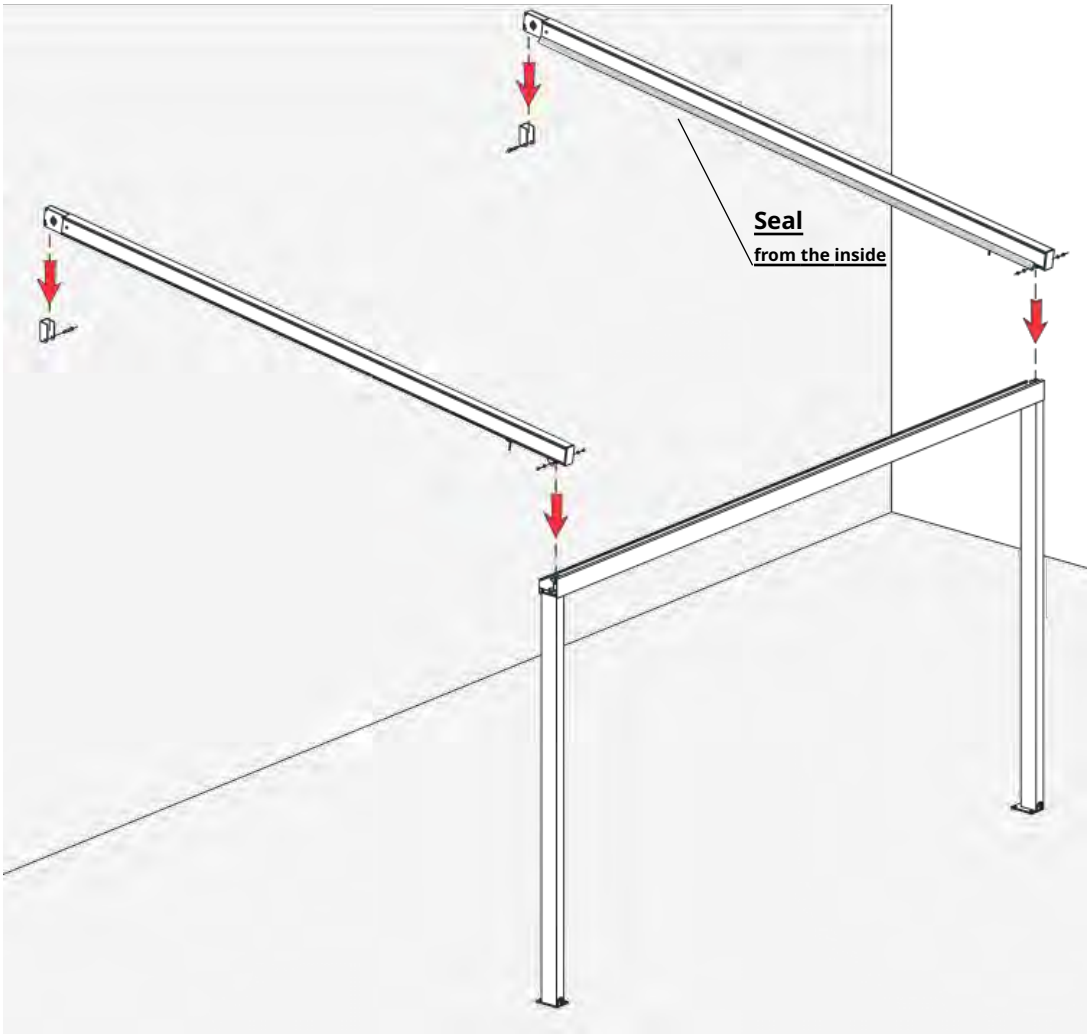




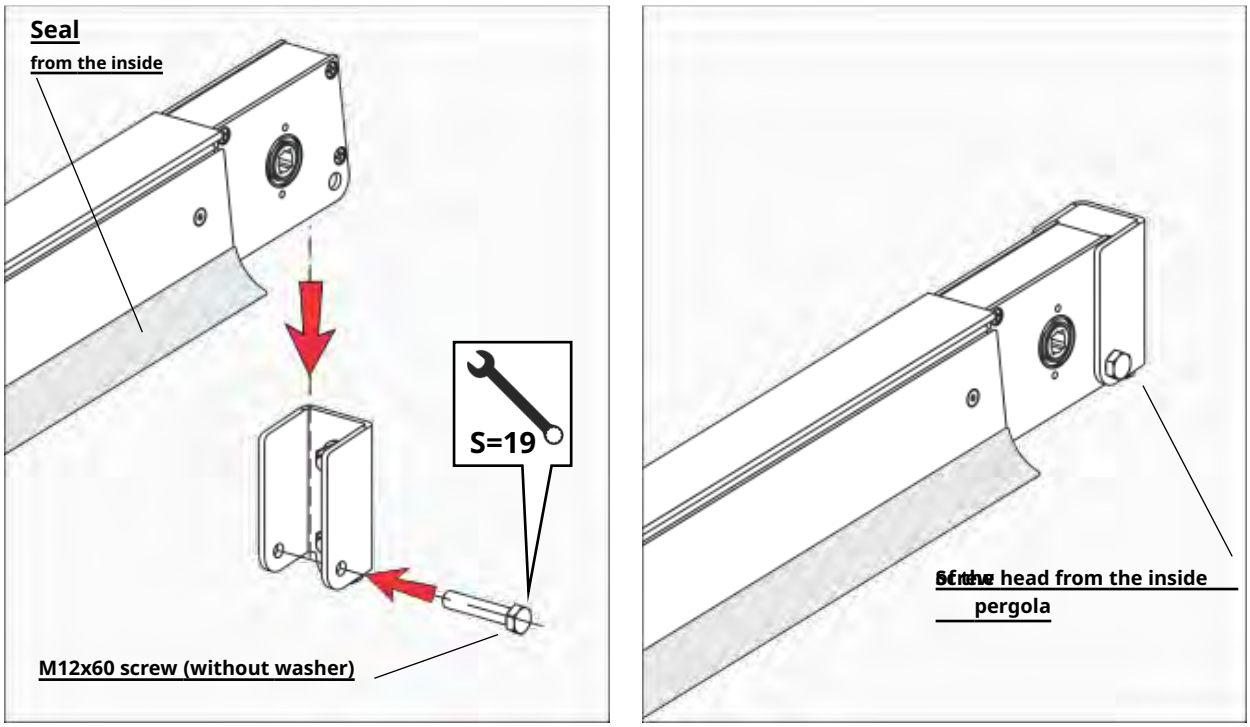
Adjust the gutter so that it protrudes slightly (0.5–1.0 mm) beyond the posts on both sides. This will allow for tightening the gutter caps later.



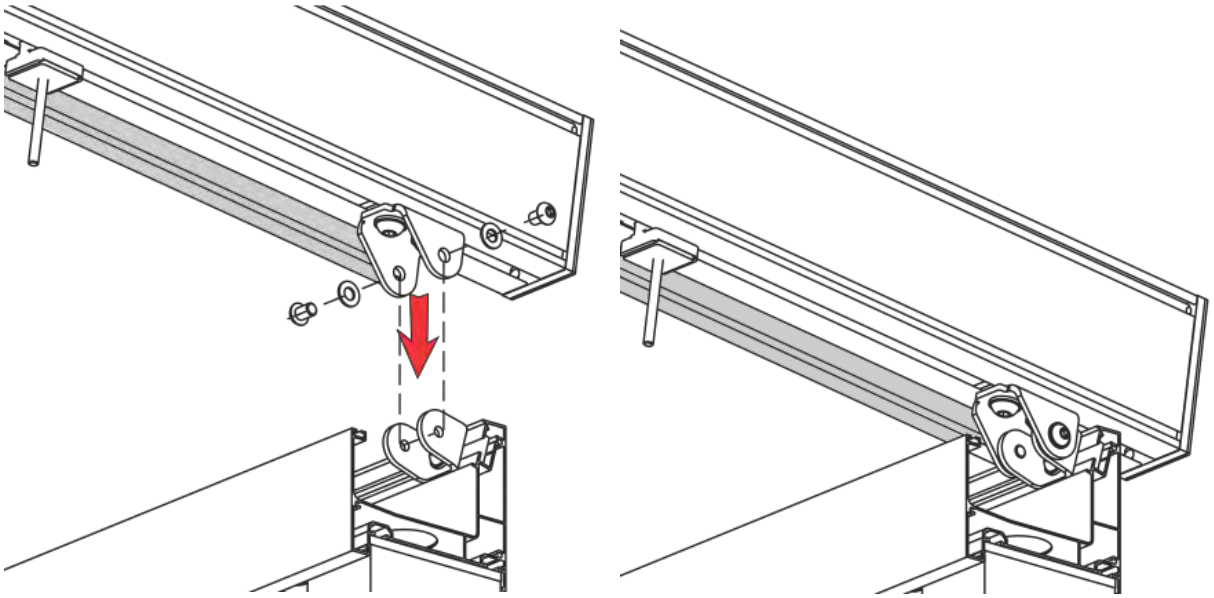
6.Connect the guide rails to the wall brackets and hinges mounted on the gutter. The system includes right, left, and center guide rails, which differ in the position of the side seals. During installation, ensure that the seals face toward the inside of the pergola.



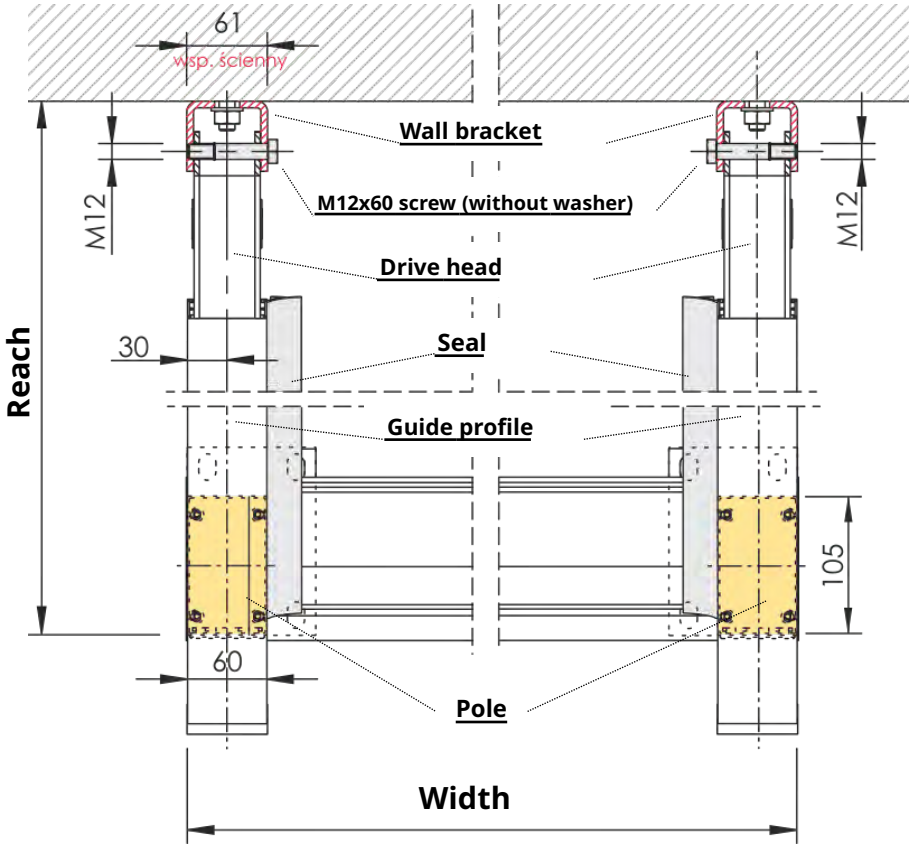
Insert the guide into the wall bracket. Connect the guide to the bracket using an M12x60 screw without a washer – the screw head is located on the inside of the guide (on the seal side).



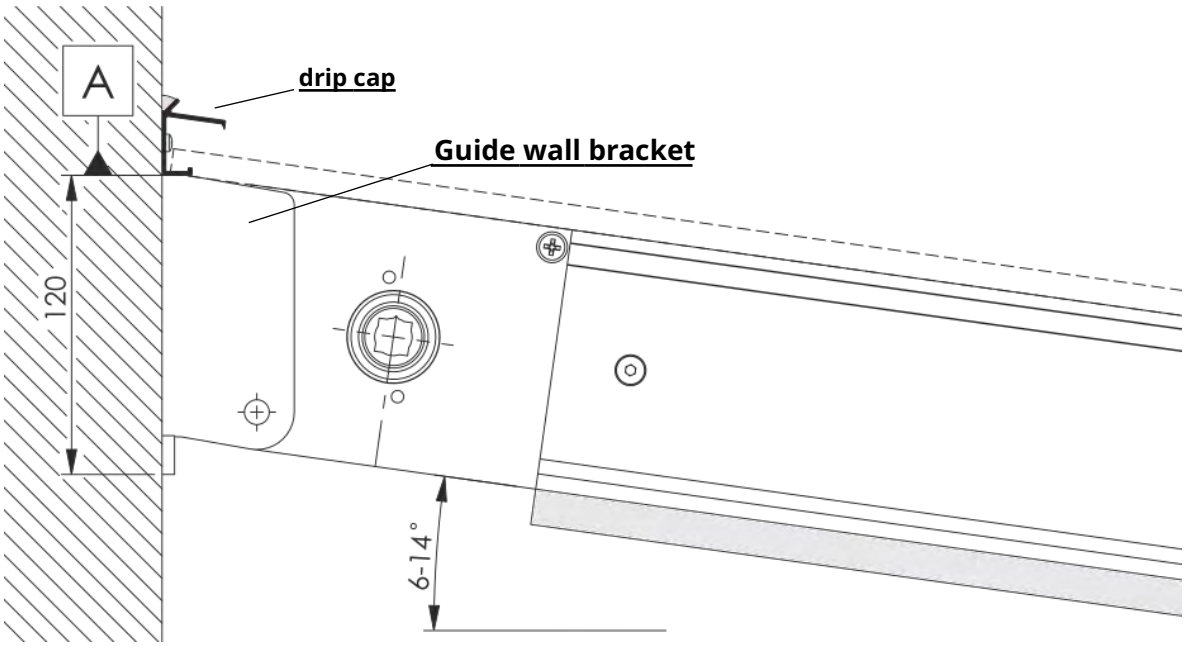
From the front, connect the guide to the gutter by screwing the hinge on both sides.



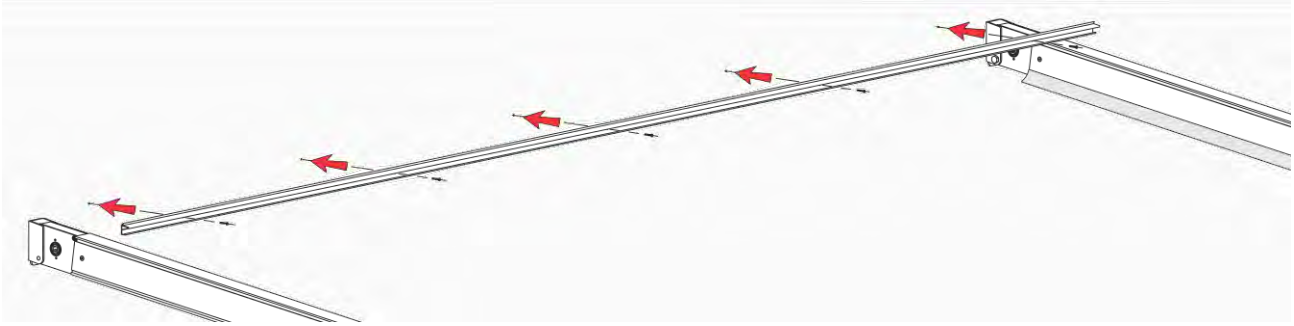
After connecting the elements, the main supporting structure of the pergola was assembled. Verify the correct alignment of the structural members (perpendicularity to the wall and verticality of the posts) and the dimensions: width and extension of the structure. At this stage of assembly, it is not recommended to screw the post bases to the ground yet.



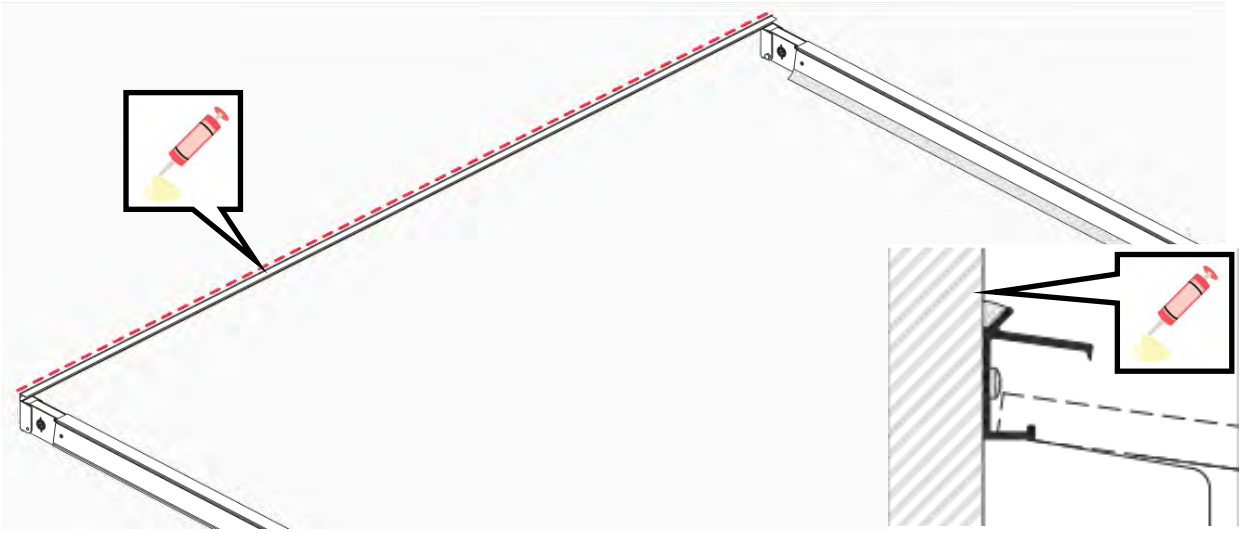
7.Begin installing the drip edge profile to the wall. For pergolas with an angle of 6° to 14°, the drip edge profile should be mounted directly above the guide's wall bracket – position marked [A] in the drawing. The drip edge profile's function is to provide a basic level of sealing between the pergola and the wall, and its installation can be performed by an awning installer. To ensure complete sealing, comprehensive roofing work is required, taking into account the cutout in the building's facade.



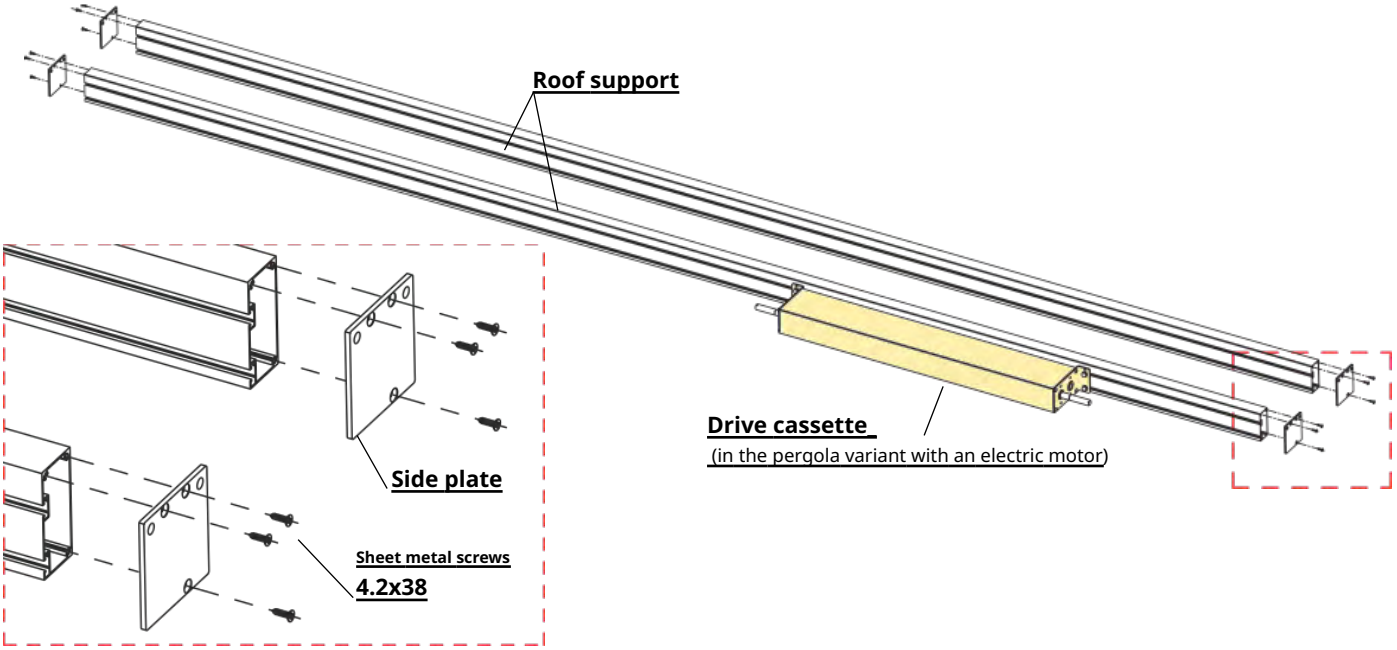
The drip edge profile should be attached to the wall using fasteners appropriate for the existing wall type. Typically, these include plastic expansion anchors, drywall anchors, insulating anchors, or mounting adhesive. The spacing between anchors should not exceed 100 cm.



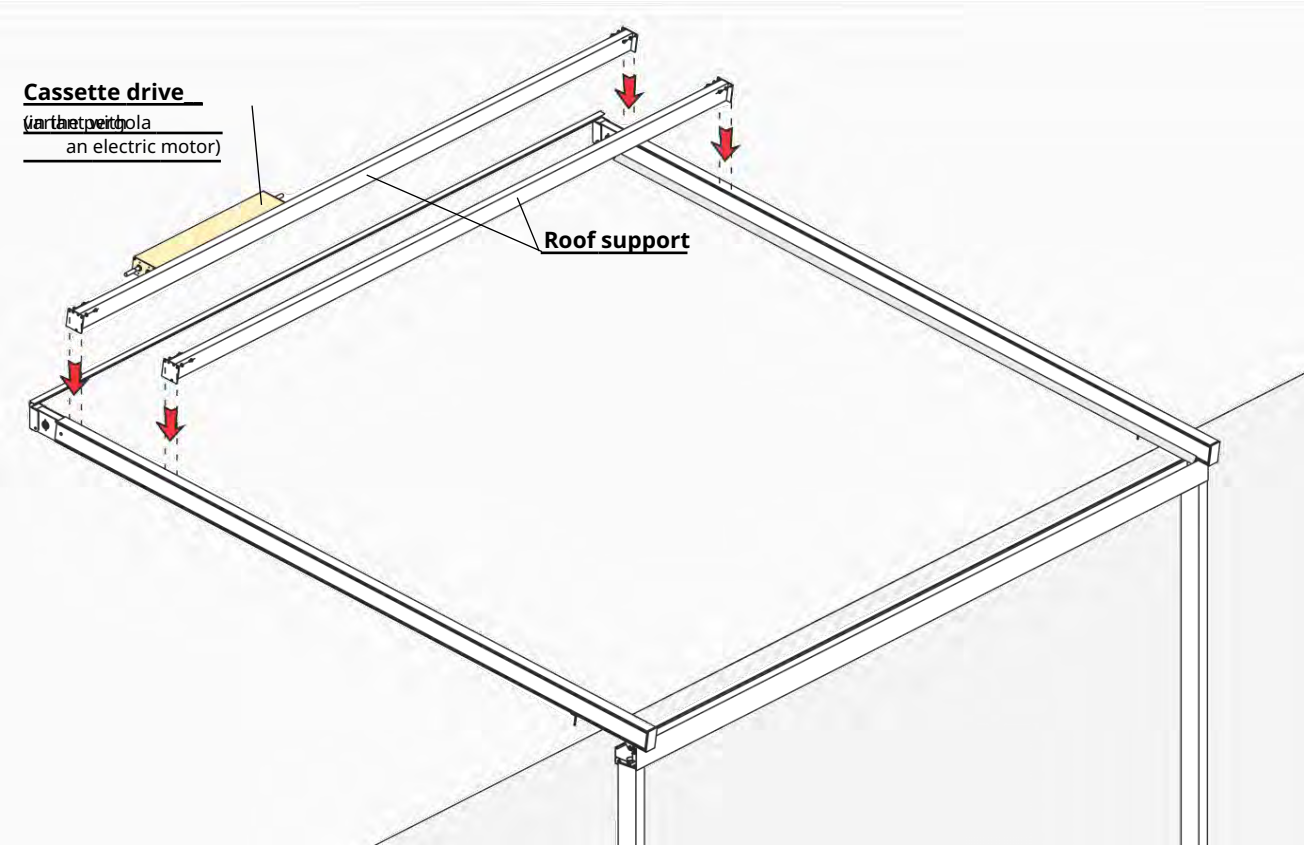
Seal the connection between the drip cap and the wall by applying silicone adhesive to the groove at the top of the profile.



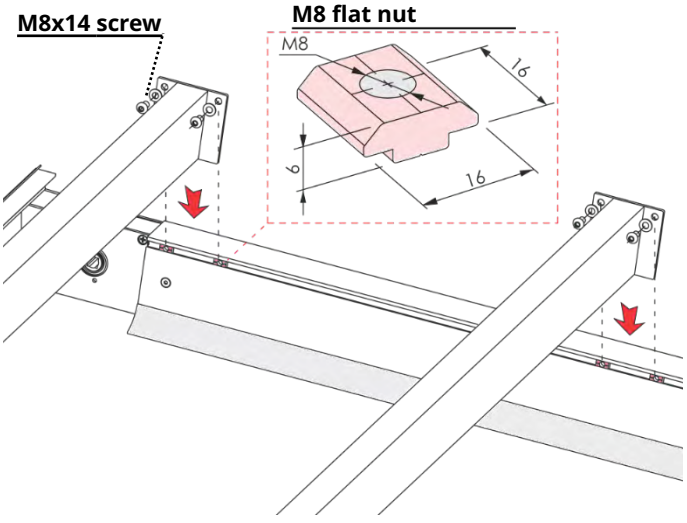
8.Screw the side panels to the crossbeams (canopy supports) using 4.2x38 sheet metal screws (they are screwed into the beam profiles when delivered). In the pergola variant with an electric drive, the drive cassette is screwed to one of the crossbeams.

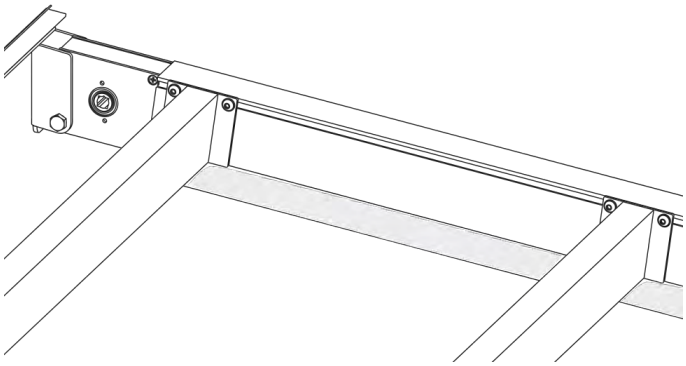


The cross beams are mounted between the pergola guides.



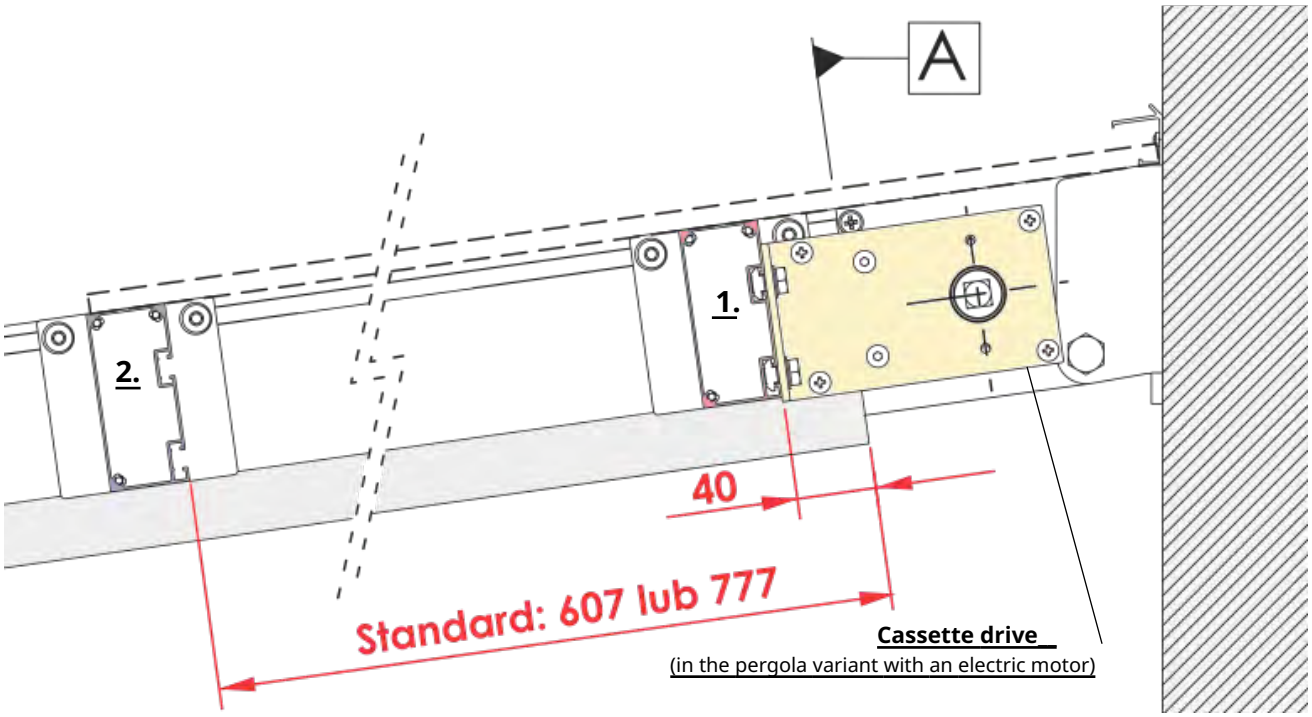
Indirectly, through the side plates, the beams are screwed with M8x14 screws to M8 flat nuts located in the guide channel.



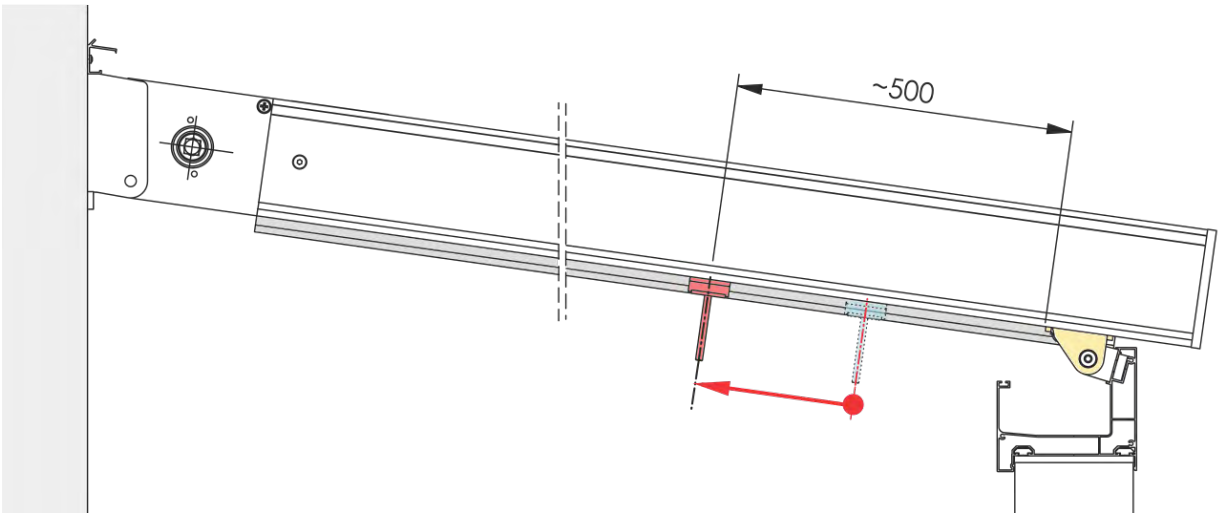


Fasten the crossbeams in the specified position along the guide rail. The first support (1.) for each pergola has the same position, which is 40 mm measured from the front of the guide rail profile (measurement base A). The positioning accuracy is particularly important for the pergola variant with an electric motor, where the 40 mm dimension guarantees the coaxiality of the drive cassette's rotating spindle (i.e., the closed double-sided transmission with the electric motor) with the drive wheels in the guide rail heads. The position of the second canopy support (2.) will depend on the pergola's overhang, as different overhangs of the canopy sheet metal are used. In the pergola system, the sheets

the roof sheets have an overhang of 790 mm and 960 mm and for such values the position of the roof support beam will be 607 mm and 777 mm, respectively, measured from the front of the guide profile (measurement base A).

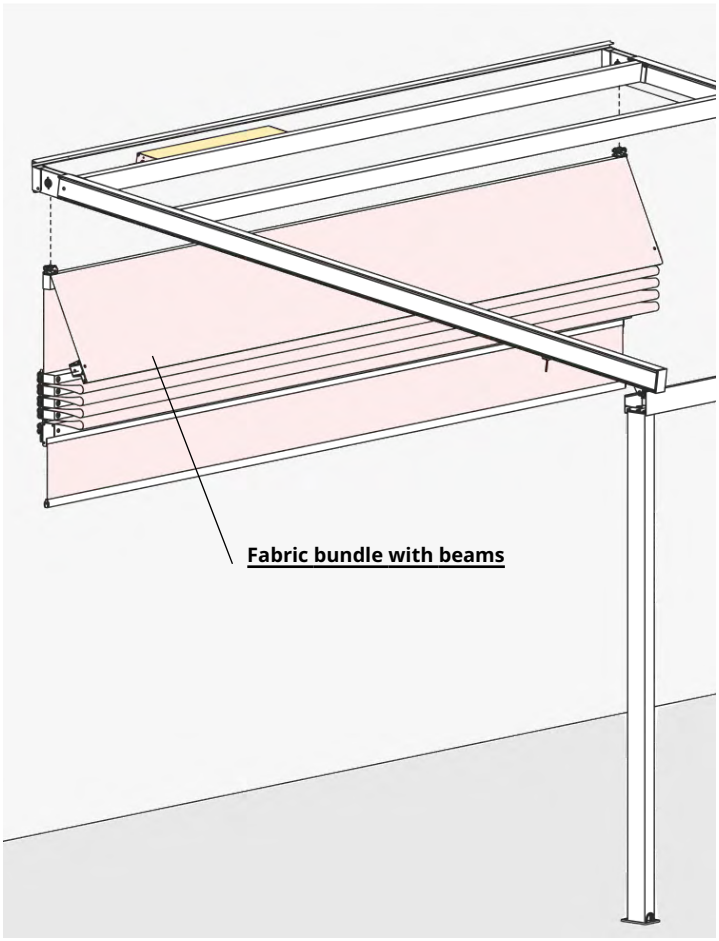


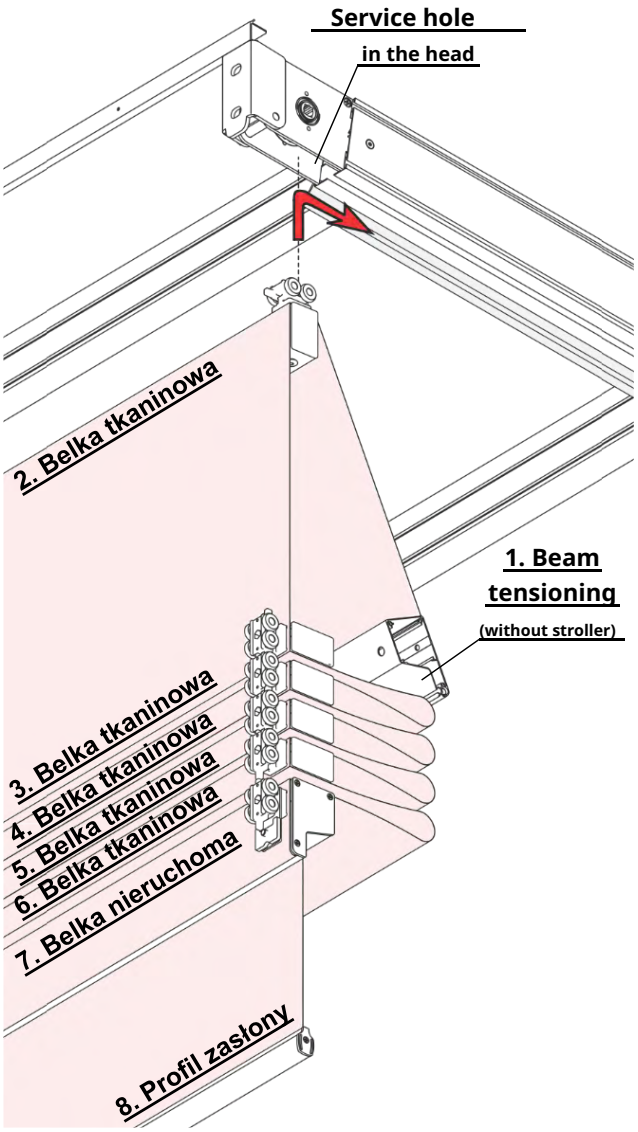
9.Before installing the fabric with sliding beams, position the tensioning carriage in the same position along each guide rail. It is recommended to position the carriages approximately 500 mm from the hinge connecting the guide rail to the gutter.



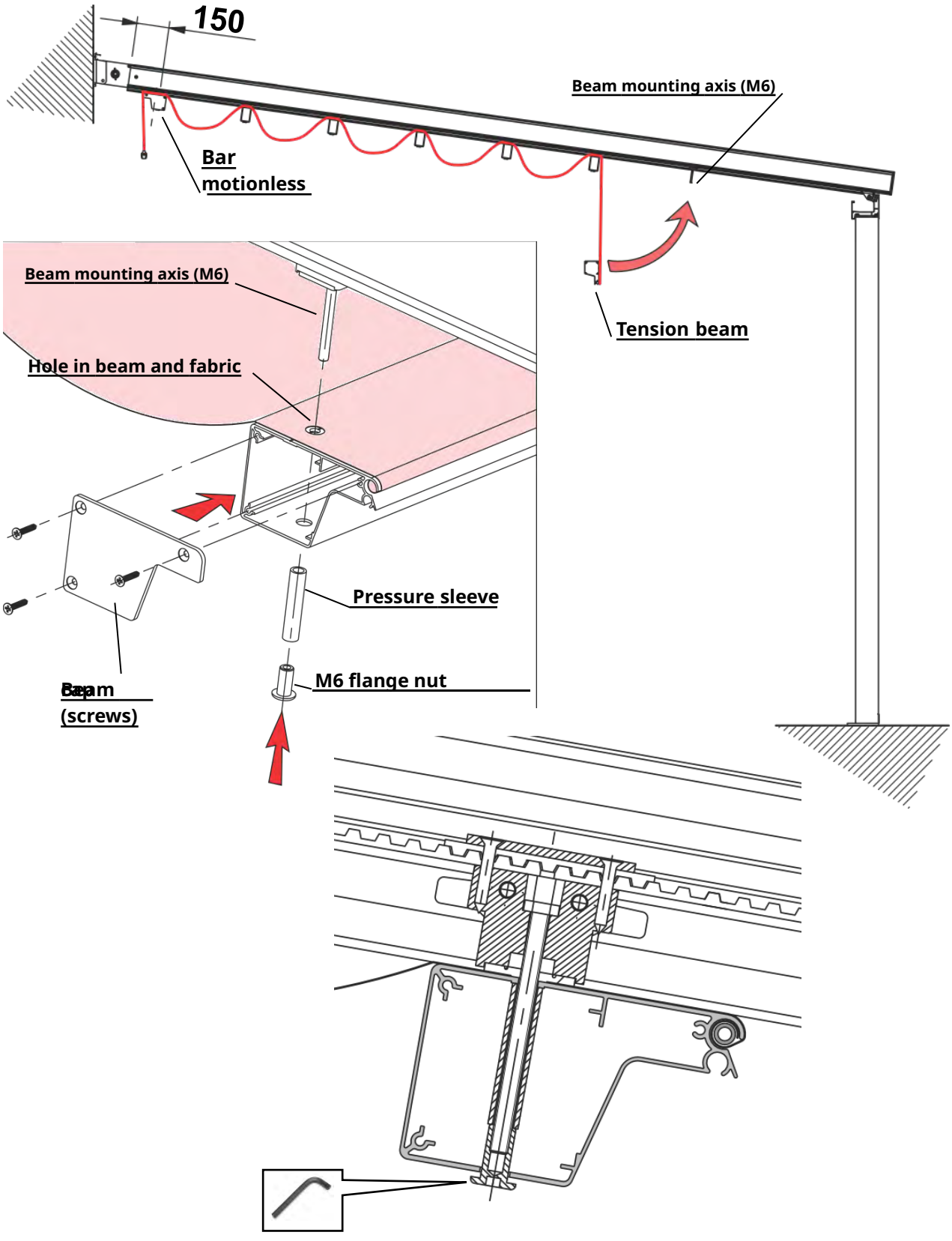
10. The waterproof fabric is connected to sliding windbreaks, which support the fabric, preventing it from sagging excessively under wind or water loads, and prevent it from being blown up. The beams slide along the guide rail via support carriages, while the total number of support beams depends on the pergola's dimensions – the example pergola in the drawing below has 7 beams and a single profile supporting the drive cover. The support carriages supporting the fabric package should be inserted into the pergola's guide rails through the service opening in the head. The fabric beam carriages are then inserted one after the other.**2**÷**6**and finally a fixed beam**7** Tension beam**1**is the only one that does not have bolted trolleys, as they are permanently attached

connected to toothed belts inside the guides. Drive cover profile**8**will be attached to the wall at a later stage using dedicated brackets.

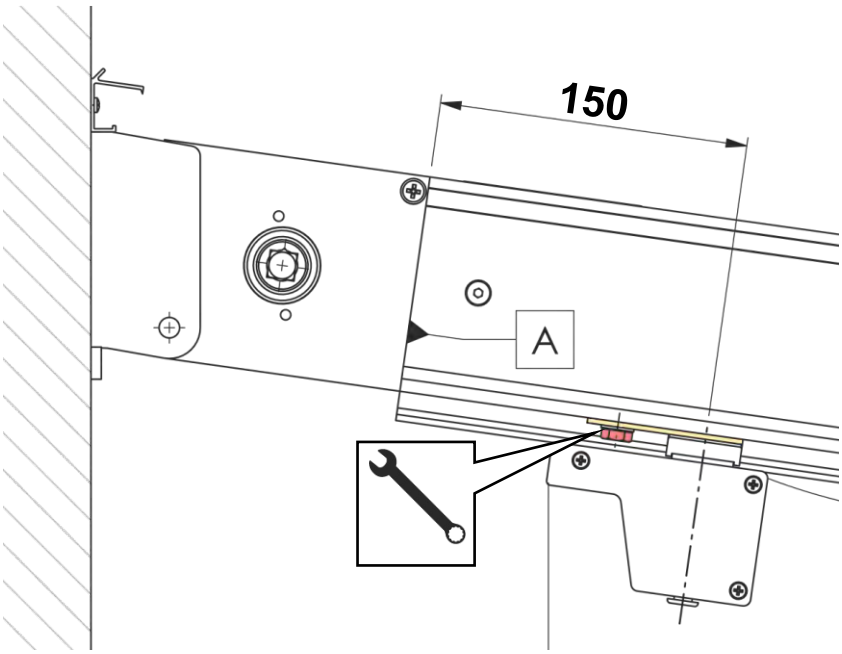


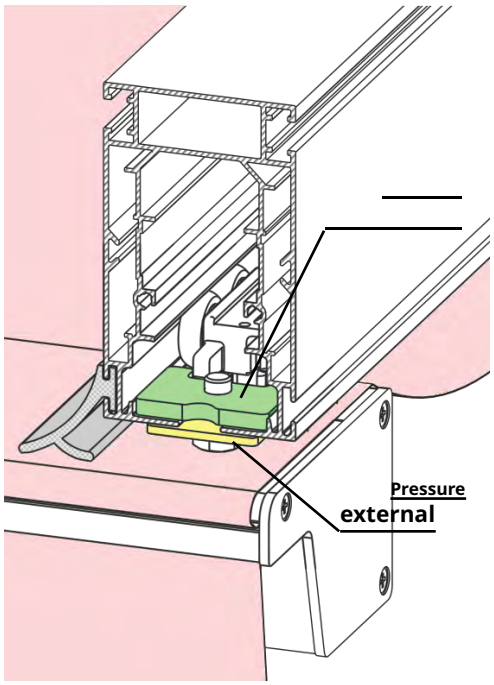


Once all the carriages are inserted, connect the tension beam to the tensioning carriage. The connection is made by inserting the beam's mounting axis through the hole in the fabric and the beam profile. Then, place a pressure sleeve on the mounting axis through the hole in the bottom of the beam and screw an M6 flange nut onto the axle thread. After the beam is screwed to the carriage, tighten the tensioning beam caps.


150
Beam mounting axis (M6)
Bar
motionless
Tension beam
Beam mounting axis (M6)
Hole in beam and fabric
Pressure sleeve
M6 flange nut
Beam
(screws)

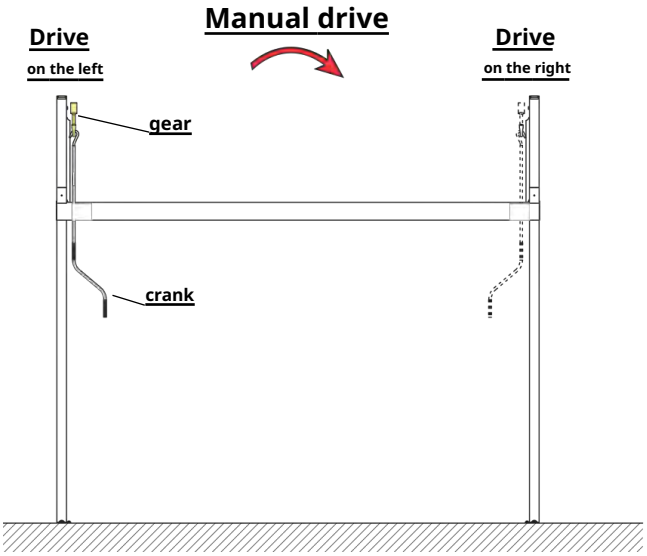
11. Lock the fixed beam 150 mm from the front of the guide profile (measuring base A). Locking is achieved by screwing together the outer and inner pressure plates.

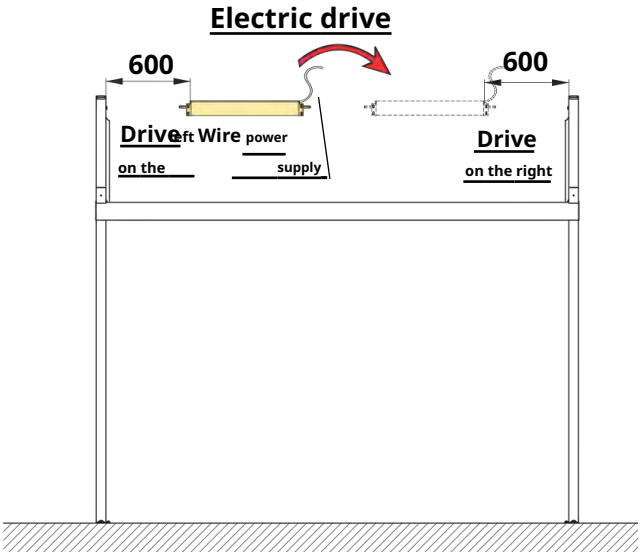




Attention : The pergola assembled by the manufacturer does not have pre-programmed motor end positions. Only after securing the fabric and screwing in the fixed beam can the installer program the end positions according to the instructions for the selected drive.

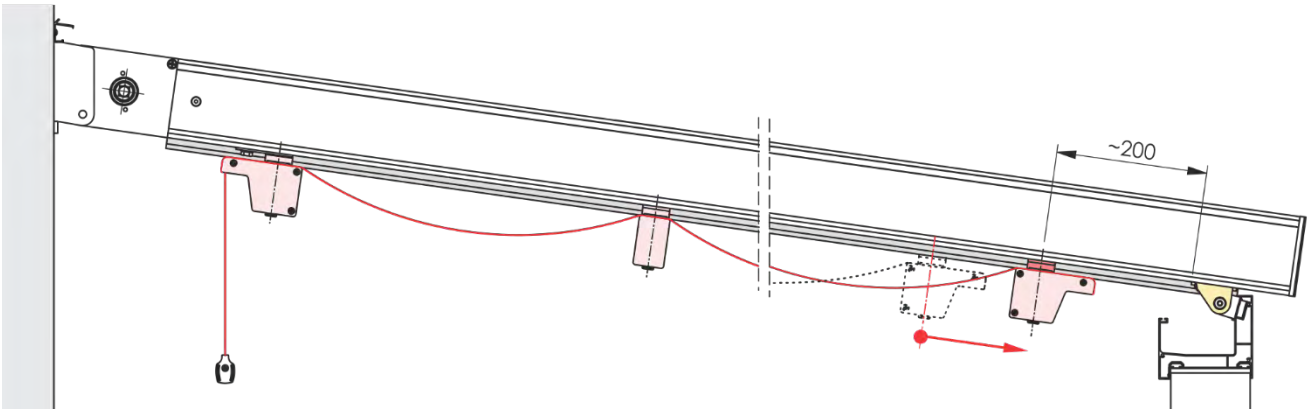
12. Pergolas use either a manual drive (a gear rotated by a crank) or an electric drive (a tubular motor enclosed in a drive cassette). The drive type and the side on which it is mounted (right or left side of the pergola) in the delivered product depend on the production order. The choice of drive side should depend on the installation conditions: whether the gear mounting location will provide free access to the crank, or whether the drive cassette will be located sufficiently close to the power supply on the wall. The drive cassette with the electric motor is ultimately mounted to the motor beam 600 mm from the guide profile. Possible positions for the drive cassette assembly with the power cable are shown below. The instructions separately discuss the installation procedure depending on the drive type.



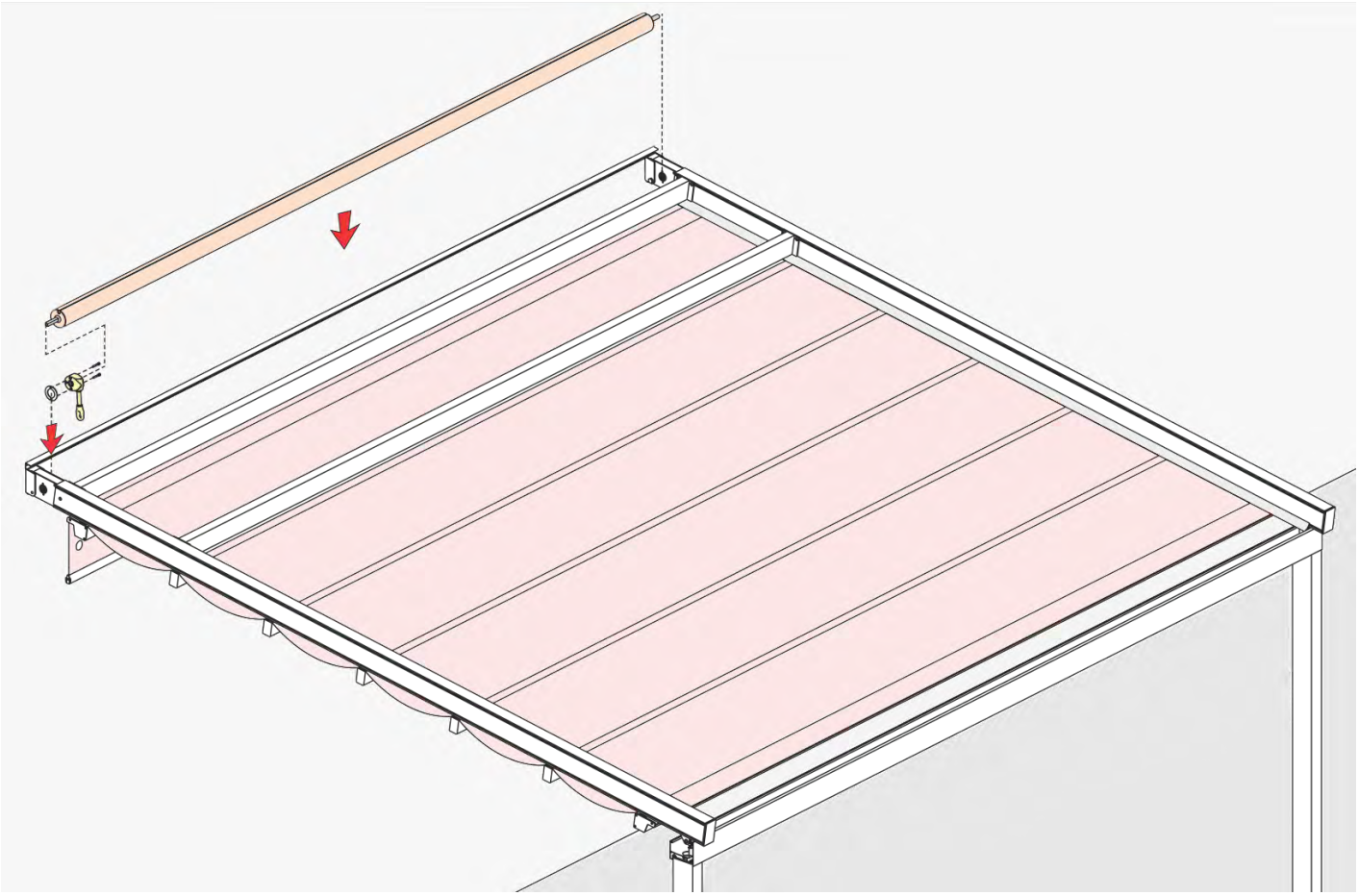


13. OPTION A: INSTALLING THE MANUAL DRIVE

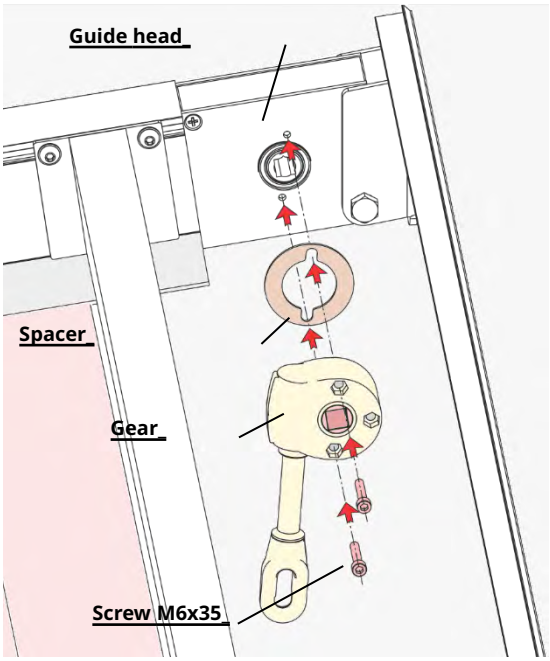
To ensure the synchronization of the carriage movement in all guides, the tension beam must be set before connecting the drive. It is recommended to position the trolleys approximately 200 mm from the hinge connecting the guide to the gutter. In the same position along each guide

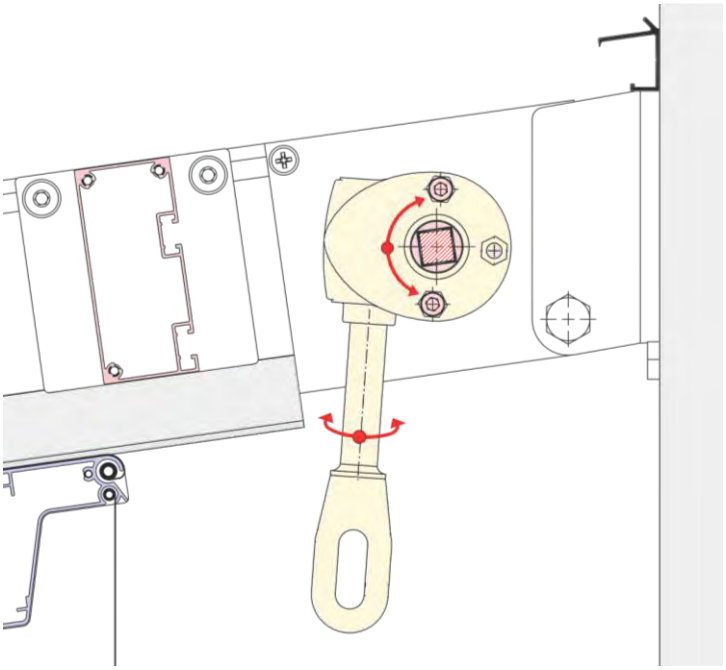


The drive assembly consists of a gearbox and a steel winding tube with fixed and sliding pins. The function of the winding tube assembly is to evenly transfer torque from the gearbox to the drive wheels in all guides.

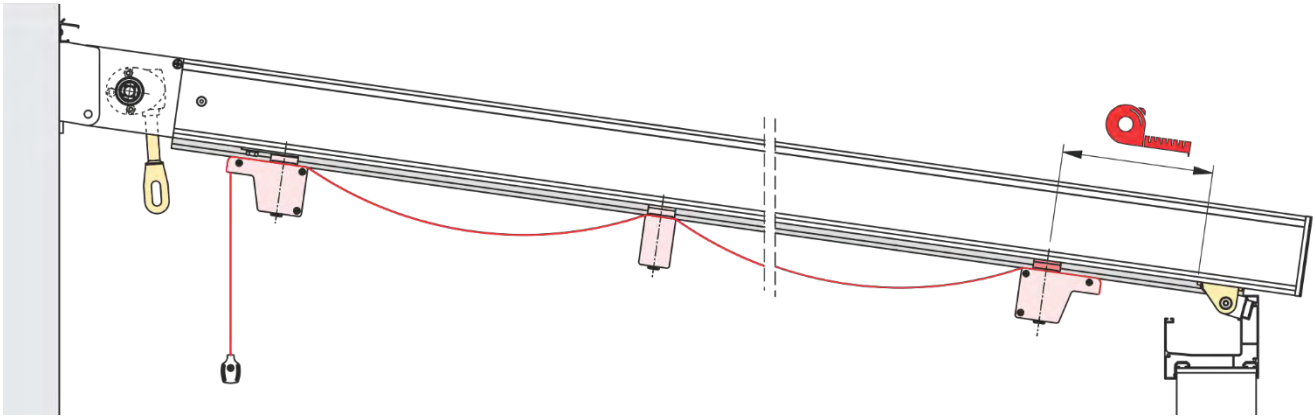


The gear should be mounted to the thread in the guide head from the drive side (right or left) using two M6x35 screws and a spacer washer, which is designed to maintain the proper gap between the gear and the drive wheel bearing. During assembly, ensure correct component alignment: the gear must be mounted on the inside of the head (on the side where the guide seal is located), and both the gear and the spacer washer should fit evenly against the head, without tilting. Once the gear is mounted, rotate its shaft until the square hole in the gear is fully aligned with the corresponding hole in the head's drive wheel.

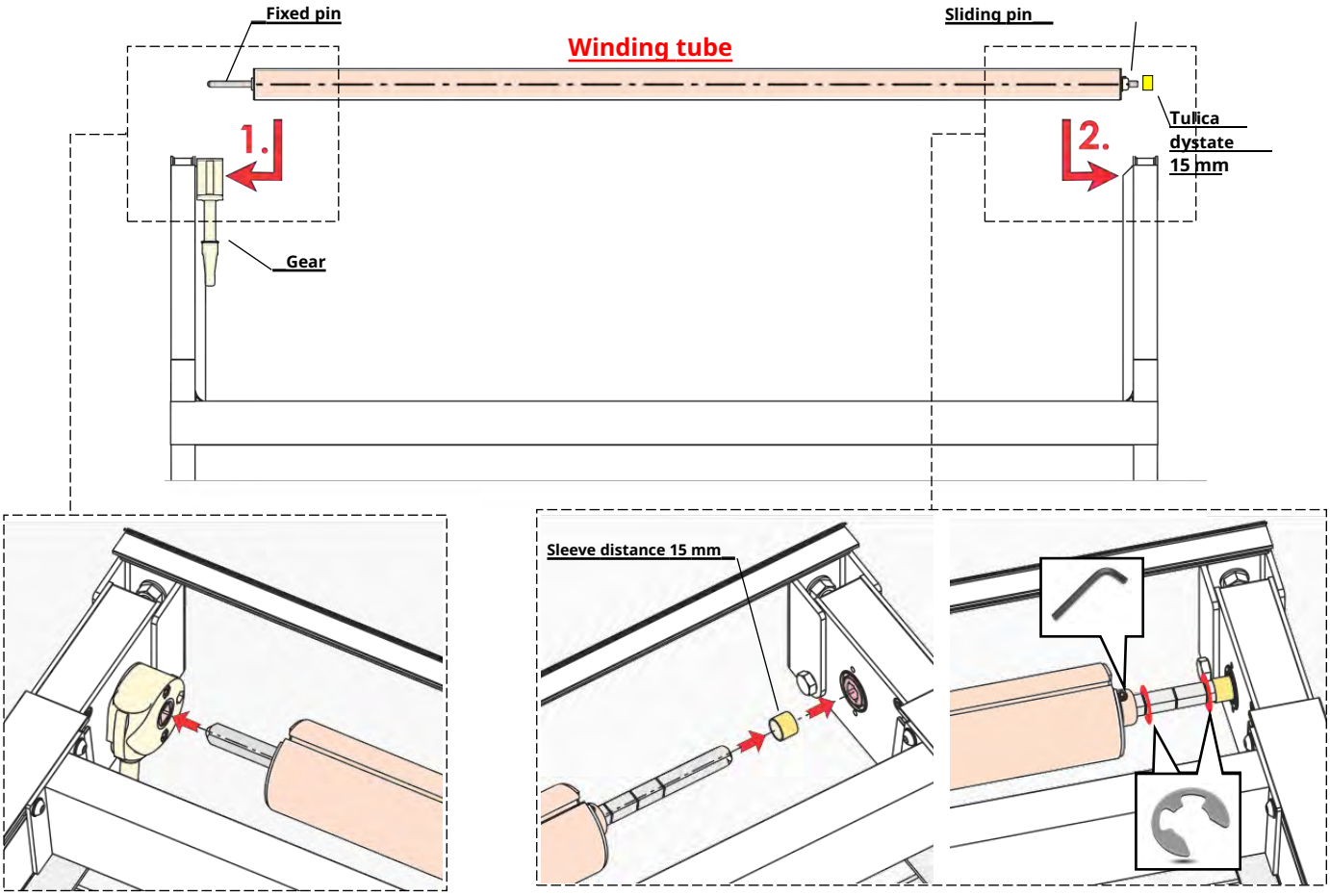




After securing the gear unit, it is recommended to re-check the parallelism of the tension beam by measuring the position of its carriages along each of the guides.

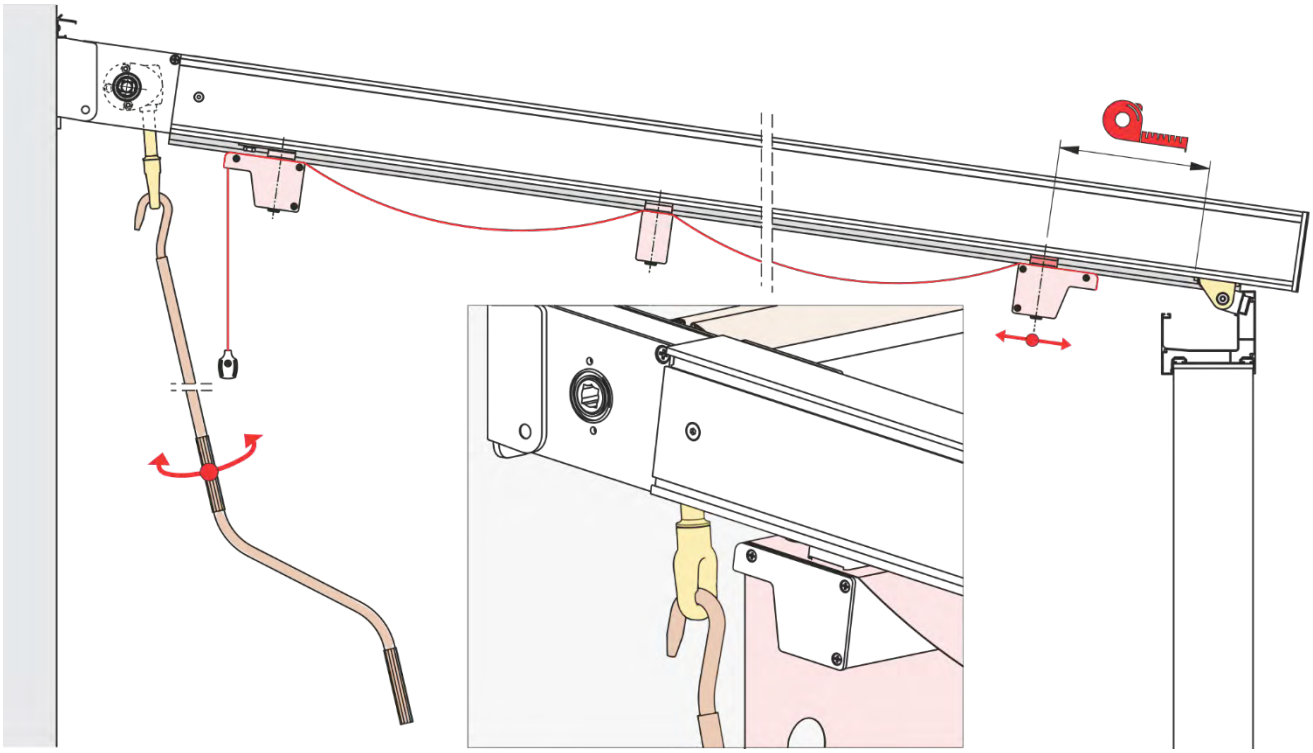


Next, insert the winding tube into the drive unit space. First, insert the fixed pin into the square hole in the gearbox and the corresponding hole in the head drive gear. On the other side, insert the sliding pin of the tube into the 15 mm spacer sleeve and into the square hole in the head drive gear. Position the drive tube by lightly tightening the set screw and secure the sliding pin with the retaining rings. The spacer sleeve should be located between the retaining ring and the head drive gear.

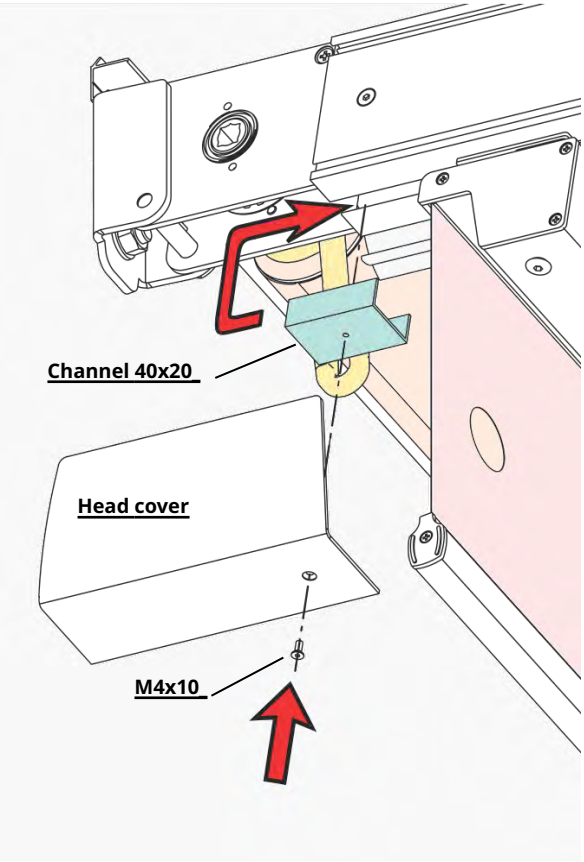


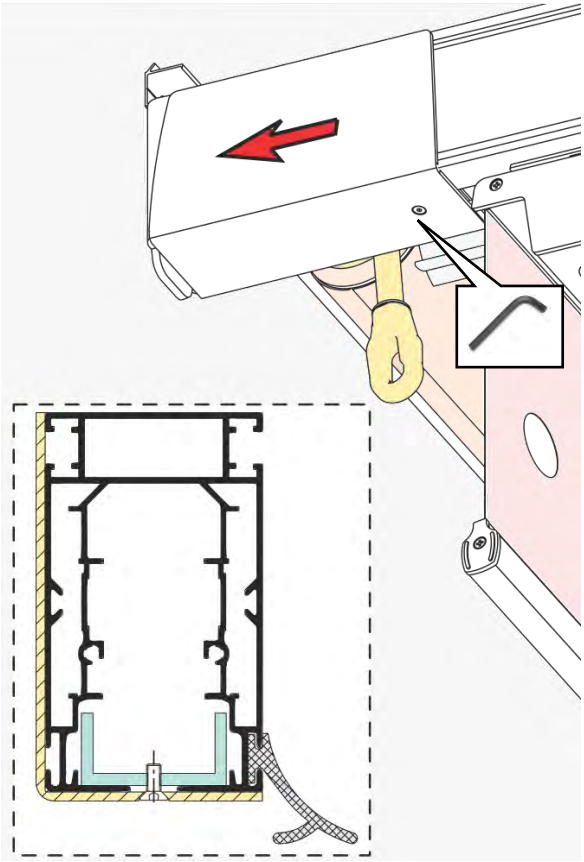
Attention: Correct seating of all rings protects the drive unit against decoupling!

Verify proper operation of the drive unit. Rotating the gear crank should result in parallel movement of the tension beam.

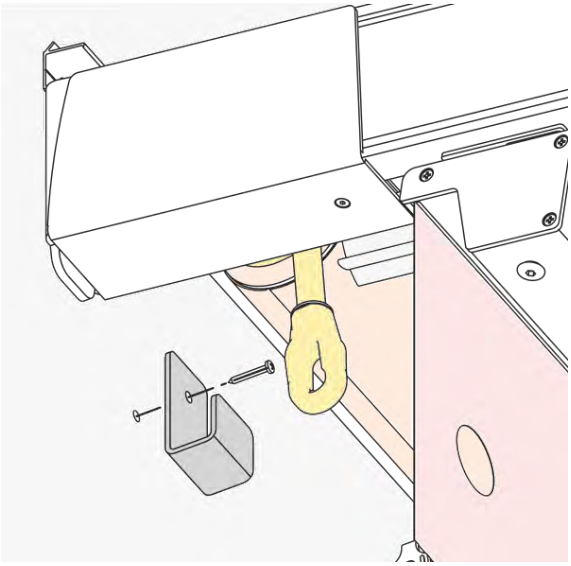


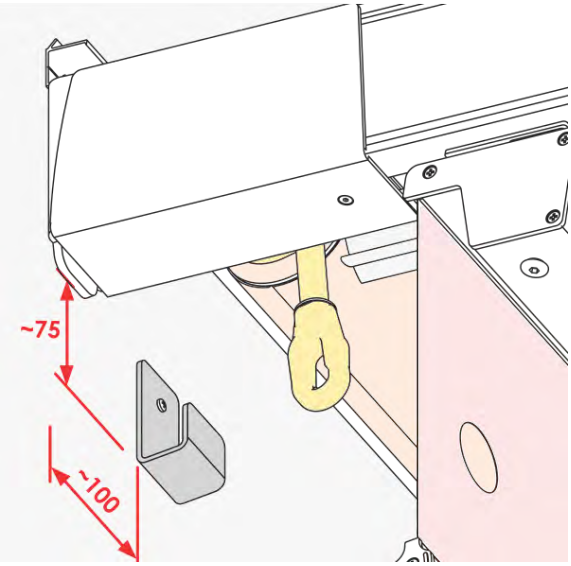
15. Insert a 40x20 channel section through the service opening in the drive head and screw the head cover (on the right and left sides) into it. When tightening the head, move it as close as possible to the wall bracket.



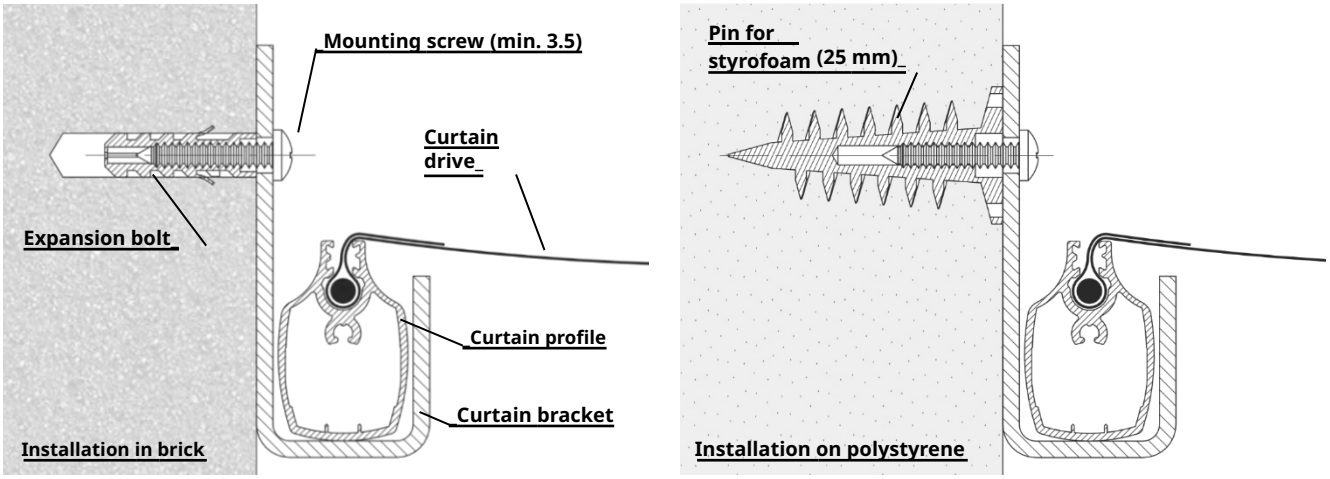


16. The drive system will be covered with a fabric curtain. The curtain is attached to the wall using brackets that support the curtain profile. The number of brackets depends on the width of the pergola. The position of the brackets should be determined relative to the guide head.

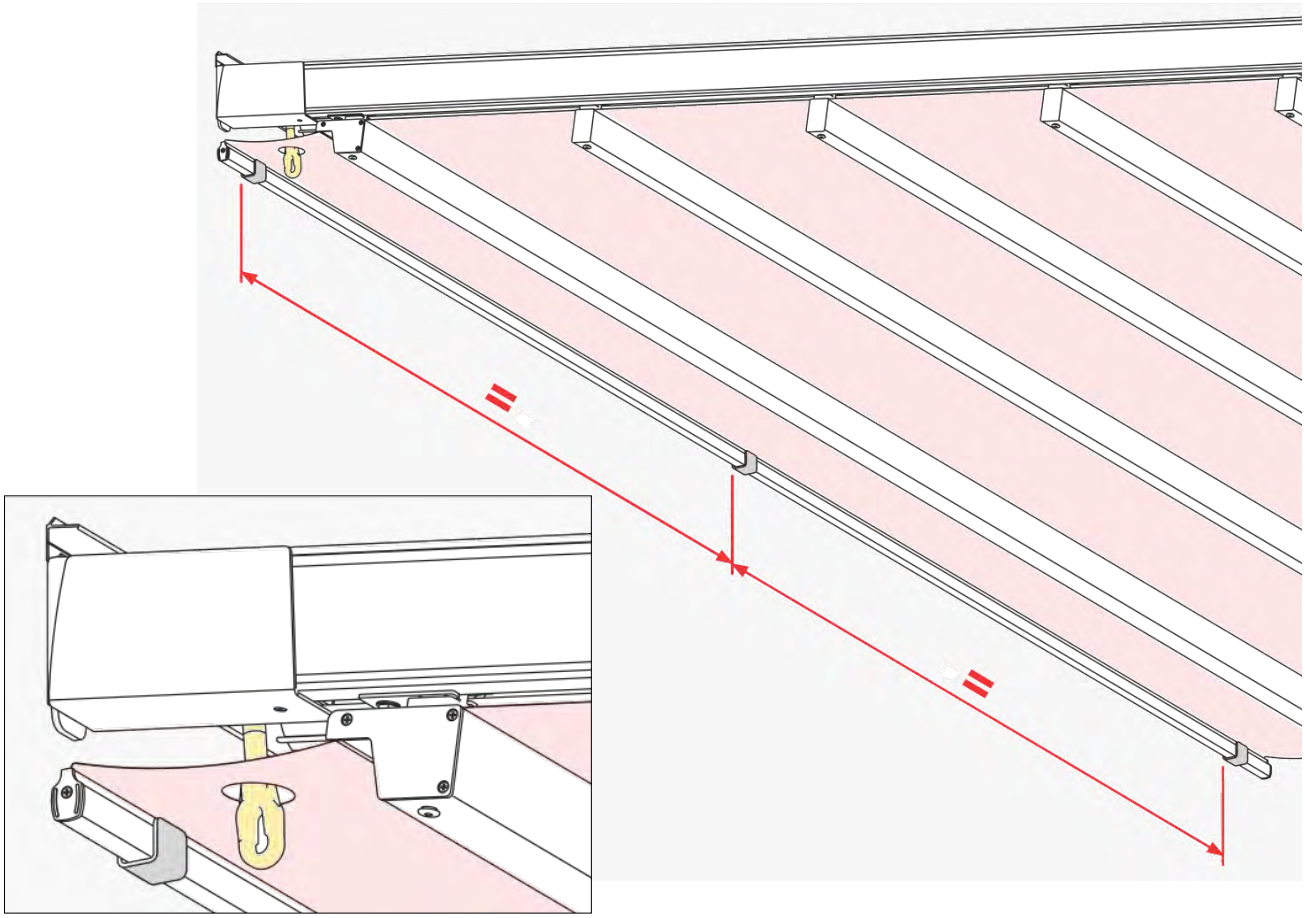




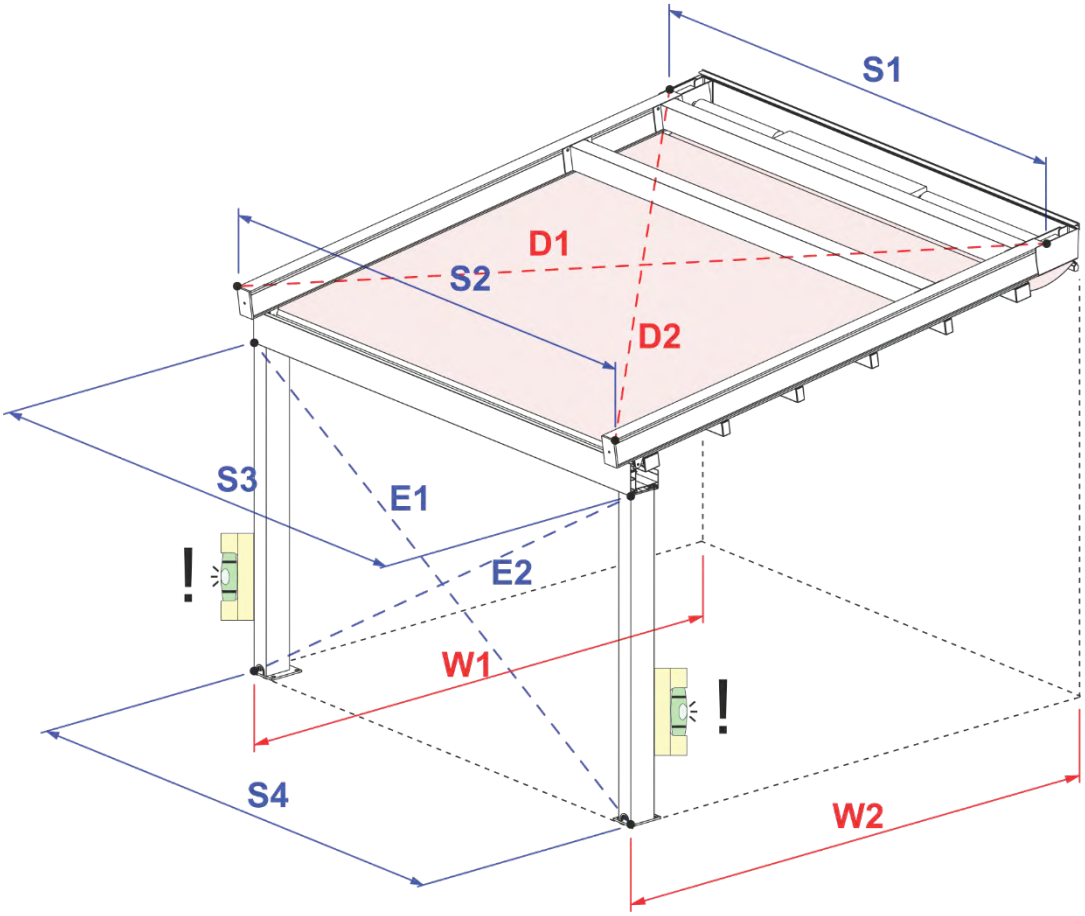
Attention : The selection of mounting components should be made individually for the installation conditions, taking into account the type and quality of the substrate. Typically, expansion bolts are used to attach curtain brackets to concrete or brick, while in the case of facades with polystyrene insulation, polystyrene bolts are used.



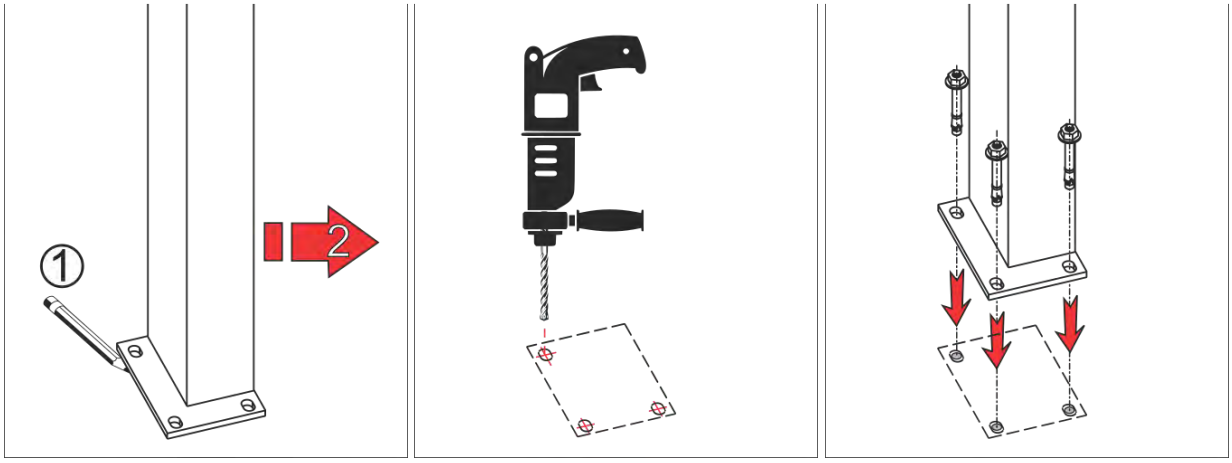
Attach the brackets to the wall, ensuring they are evenly spaced and level. Place the wall profile on the brackets. For pergolas with manual drive, insert the gear pin through the hole in the curtain.



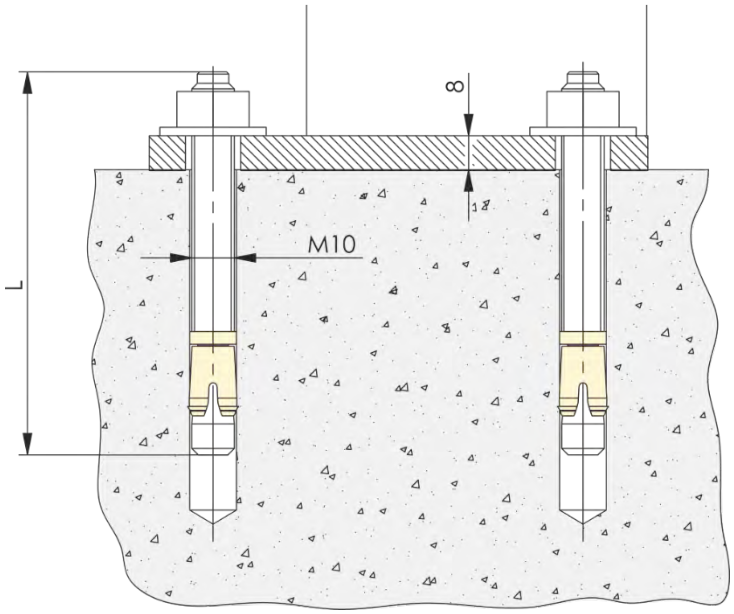
17. Before securing the post bases to the ground, fully open the pergola and tension the fabric. Next, adjust the post alignment to ensure they are vertical. Verify the pergola dimensions: width (S1-S2 for the guide rails and S3-S4 for the posts) and diagonals (D1-D2 for the guide rails and E1-E2 for the posts). The structure's overhang (W1-W2) should be considered a resultant dimension (its value may differ slightly from the nominal value after taking into account the terrace slope), but it should be similar for all posts.



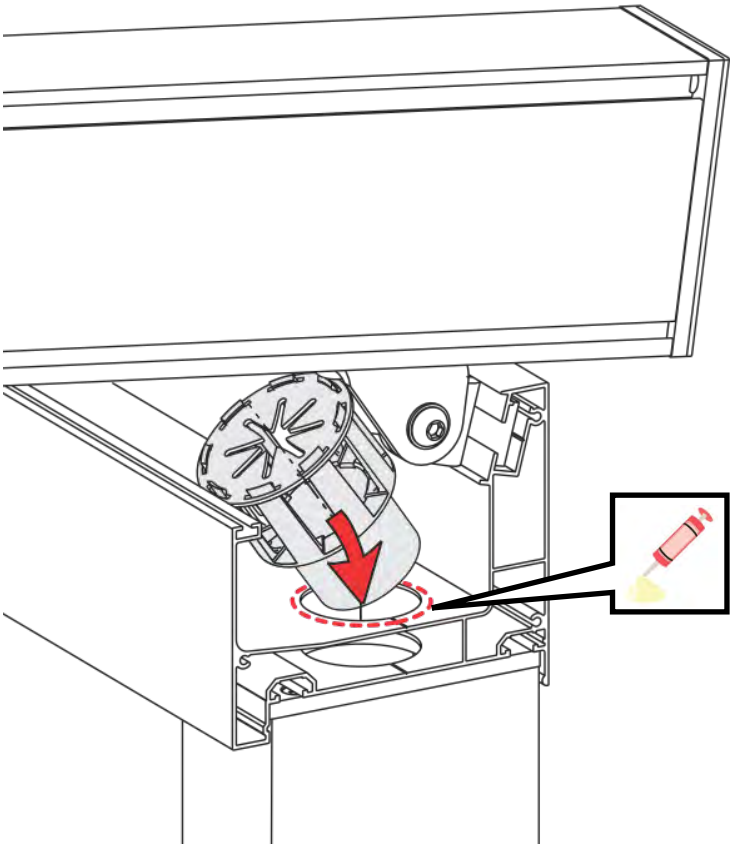
Trace the outline of the column bases, including the centers of the mounting holes. Move the column away to ensure full drilling access – the columns can be moved apart by loosening the screws in the column-to-gutter connector plates (step 5 of the instructions). Drill the appropriate holes for the selected fasteners in the marked locations. Move the column to the correct position, aligning the column base with the outline, verify its plumbness, tighten the screws in the column-to-gutter connector plates (step 5 of the instructions), and secure it to the ground with the selected fasteners.



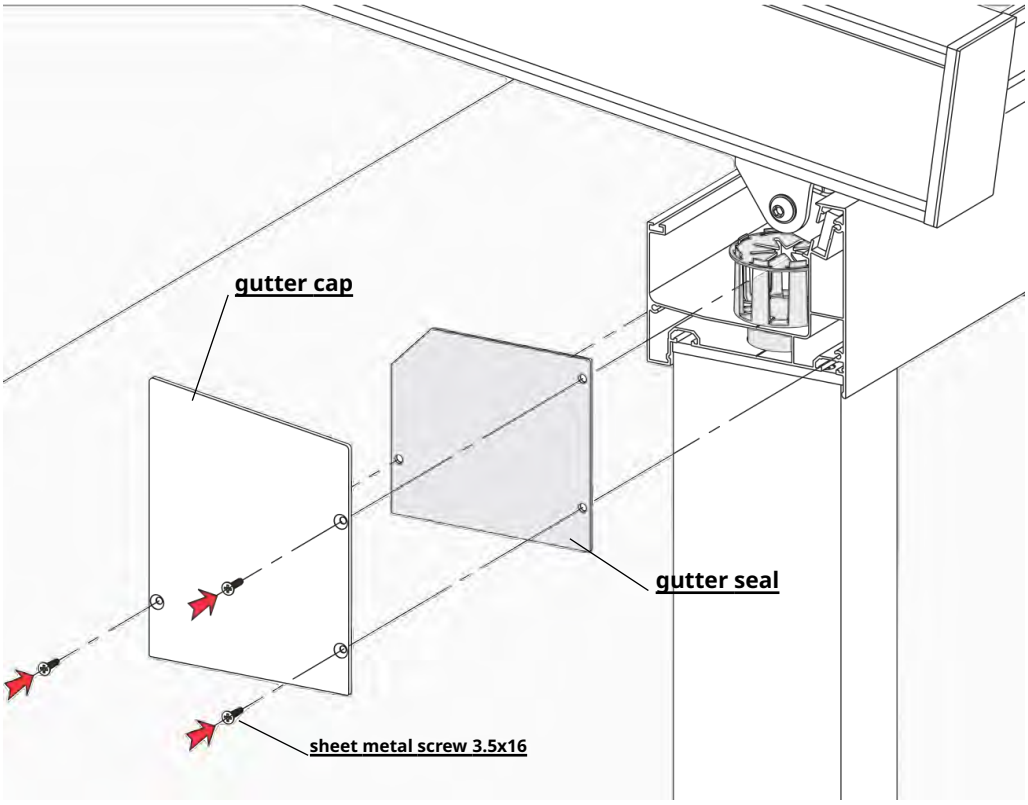
Attention : The selection of mounting components should be made individually for the existing installation conditions, taking into account the type and quality of the substrate. Typically, M10x95 ring anchors or M10x150 threaded rods attached using chemical anchors are used for mounting column bases to concrete foundations.



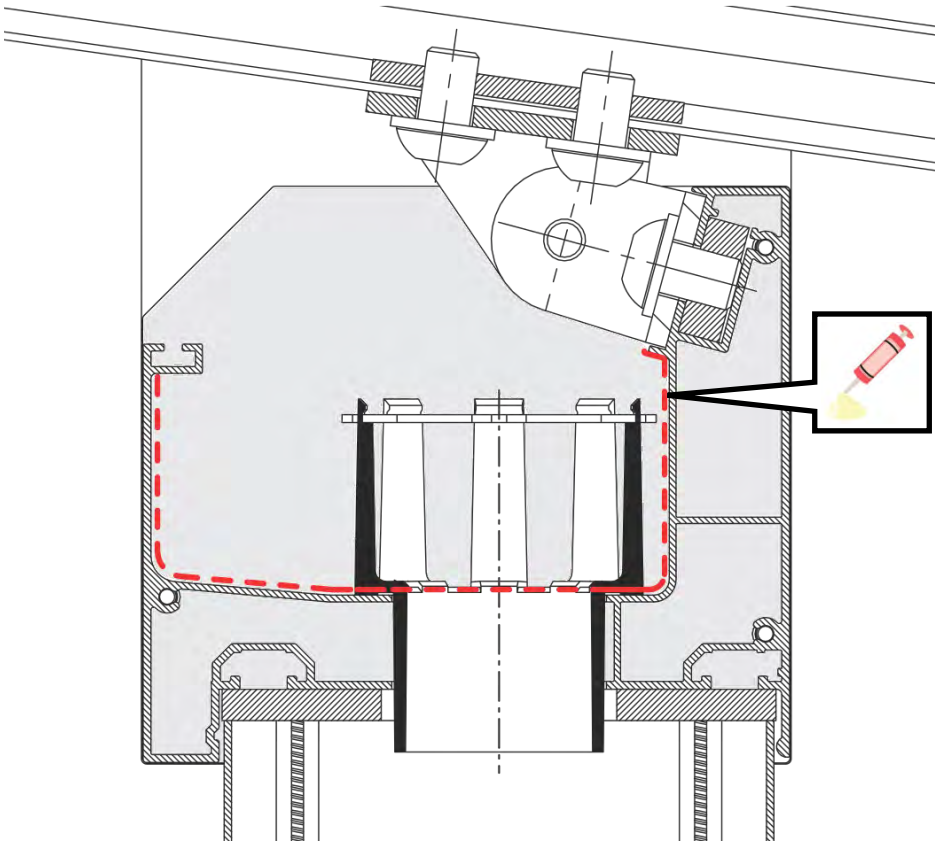
18. Insert the sleeves into the drainage holes in the gutter and seal them with silicone at the junction of the flange with the profile.



19. Using sheet metal screws, screw on the gutter side caps together with the glued-on micro-rubber seal.

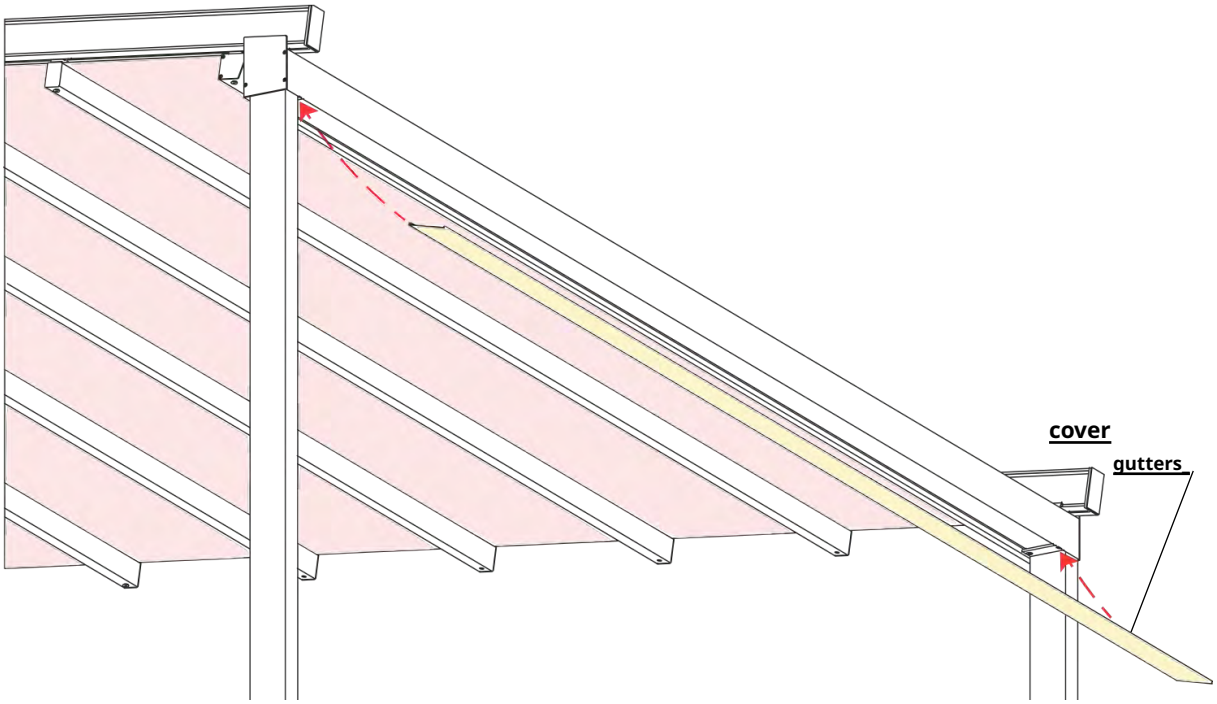


Additionally, seal the connection between the end cap and the gutter from the inside using silicone along the marked line.

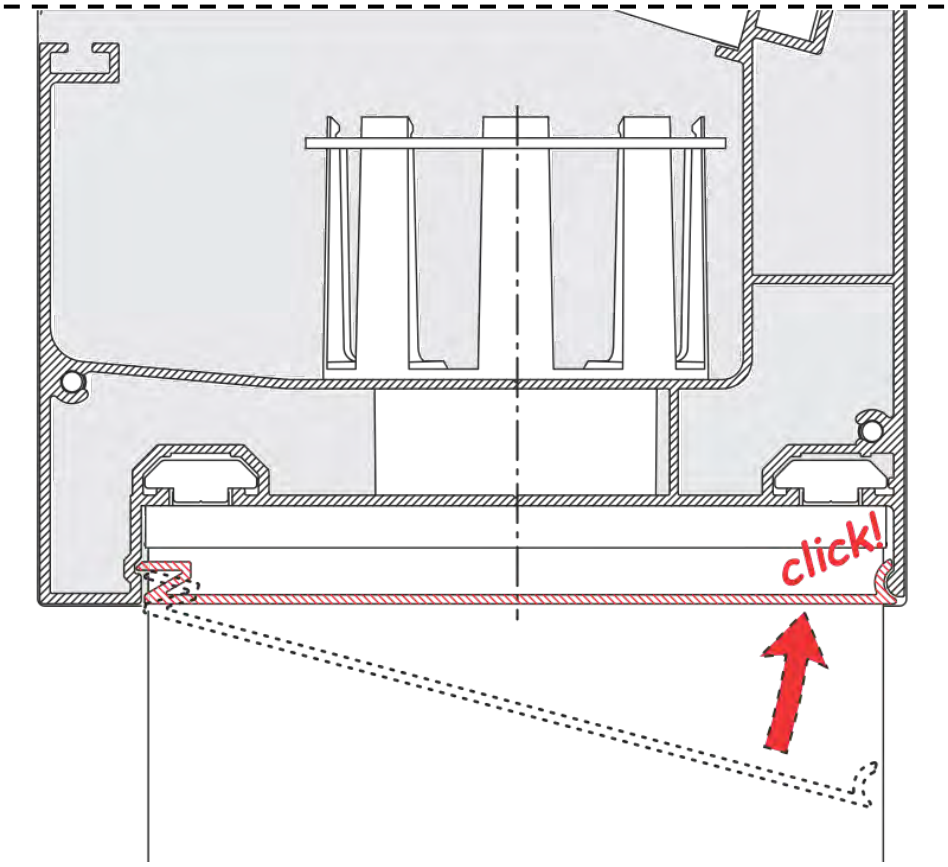


Attention : in the case of a pergola with a ZIP roller shutter, install the end cap under the gutter or on the side of the pergola only after mounting the roller shutter.

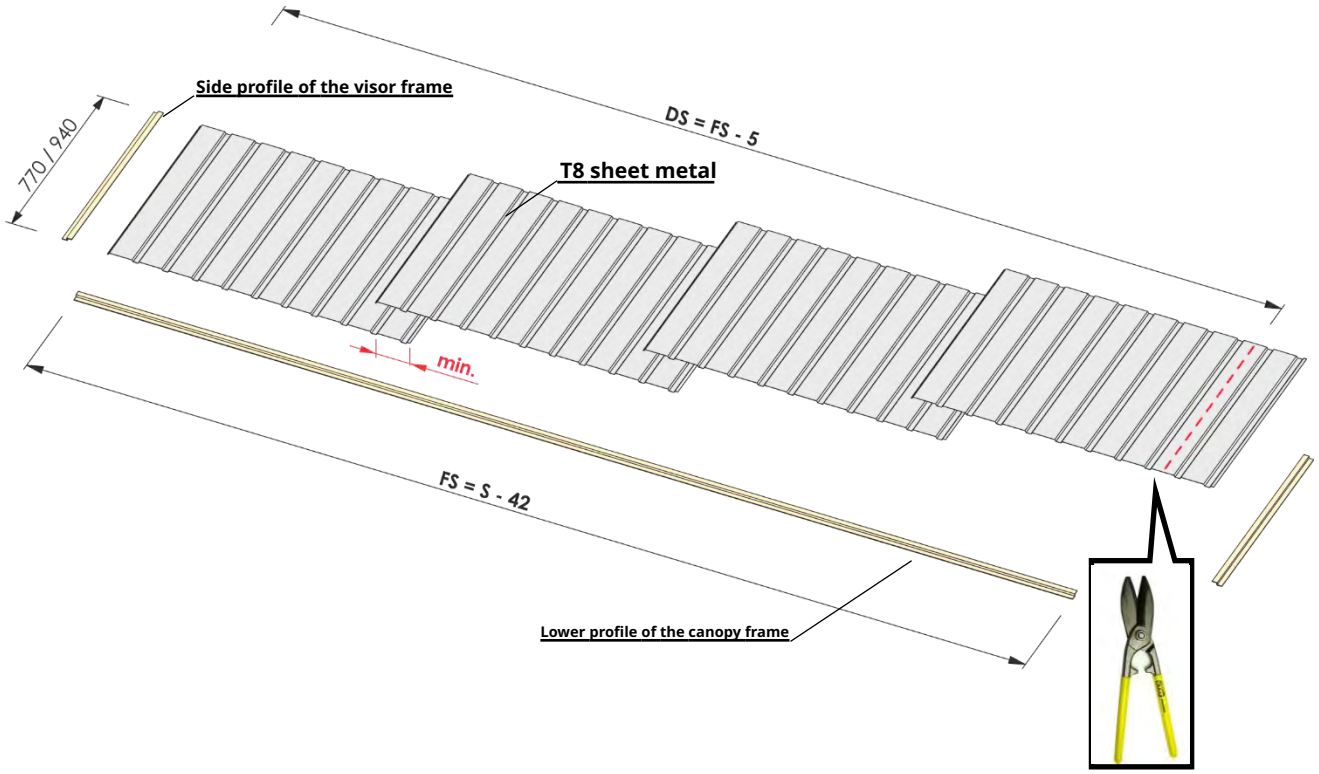
20. The gutter cover is mounted between the pergola posts. Carefully insert the profile into place, taking care not to damage the posts' paintwork with sharp edges.



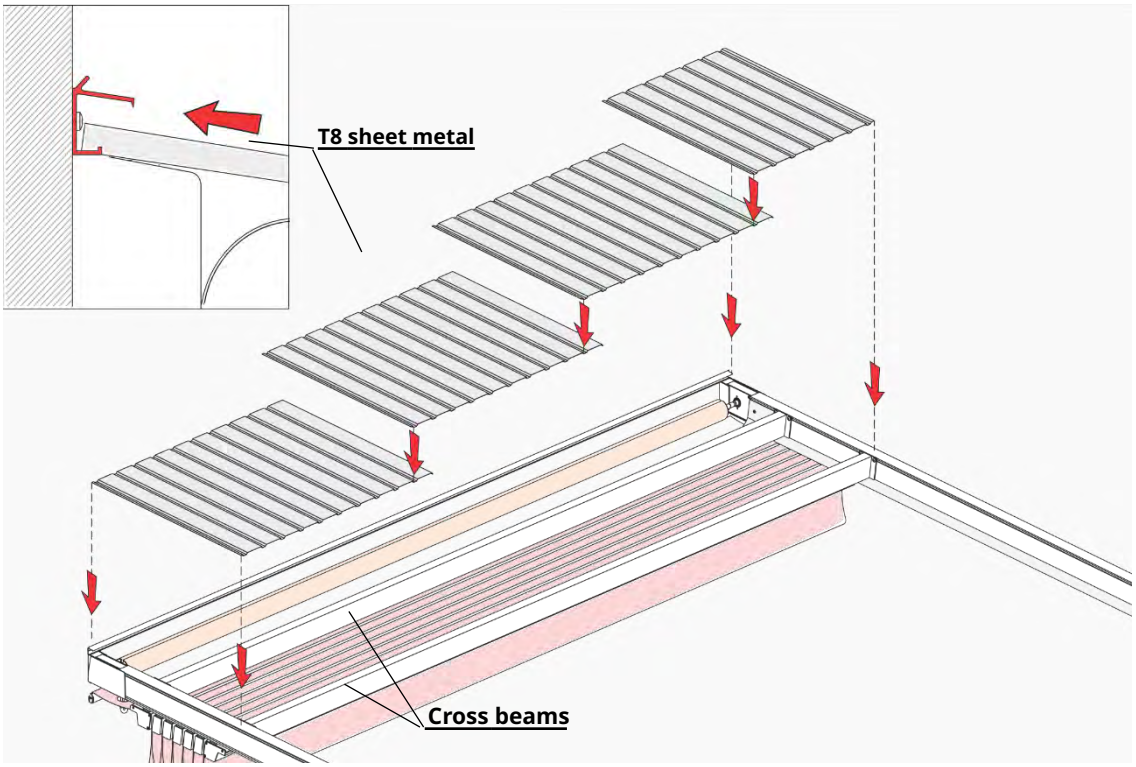
The cover profile is mounted in the gutter using a snap connection, closed with a swinging movement.



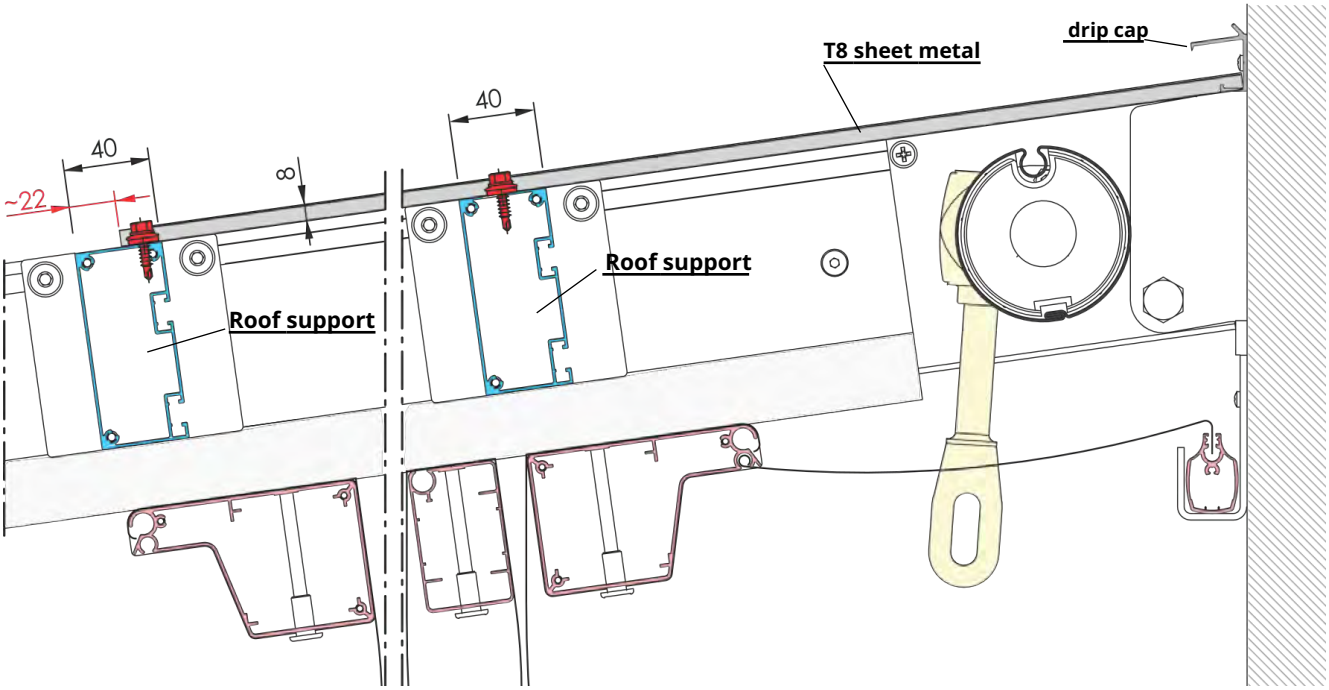
21. The pergola roof system consists of T8 trapezoidal sheet metal and Z-shaped frame profiles for the roof's installation. The lower frame profile is supplied in a maximum length of 5 m, so for larger widths it can be made of at least two sections. The roof's sheet metal is joined by overlapping successive sheets. The minimum overlap between the joined sheets is one groove. If the required coverage width cannot be achieved by overlapping the sheets, the excess length should be trimmed off using sheet metal snips.



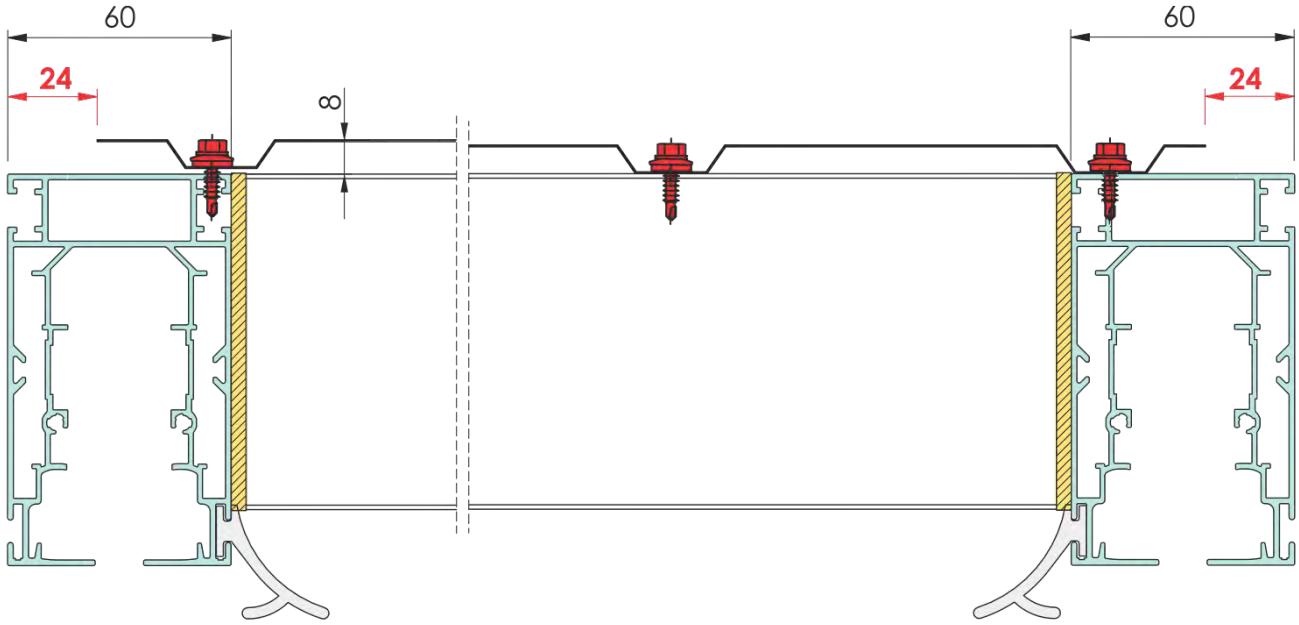
22. Place the T8 sheets on the cross beams, simultaneously pushing them towards the wall, inserting them into the drip edge.



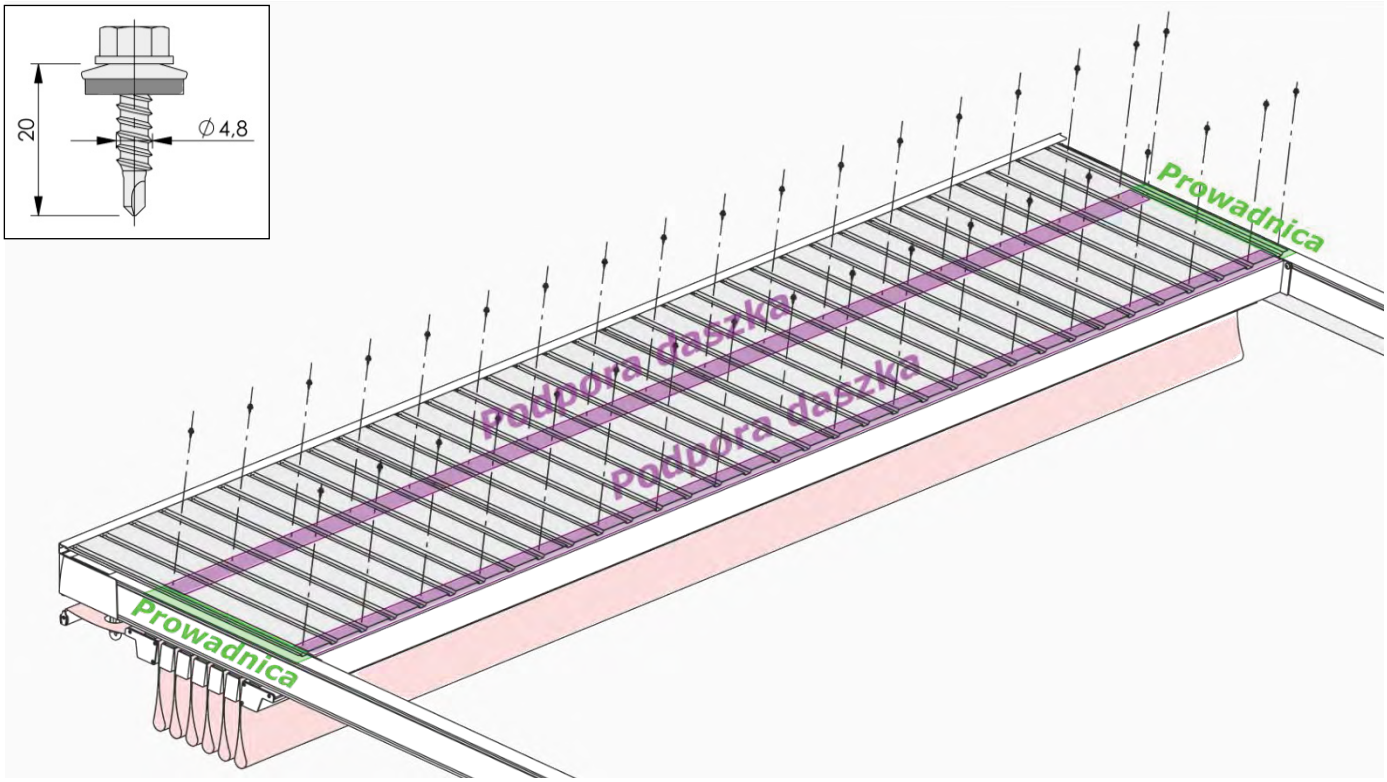
23. In the direction of the pergola's overhang, the sheet metal should be offset by approximately 22 mm from the front surface of the canopy support profile. If necessary, adjust the canopy support profile along the guides to provide the required 22 mm offset required for canopy frame installation in the following steps.



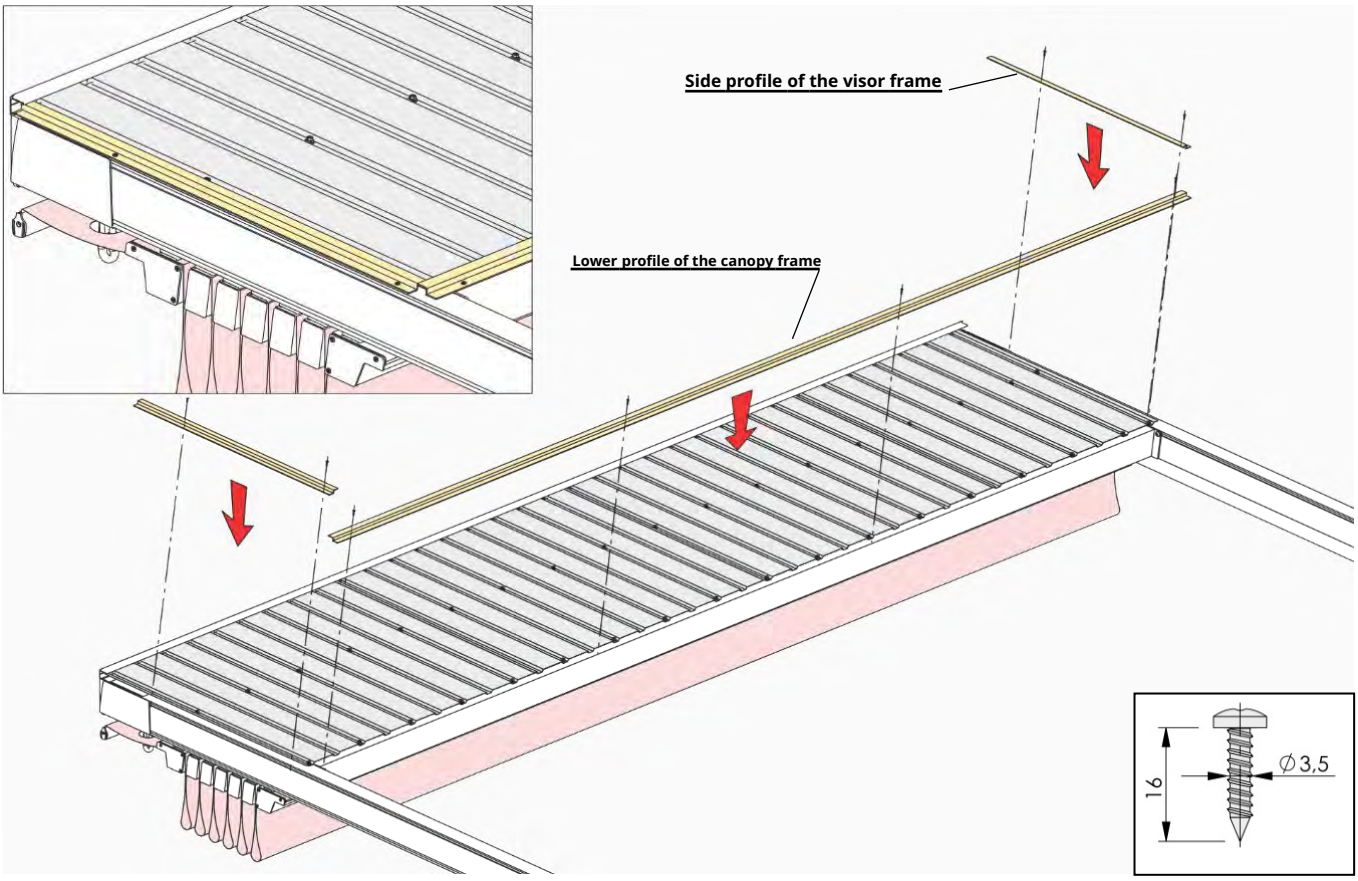
In the perpendicular direction, the T8 sheets should be positioned 24 mm from the outer surfaces of the guides. If necessary, trim off any excess sheet using sheet metal snips.



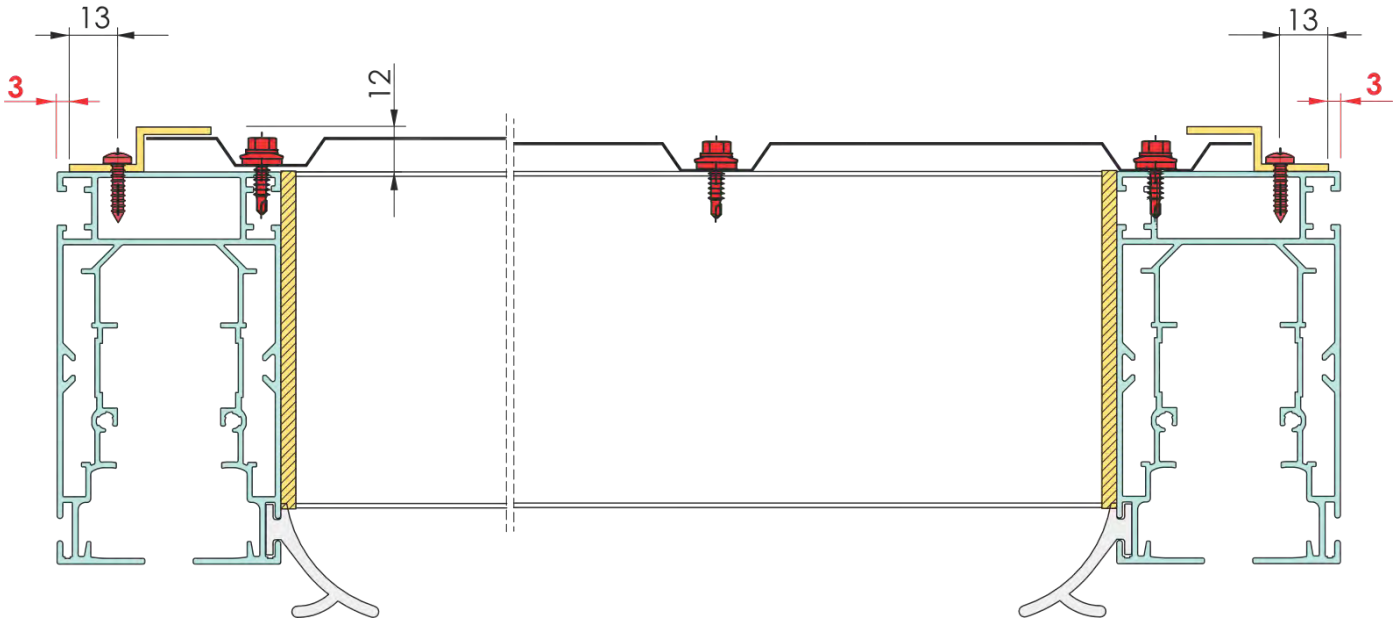
Once the T8 roofing sheets are properly positioned, screw them to the supporting members of the pergola structure: the roof supports and the guide rails. It is recommended to use a 4.8x20 self-tapping farmer screw with a seal for this purpose, screwing the sheets to the supporting profiles at a distance of no more than two sheet grooves.



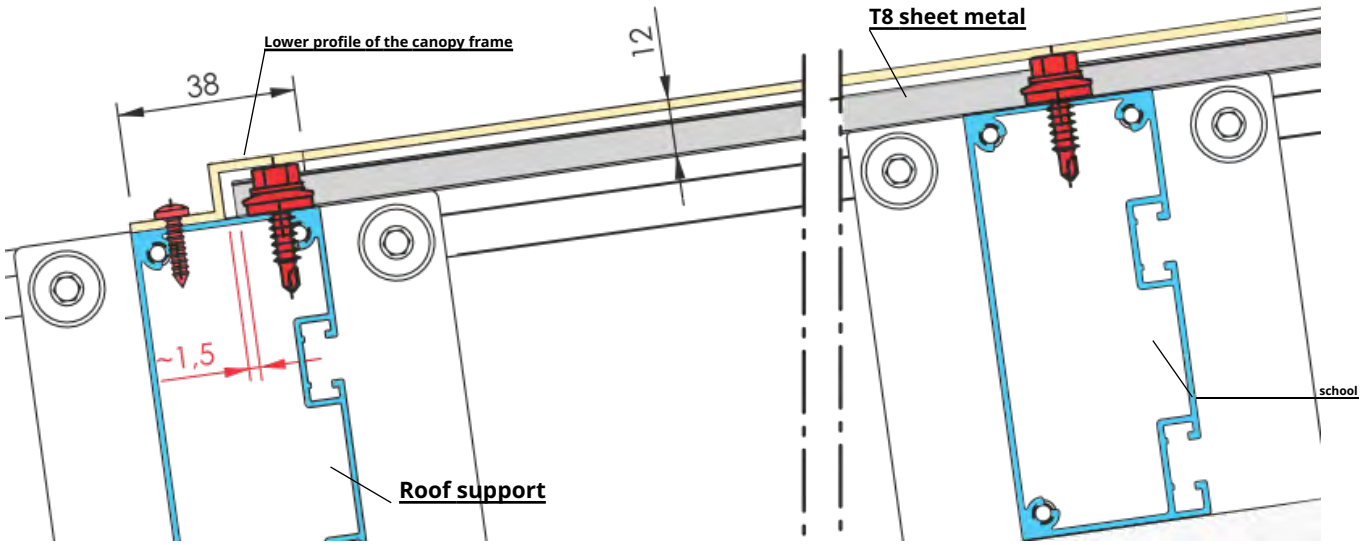
24. To mask the edges of the T8 sheet metal, screw the frame profiles (Z-bars) along the three edges of the canopy using 3.5x16 self-tapping screws.



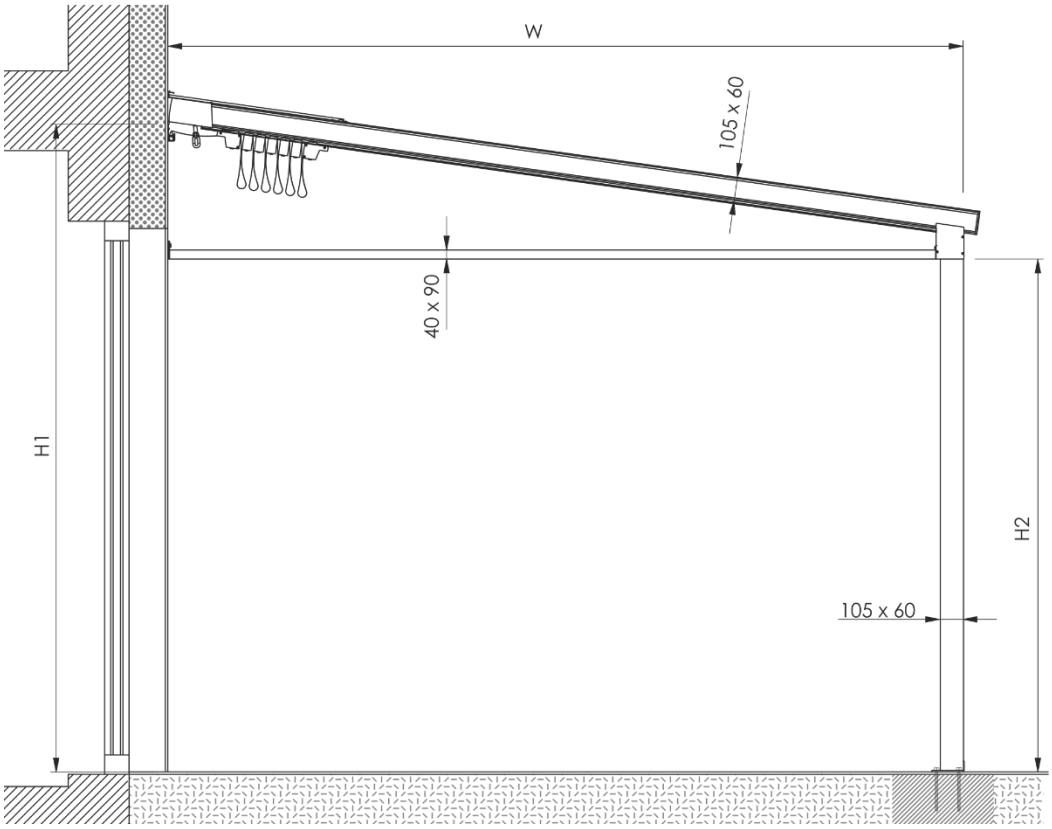
The side profiles of the canopy frame should be moved away by approximately 3 mm from the outer surfaces of the guides, while the upper end of the profile should be inserted into the drip cap mounted on the wall.



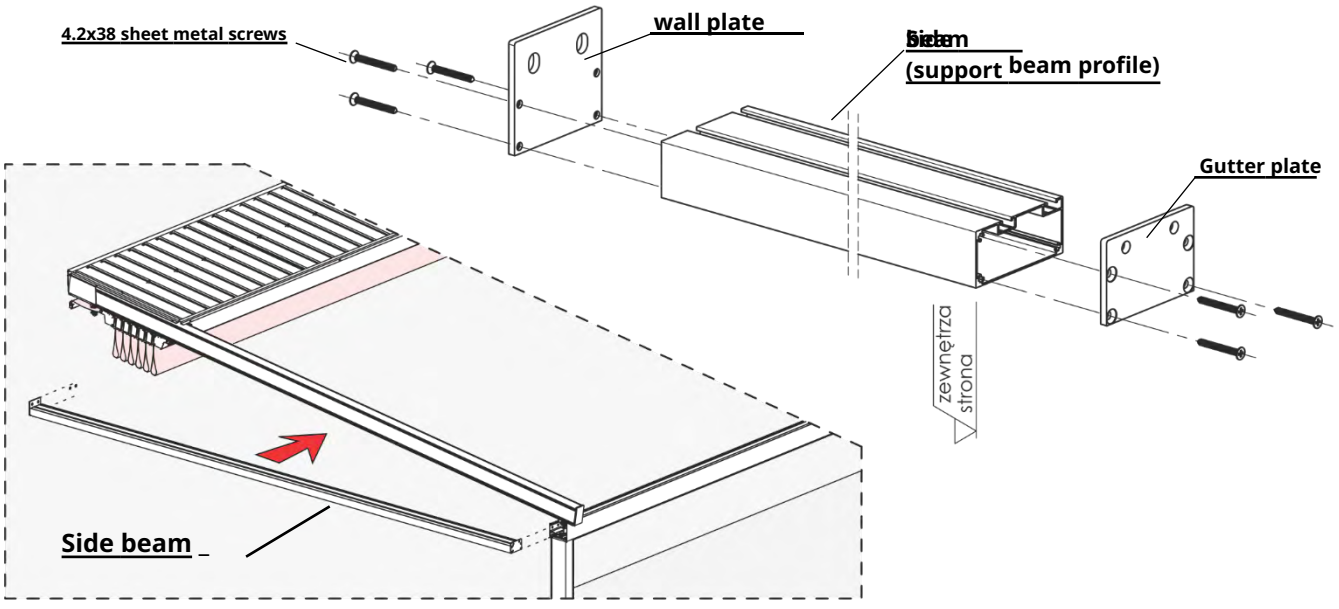
The bottom profile of the canopy frame should be aligned with the side profiles of the frame and with the front of the canopy support profile. A 1-2 mm gap between the canopy frame and the front of the T8 sheet is intended for lateral water drainage.



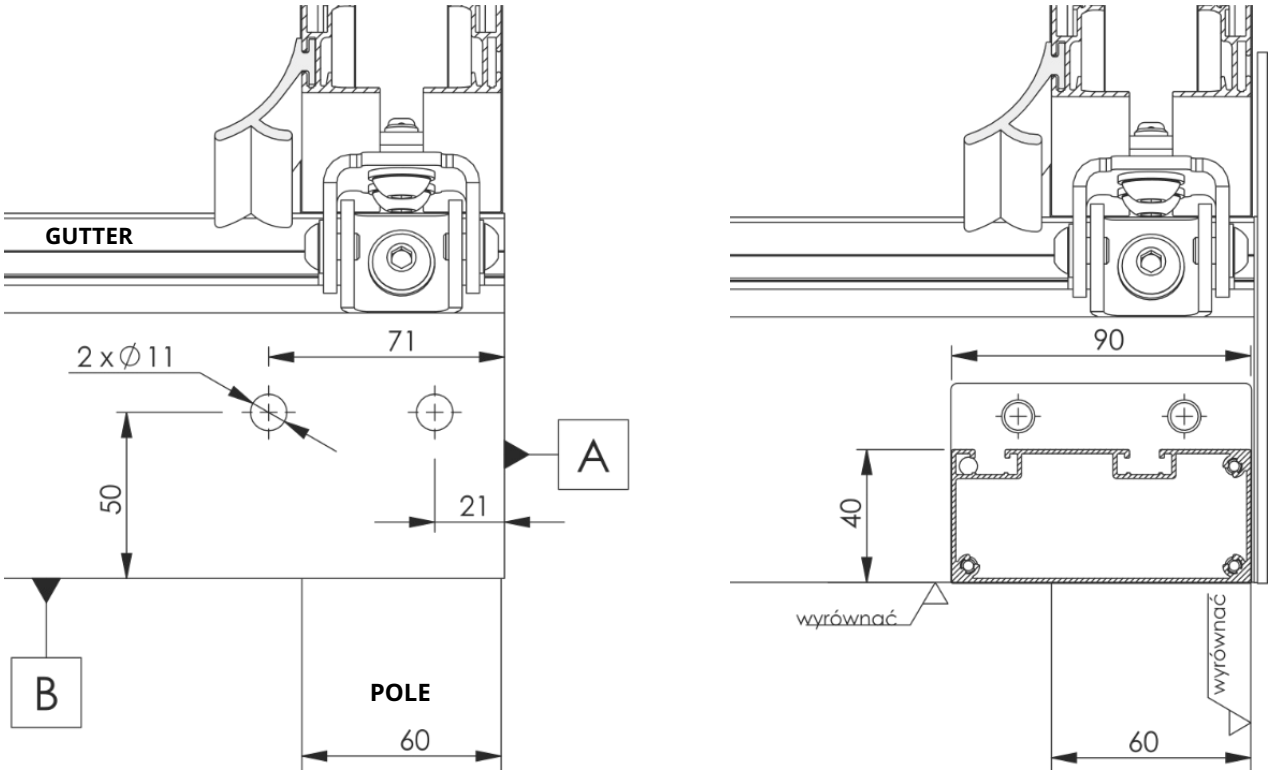
25. (OPTIONAL) For optimal side construction of the pergola, it is recommended to install a side beam connecting the gutter to the wall. The side beam is mounted at the front height (H2), level with the bottom of the gutter. The side beam is an additional equipment for the pergola.



Screw the front panels (wall panel and gutters) to the side beam profile using 4.2x38 sheet metal screws (these are screwed into the beam profiles upon delivery). Ensure the panels are properly oriented relative to the profile: the lower surface of the beam should be smooth with no visible grooves.



To install the beam, drill holes in the gutter as shown in the drawing below. The hole positions are measured relative to the gutter face (measurement base A) and the gutter's lower edge (measurement base B).



Mount the beam to the wall using appropriate mounting fasteners. The other end of the beam is connected to the gutter by screwing two M10x10 screws (2 pcs.) into the thread in the side beam closing plate. The screws are tightened from the inside of the gutter and pass through the through holes in the gutter wall. The side beam should be flush with the bottom of the gutter and the side plane of the column. After tightening the screws, seal the connection with silicone. When installing the beam, pay attention to proper leveling of the beam.