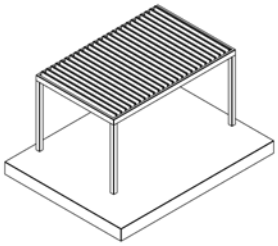
Installation instructions

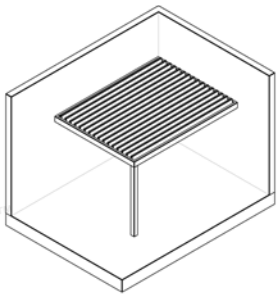
Bioclimatic Pergola
SKYLIGHT-1

OUTDOOR LIVING

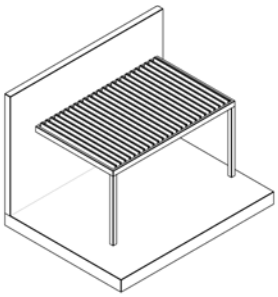
Configurations



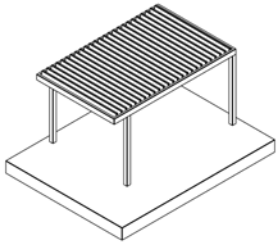
TYPE 1
Self-standing



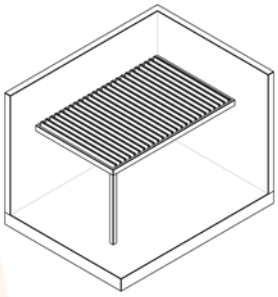
TYPE 5
Wall-mounted blades parallel to wall



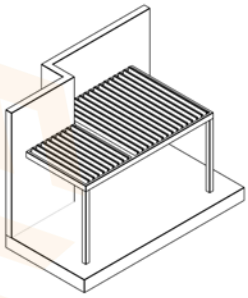
TYPE 2
Wall-mounted blades perpendicular to wall



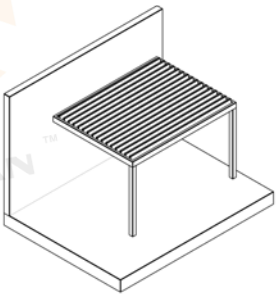
TYPE 6
Self-standing posts off-center



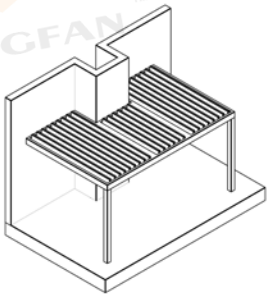
TYPE 3
Wall-mounted on two sides blades perpendicular to wall



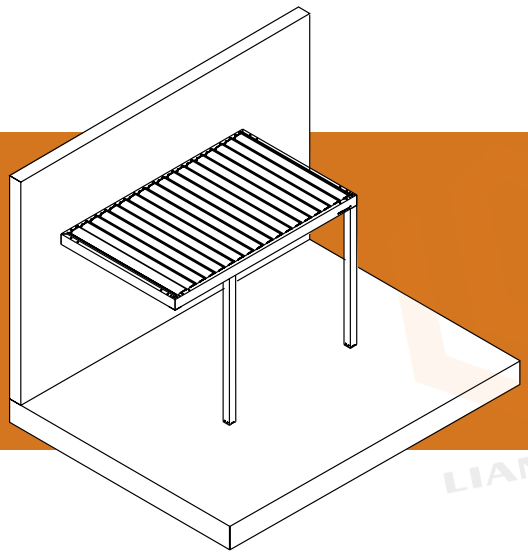
TYPE 7
Wall-mounted blades perpendicular to wall



TYPE 4
Wall-mounted blades parallel to wall



TYPE 8
Wall-mounted blades perpendicular to wall



EXAMPLE TYPE
The TYPE G configuration is used in Installation instructions to present all the possible situations in the process of installation of pergola.

STEP 2.2

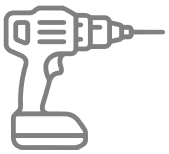
Tools & Equipment

Using the right Tools & Equipment for the job is essential for good installation and for avoiding potencial injuries.

Ring - Fork Key
10mm, 13mm, 17mm

Screwdriver
Philips & flat blade

Hex / Imbus keys
3mm, 4mm, 6mm, 8mm



Electric hand drill machine

Drill bit
Ø10, Ø12

Laser measure or/and gauge

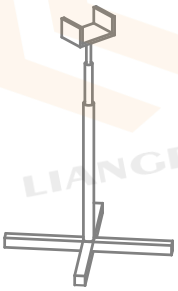
Hand meter

Pencil / Marker

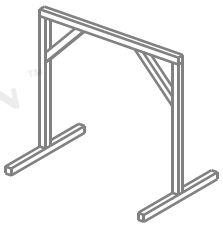
Spirit level

Working gloves

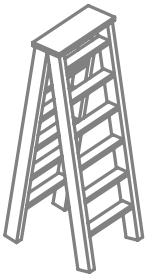
Helmet and protecting



Lifting Pads



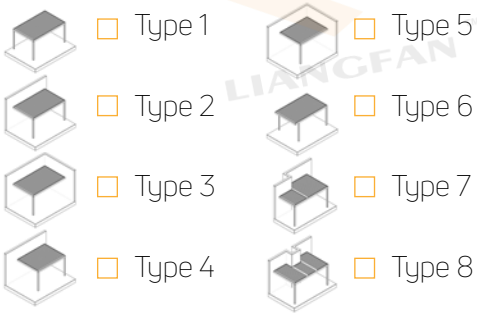
Standing Pads



Ladder

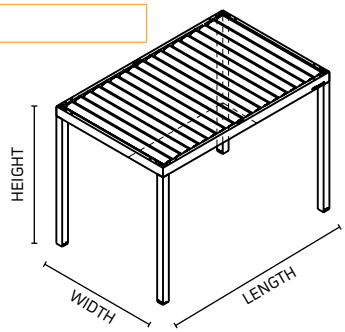
/ Product information

Type of installation



- ☐ Type 1
- ☐ Type 2
- ☐ Type 3
- ☐ Type 4
- ☐ Type 5
- ☐ Type 6
- ☐ Type 7
- ☐ Type 8

Dimensions (specify in mm)



Quantity of Pergola

Number

Number of poles

- ☐ 0 poles
- ☐ 1 pole
- ☐ 2 poles
- ☐ 3 poles
- ☐ 4 poles
- ☐ additional pole:

Height of pergola

P1
P2
P3
P4

Colour

Standard

STRUCTURE

- ☐ grey anthracite RAL 7016
- ☐ white traffic RAL 9016

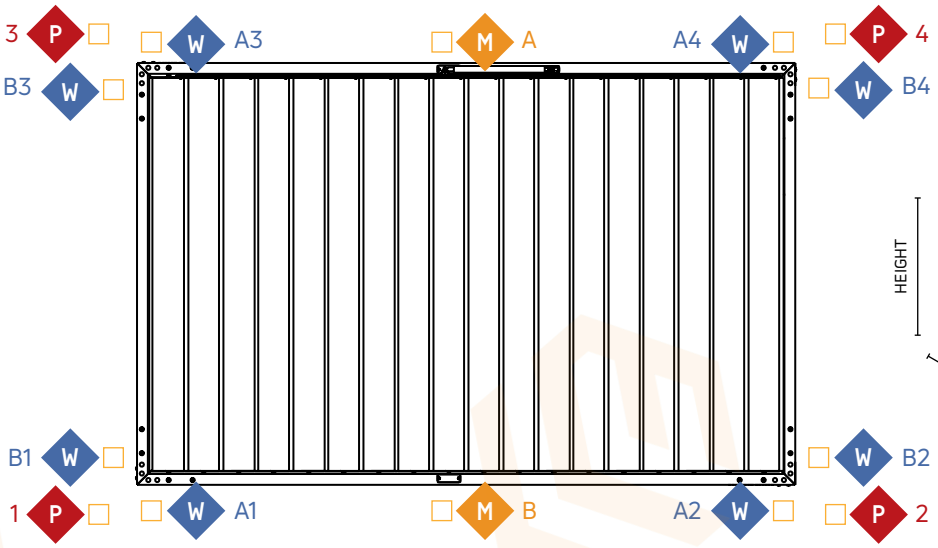
BLADES

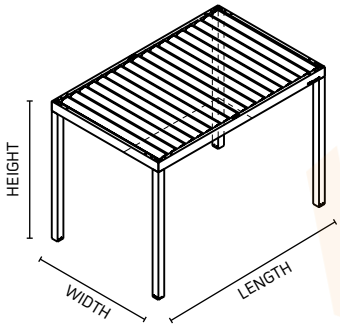
- ☐ grey anthracite RAL 7016
- ☐ white traffic RAL 9016

Order Form

/ Drawing with marked specifications

Mark motor position, water exit and power supply on top view





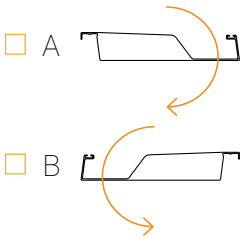
M location of motor position

P location of power supply

W location of water exit

- Water exit is possible on same pole as electricity, but only if Type P is ordered as special option of water evacuation.
- Pergola must have min. 2 water exits!
- Position of cutting is on pole foot.

Blades opening way



LED lights

A) LED lights integrated into the blades

LED quantity

- ☐ 0,5 m lenght
- ☐ 1 m lenght
- ☐ 1,5 m lenght

- ☐ RGB
- ☐ Neutral white 3200 - 5000°K
- ☐ Warm white 2200 - 3200°K
- ☐ Cold white › 5000°K

B) LED strip lights

Length of LED (m)

- ☐ RGB

STEP 2.4

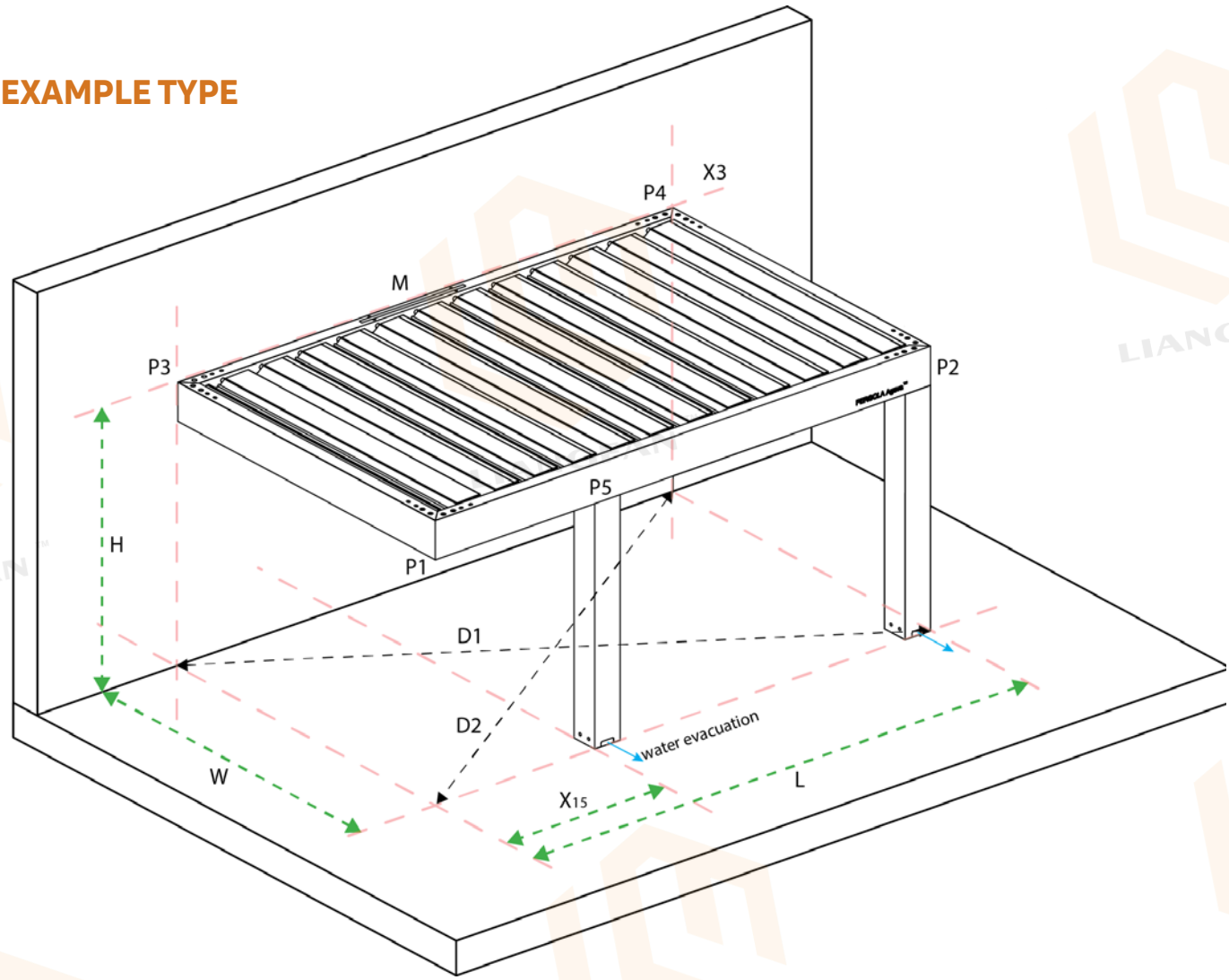
Marking the location

Marking the location on the floor or wall for mounting the structure and fixing the brackets is also the start of mounting process.

There are practically 8 basic possibilities of mounting, which can be seen in the Configurations on page 5.

The Example Type explained in this Installation Instructions Manual is shown below.

EXAMPLE TYPE



Example type model is shown with correlating positions and helping lines.

STEP 3

Positioning

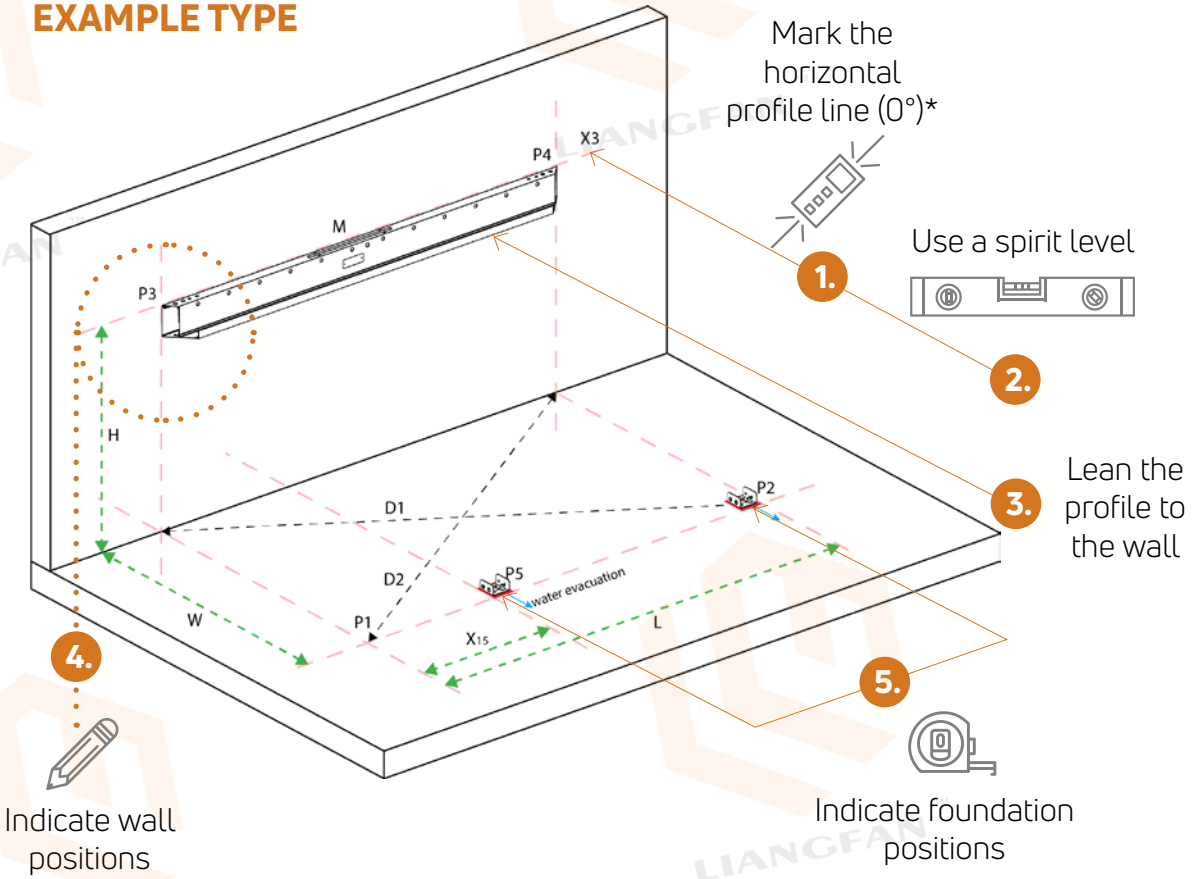
Position of the wall mounted frame profile & foundation position

■	**post positions**
– – – –	**support lines for positioning**
– – – –	**width of profiles**
– – – –	**height of profiles**
– – – –	**length of profiles**
D1, D2	**length between diagonal pergola corners**
X3	**support line for wall profile**
P1, P2, P3, P4	**corners of frame construction**
P5	**support with post, dislocated from corner**

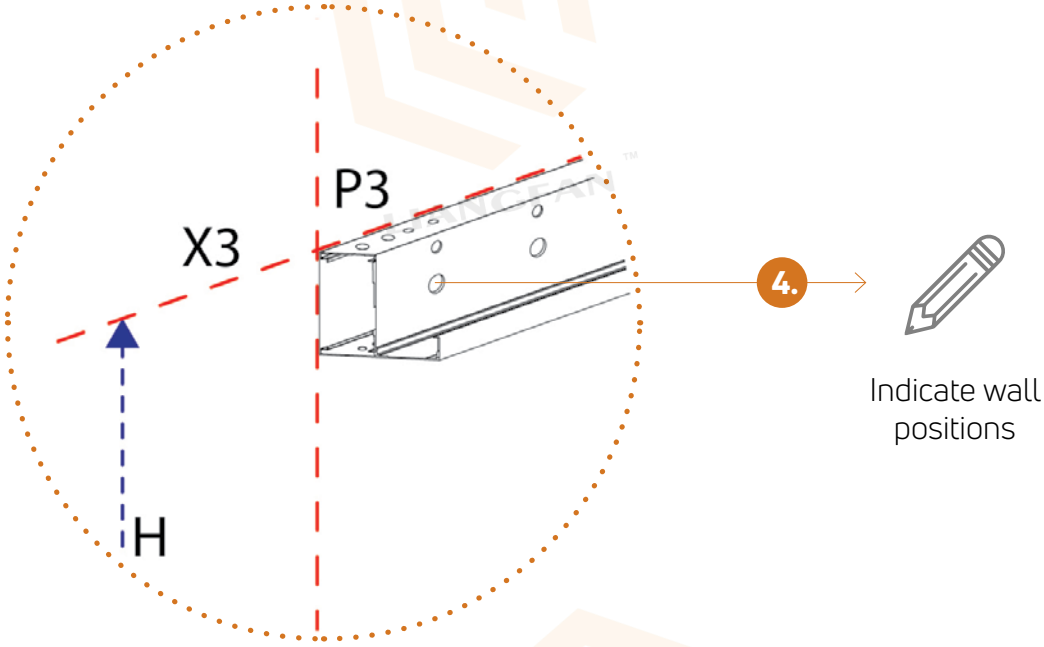
Before starting to assemble the frame, it is necessary to determine the position of the longitudinal frame profile on the wall and foundation positions:

1. Use a laser gauge/laser measure to indicate the X3 line on the wall.
2. If needed, use a spirit level to mark a proper 0°.
3. Lean the profile to the wall.
4. The positions of the anchor bolt holes shall be indicated/drawn for mounting the profile on the wall. Indicate positions P3 and P4 on the wall with a marker.
5. Indicate the foundation positions.

EXAMPLE TYPE

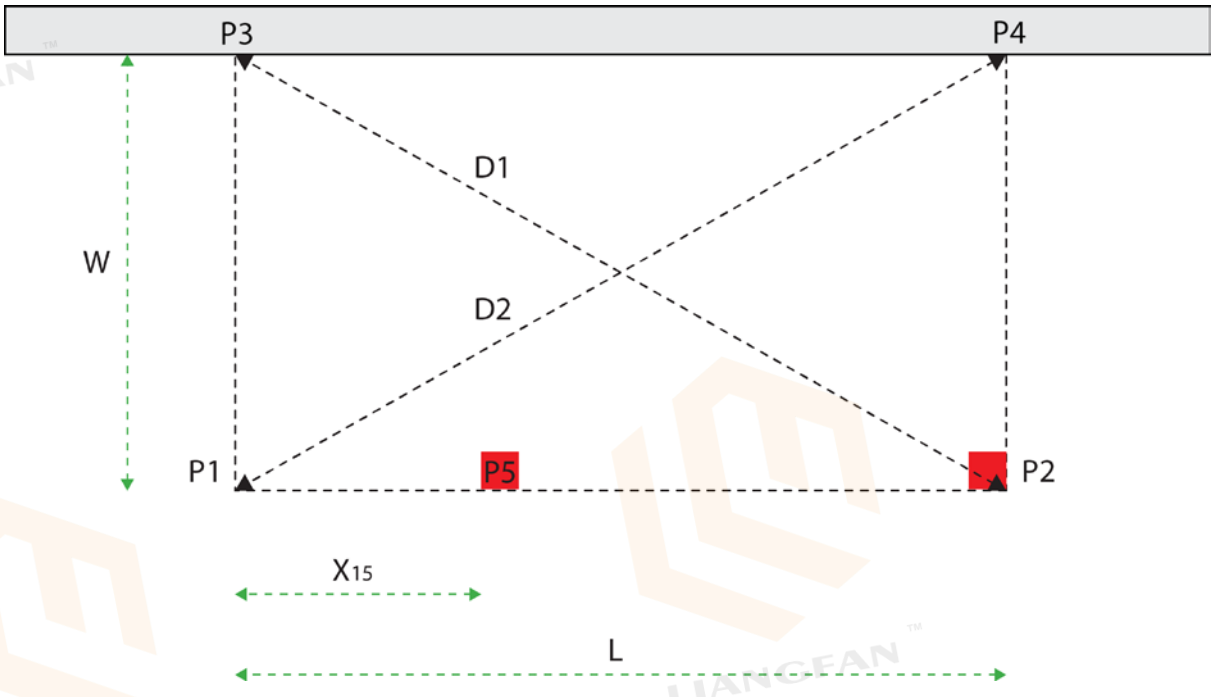


Positioning



EXAMPLE TYPE

Top view

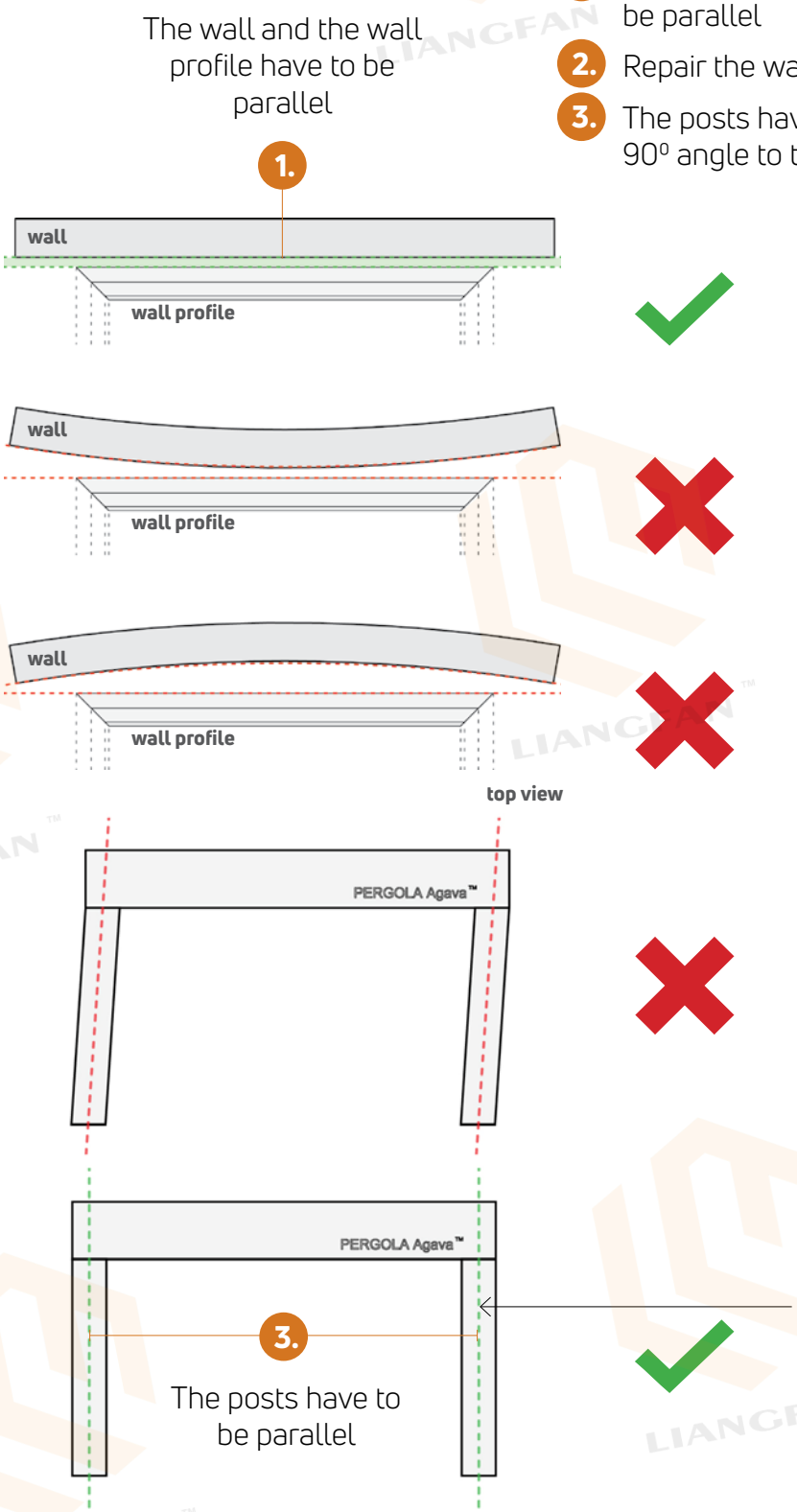


STEP 3.1

Parallelism of wall and profile

BEFORE starting to assemble the frame, check the parallelism between the wall and the wall profile. If curvedness is too large, mounting the frame is not possible.

1. The wall and the wall profile have to be parallel
2. Repair the wall if it is not even
3. The posts have to be parallel and in 90⁰ angle to the wall profile



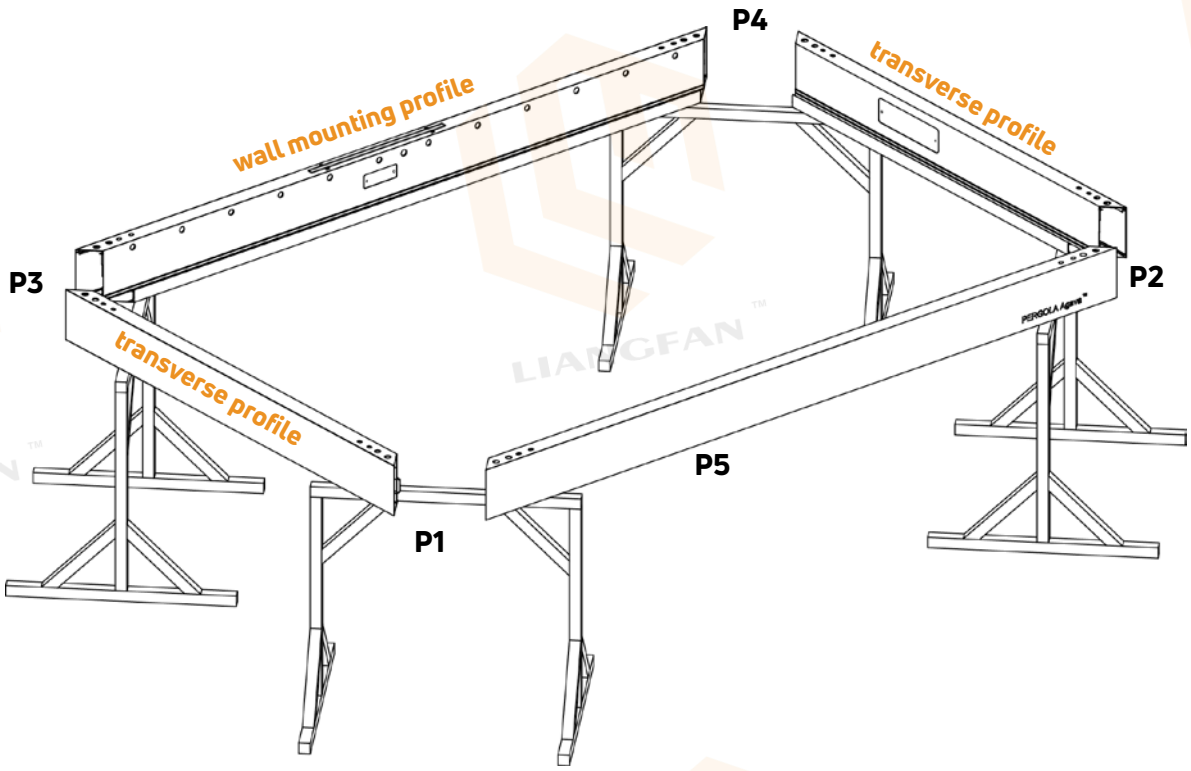
STEP 4

The place needed for assembling the installation

Put four pedestals on a suitable place, big enough for assembling.

Pedestals MUST be coated to avoid damage on the profiles.

Remove all unnecesary obstacles.

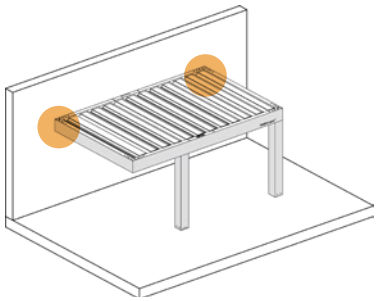


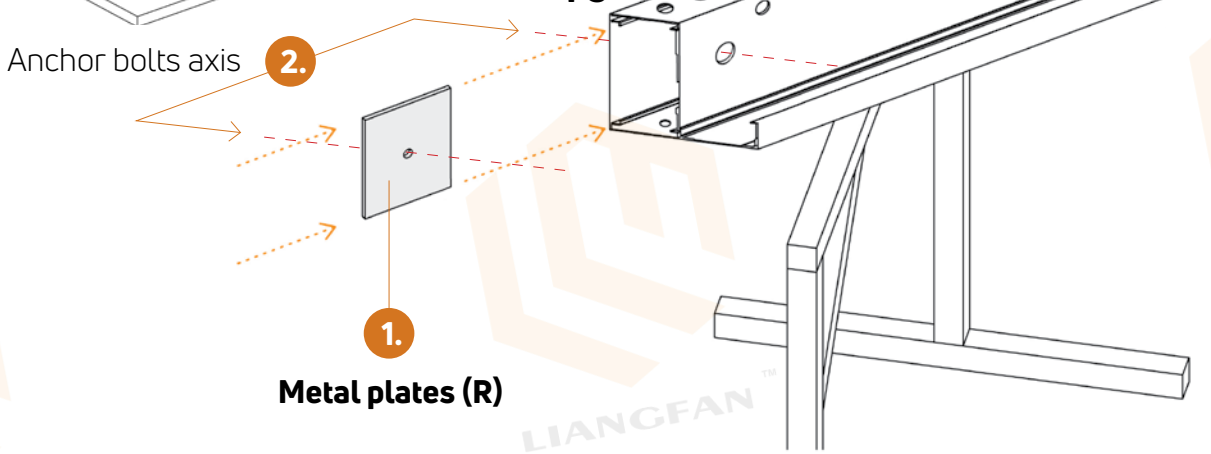
STEP 5

Inserting metal plates into wall mounting frame profile

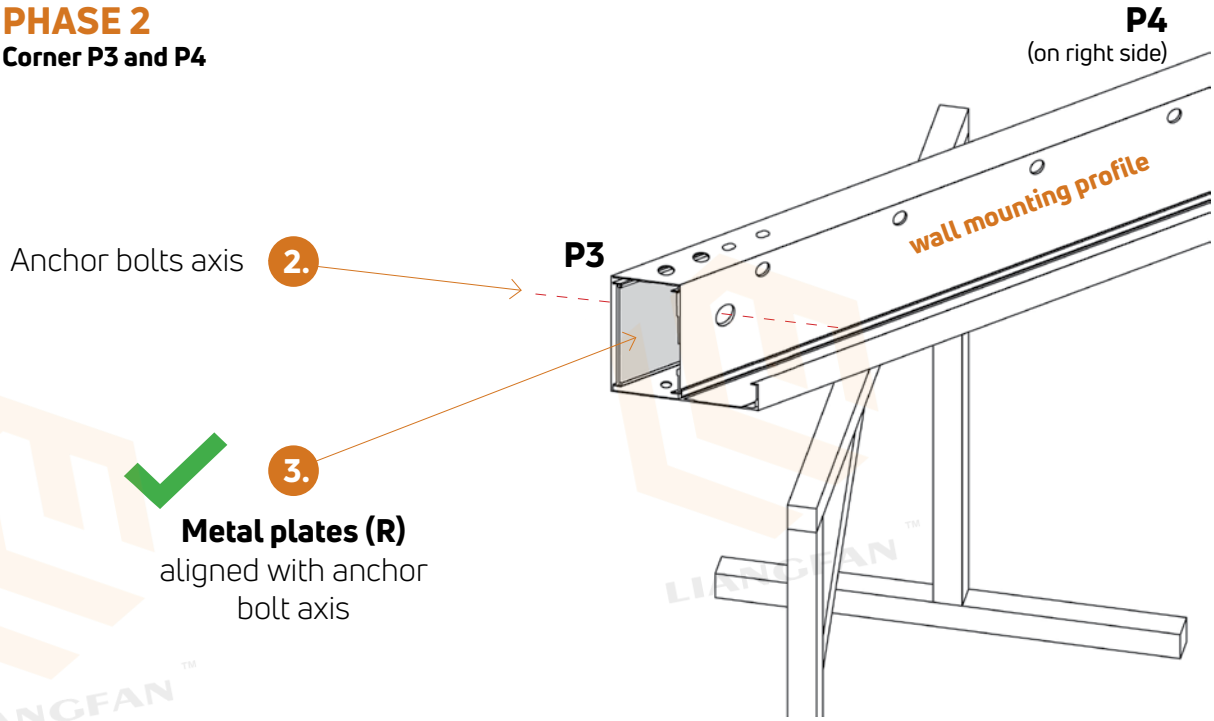
1. **Metal plates (R)** are inserted into the wall mounting profile
2. The number of plates depends on the project (position P3 , P4)
3. Align plates with anchor bolt axis

PHASE 1
Corner P3 and P4





PHASE 2
Corner P3 and P4

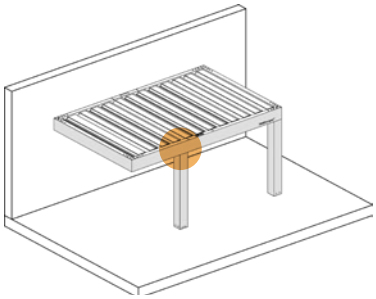


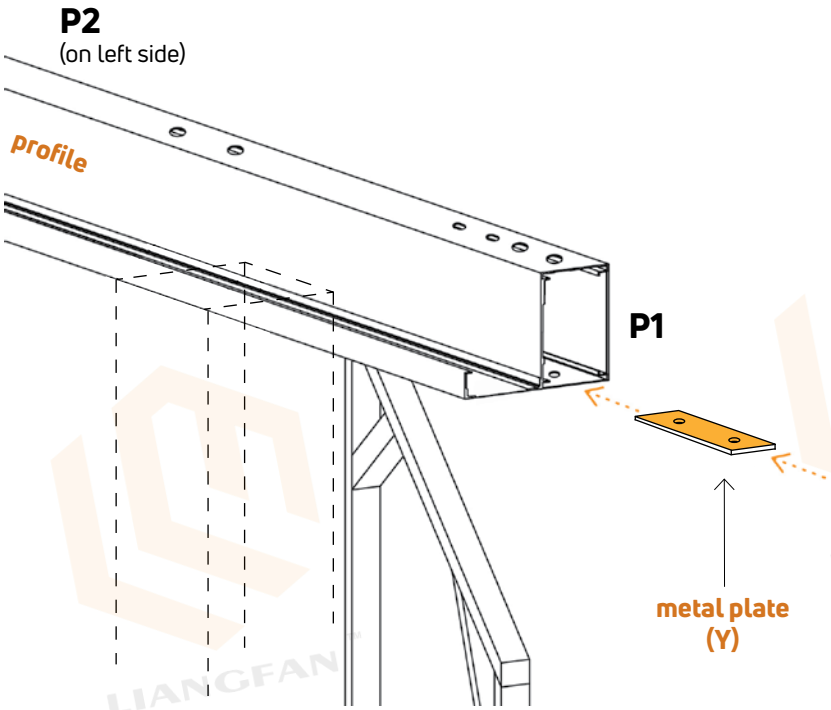
STEP 5.1

Inserting metal plate for supporting post on position P5

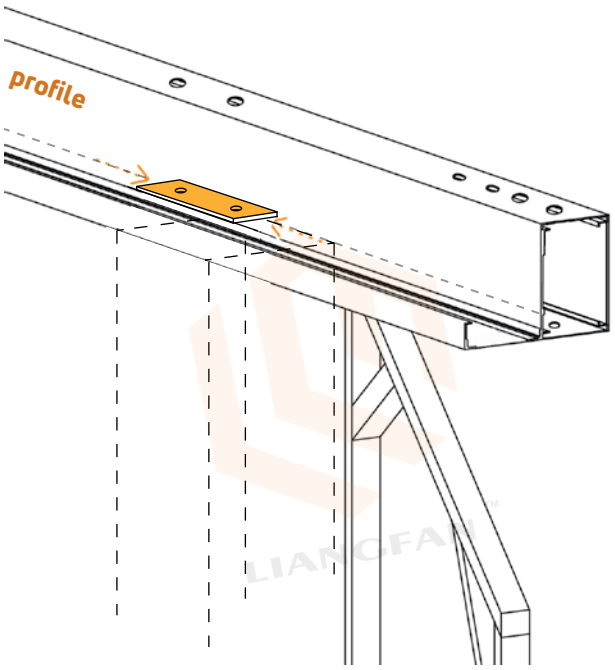
Metal plate (Y) is inserted into the longitudal profile for supporting post on position P5.

PHASE 1
P5





PHASE 2
P5

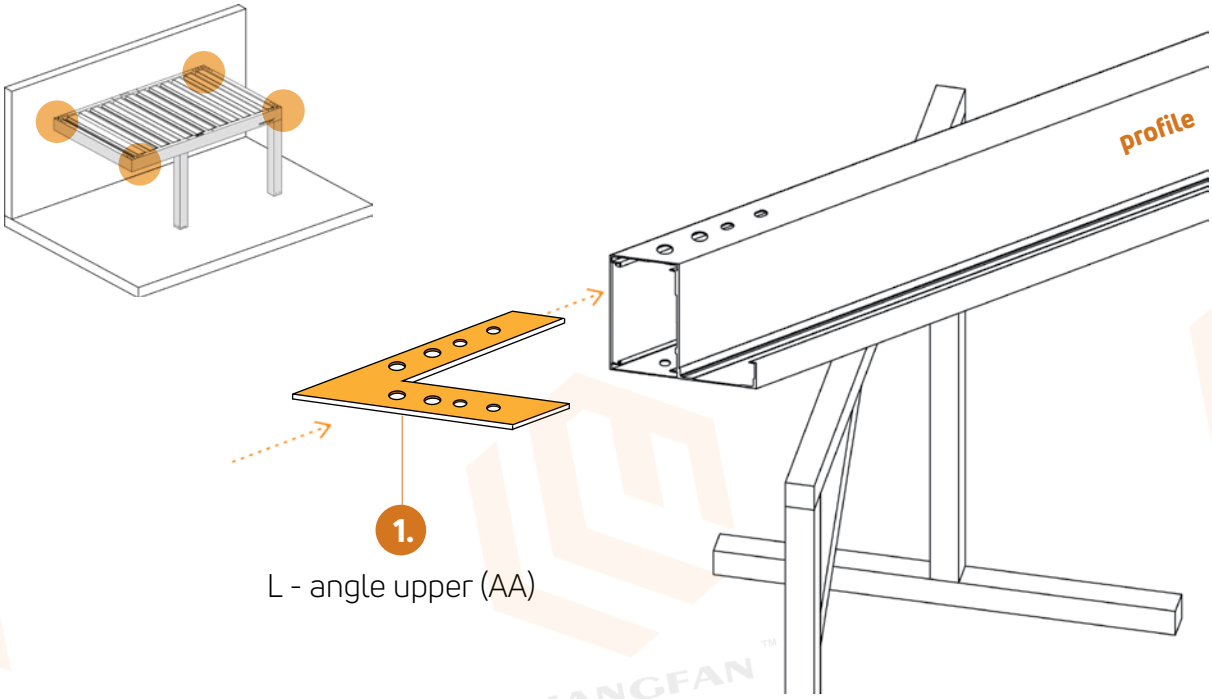


STEP 5.2

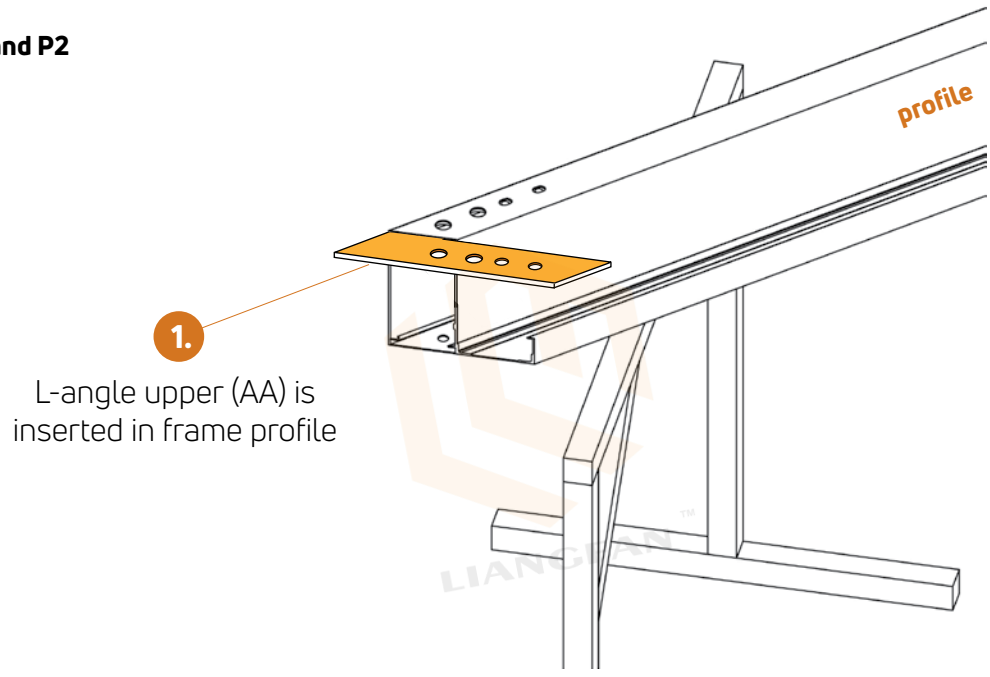
Screwing and inserting the L - angle upper (AA) into transverse frame profile

1. **L-angle upper (AA)** is inserted into all 4 transverse frame profile corners

PHASE 1
Corner P1, P3 , P4 and P2



PHASE 2
Corner P1, P3 , P4 and P2



STEP 5.3

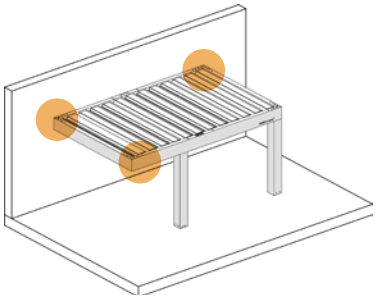
Screwing and inserting the L - angle lower, connecting and with threads (AC) into transverse frame profile

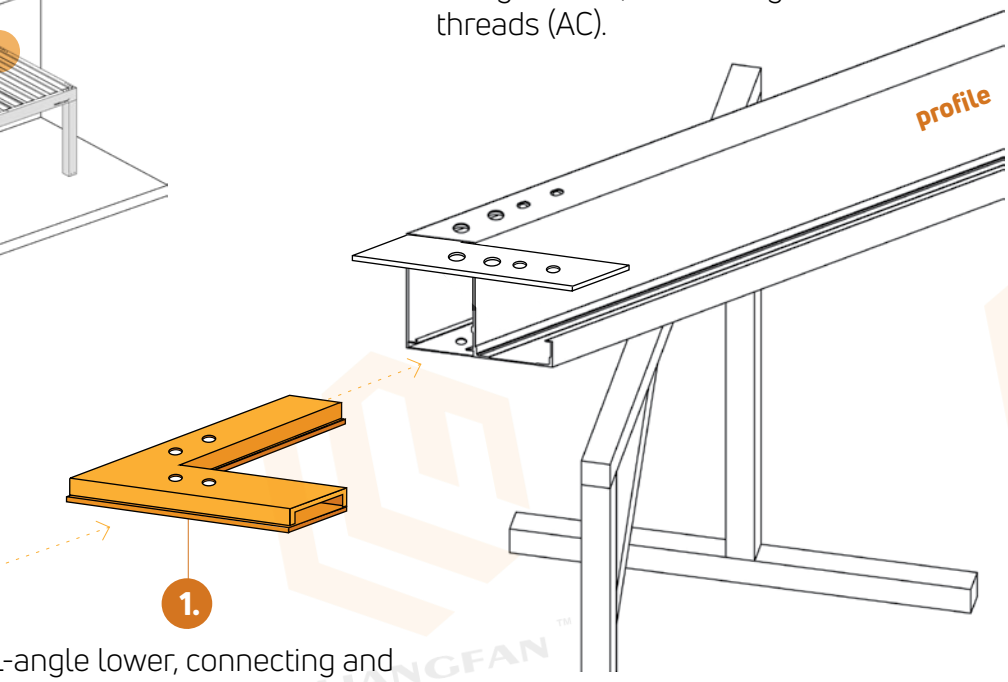
1. **L-angle lower, connecting & with threads (AC)** is inserted into 3 transverse frame profile corners.

Corners without post support need L-angle lower, connecting and with threads (AC).

PHASE 1

Corner P1, P3 , P4 and P4

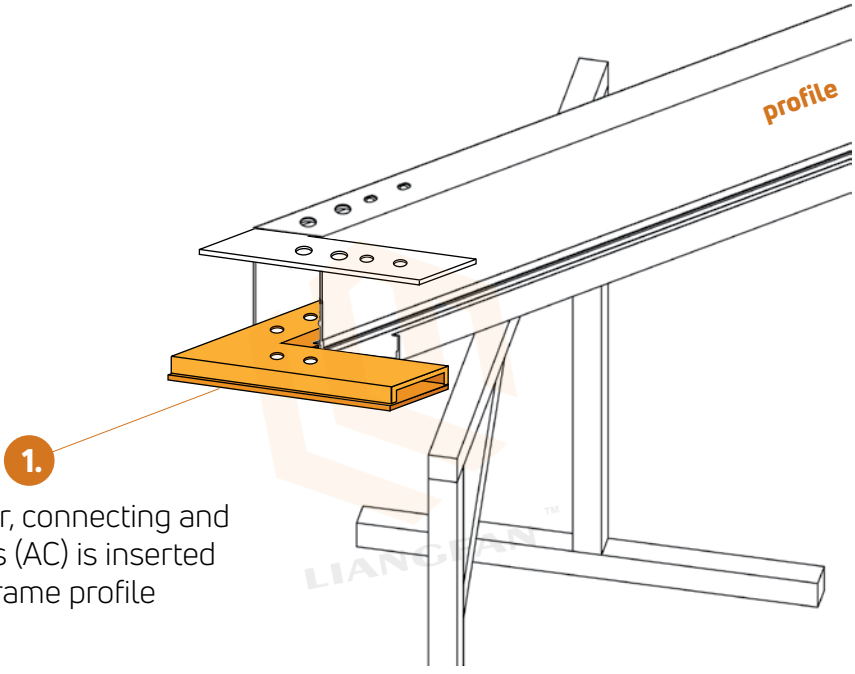




L-angle lower, connecting and with threads (AC)

PHASE 2

Corner P1, P3 , P4 and P4



L-angle lower, connecting and with threads (AC) is inserted in the frame profile

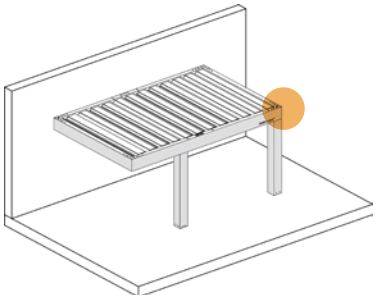
STEP 5.4

Screwing and inserting the L - angle lower (AB) into transverse frame profile

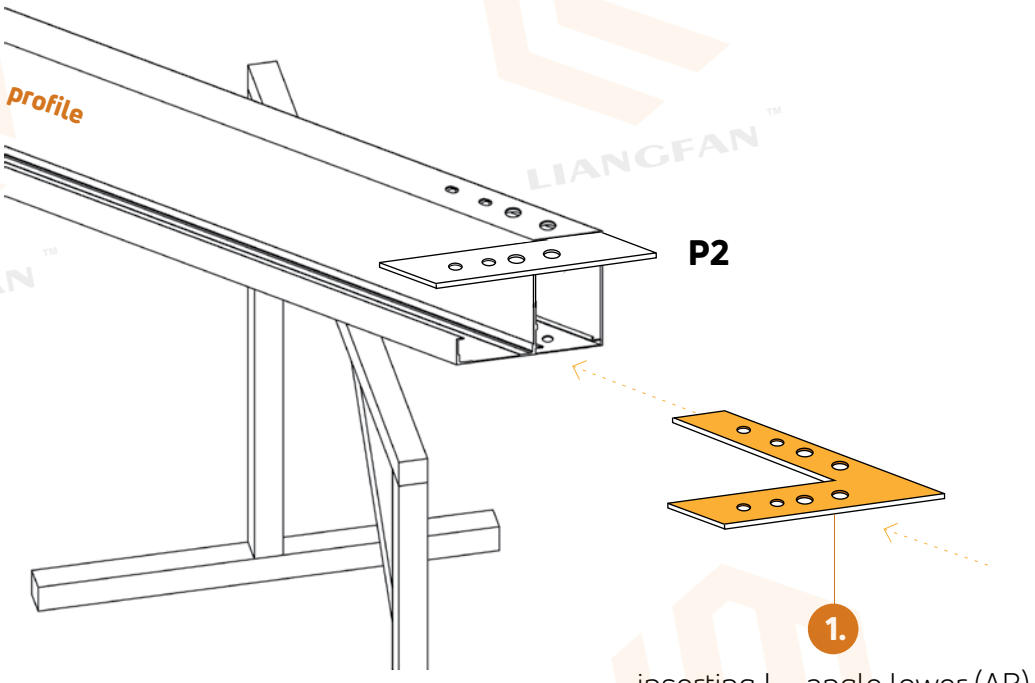
1. **L-angle lower (AB)** is inserted into transverse frame profile corner P2.

Corners with a post support only need L-angle lower (AB).

PHASE 1
Corner P2



P4
(on right side)



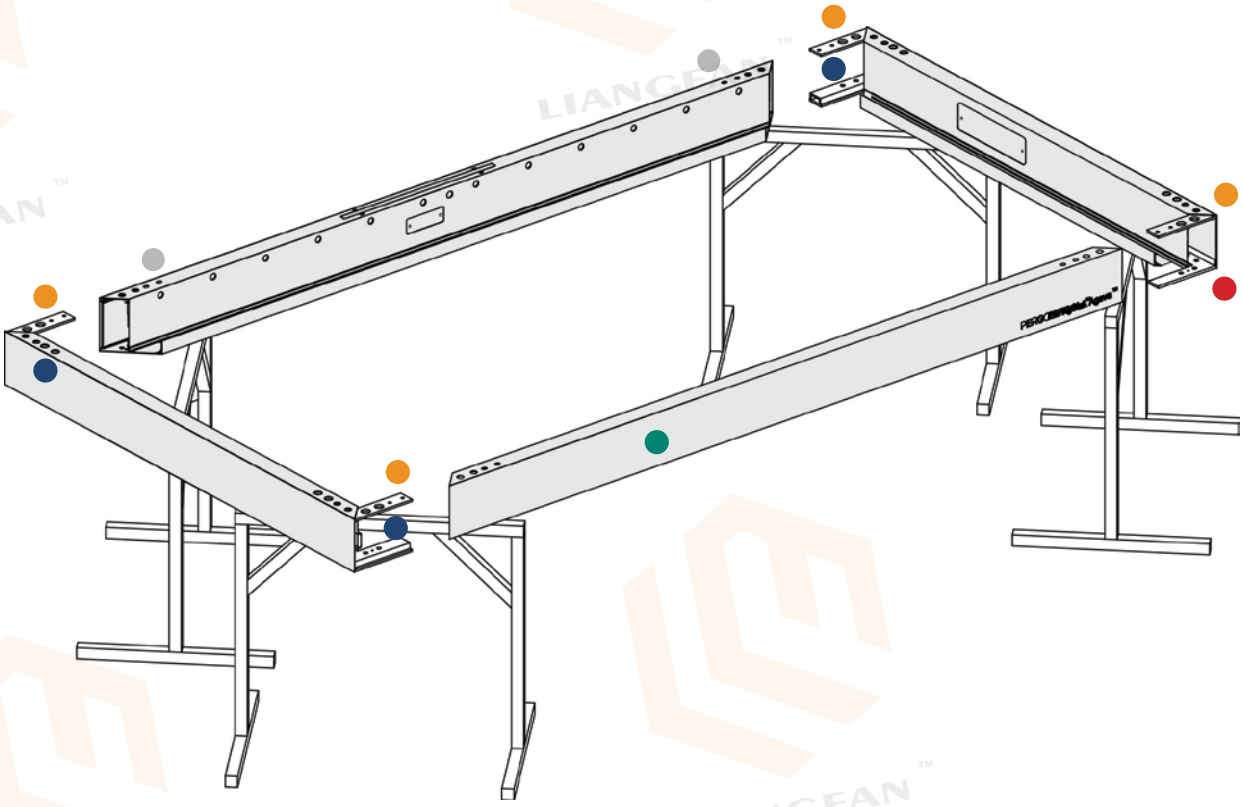
inserting L - angle lower (AB)

STEP 5.5

Metal plates, L - angles (AA), (AB), (AC) and screws (A) are in place

- L - angle upper (AA)
- L - angle lower, connecting and with threads (AC)
- L - angle lower (AB)
- metal plates P3, P4 (for wall fixation)
- metal plate P5

1. Inserted **L-angle upper (AA)** are succesfully inserted into the corresponding places.
2. Inserted **L-angle lower, connecting & with threads (AC)** are succesfully inserted into the corresponding places.
3. Inserted **L-angle lower (AB)** are succesfully inserted into the corresponding places.
4. **Metal plates** are inserted into the wall mounting profile on positions P3 and P4.
5. **Metal plate** is inserted into the longitudinal profile on postion P5.
6. The assembly is prepared as shown below.



STEP 6

Connection of electrical and signal cables through the profiles

BEFORE

continuing the installation, all electrical and signal cables must be connected and tested.

All these processes have to be performed on the pedestals.

Before beginning the testing, **OPTIONS chapter** in the installation instructions must be read.

Connection of cable connections is carried out when the frame profiles are not screwed together.

Blades motor unit and LED lights are preset in the factory. ZIP roller blind is not preset in the factory. Preset of ZIP roller blind should be done by installer.

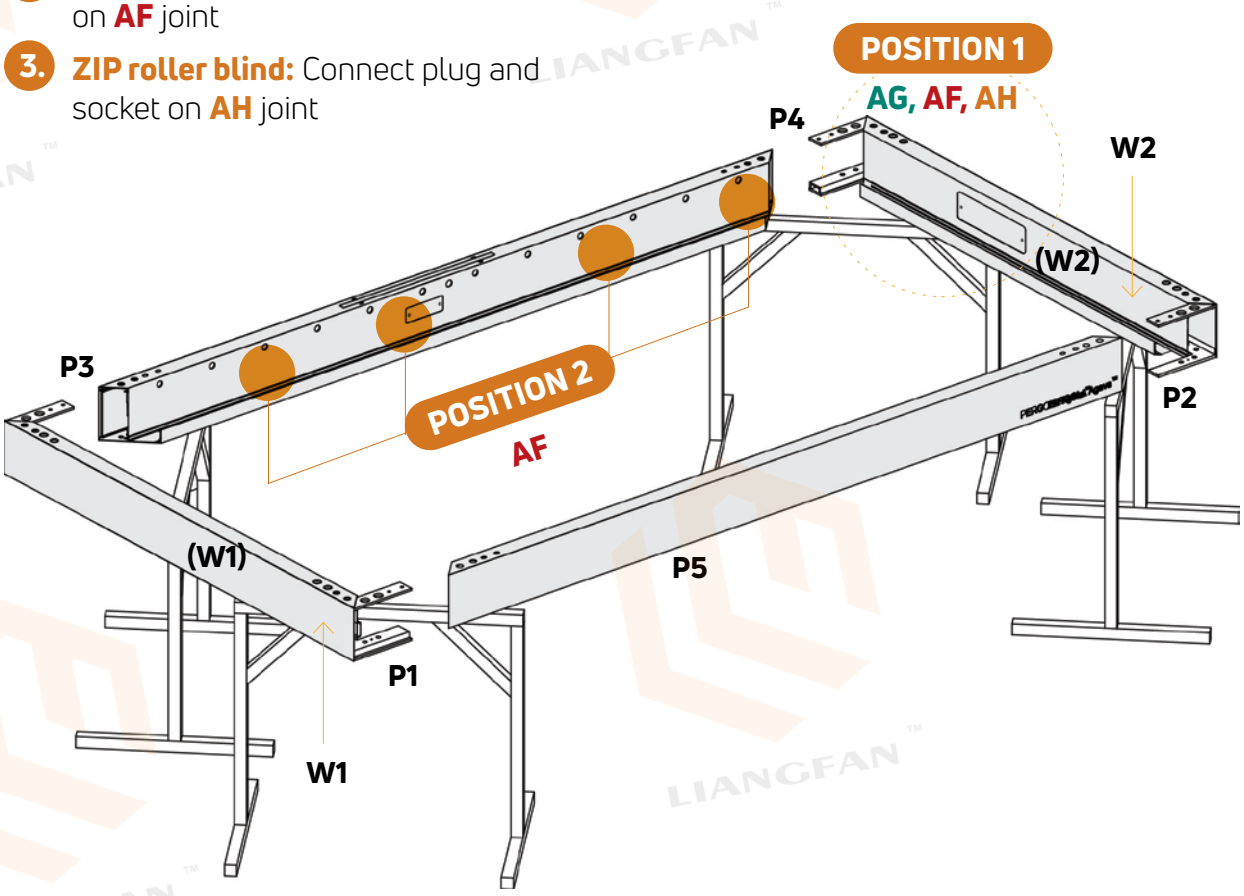
After completing the installation, the metal constructions must be grounded.

POSITION 1

1. **Blade motor:** Connect plug and socket on **AG** joint
2. **LED Light:** Connect plug and socket on **AF** joint
3. **ZIP roller blind:** Connect plug and socket on **AH** joint

POSITION 2

1. **LED Light:** Connect plug and socket on **AF** joint



STEP 6.1

Connecting the cables and sockets

1. BLADE MOTOR UNIT

Connect plug and socket on **AG** joint

AG

NOT CONNECTED

AG

CONNECTED

2. LED LIGHT POSITION 1

Connect plug and socket on **AF** joint

AF joint is properly connected, if the inscription "ALTW" on the connectors is visible on the same side.

AF

NOT CONNECTED

AF

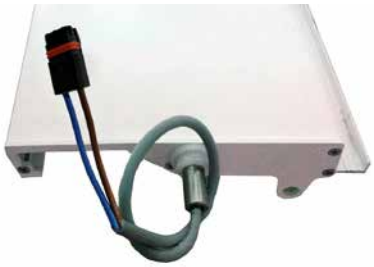
CONNECTED

3. LED LIGHT POSITION 2

Connecting of plug and socket on **AF** joint is made in STEP 14.1, after inserting the blades.

AF

NOT CONNECTED



4. ZIP ROLO POSITION 1

Connect plug and socket on **AH** joint

Wires of the same colors are connected to each other

AH

NOT CONNECTED

AH

CONNECTED

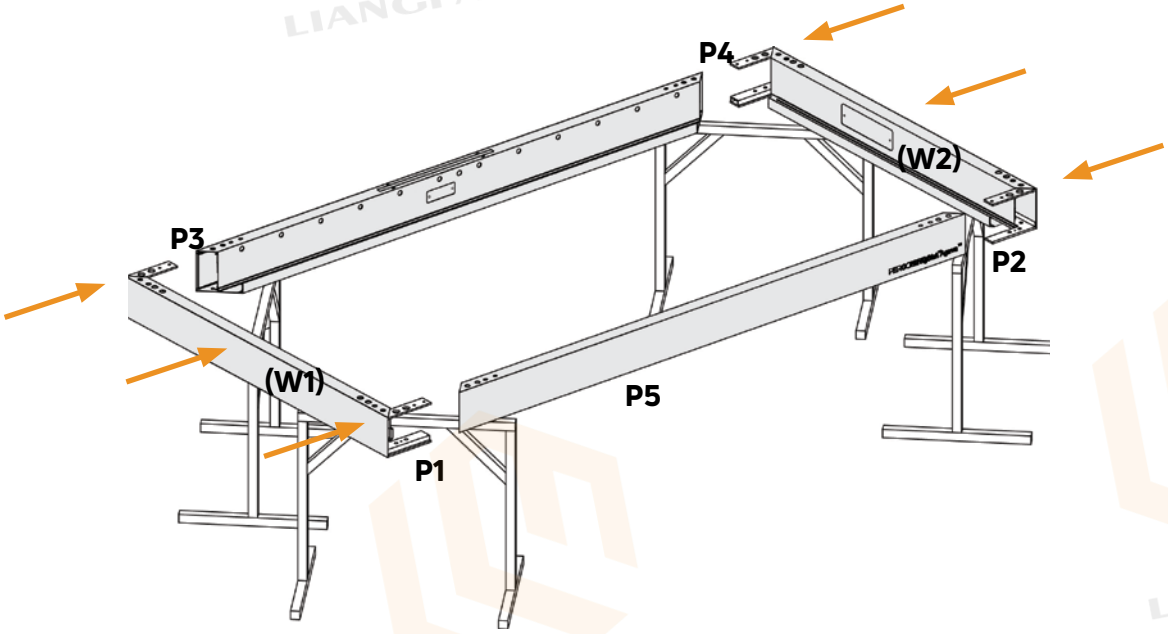
STEP 6.2

Assembling of the frame and testing of cable connections

1. ASSEMBLING OF THE FRAME

Both transverse frame profiles (W1, W2) are evenly and at the same time inserted into a longitudinal frame profile.

CAUTION: The cables in frame must not be damaged.

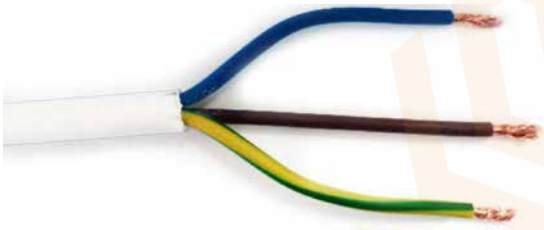


2. CONNECTION TO ELECTRICAL VOLTAGE

When the frame is assembled, the power cord (3 x 1,5 mm^2) is connected to the electrical voltage.

ATTENTION: Only a trained person can carry out the connection.

220 volts



N: neutral

L: phase

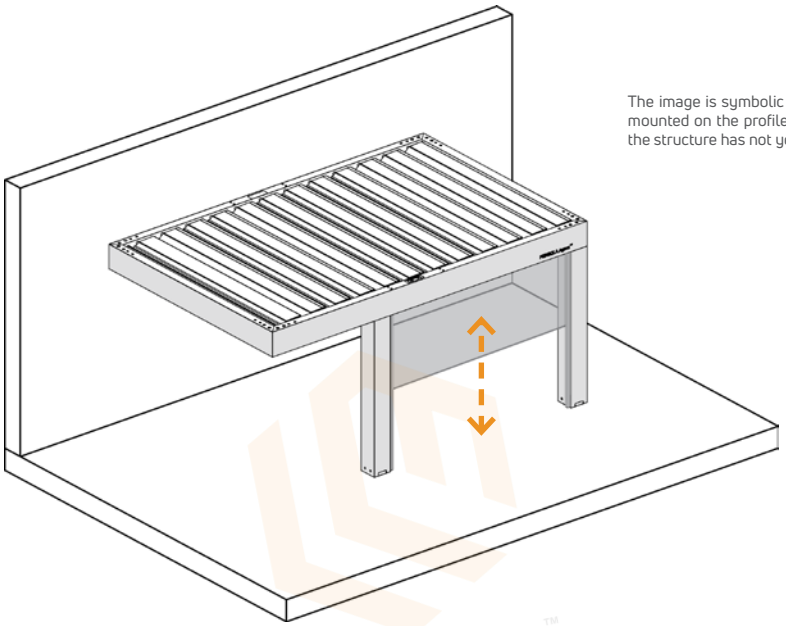
G: ground

3. TESTING ZIP ROLLER BLIND

Check the rolo movement UP and DOWN.

The final setting is done when the frame is set on location.

Use remote control, follow instruction in OPTIONS chapter.



The image is symbolic because the ZIP roller is just mounted on the profile on the assembled frame but the structure has not yet been mounted.

4. DISCONNECTING POWER

After finishing testing, you must **disconnect the power supply.**

110 volts

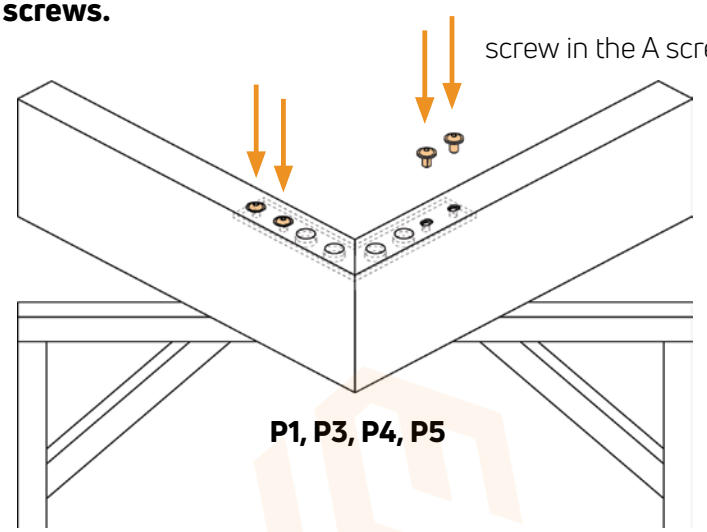
STEP 7

Screwing a longitudal frame profile and L - angles

STEP 7.1

Screwing a longitudal frame profile and upper L - angle (positions P1, P3, P4)

Through openings on longitudinal profiles, profile and upper L-angle are screwed together with **A screws.**



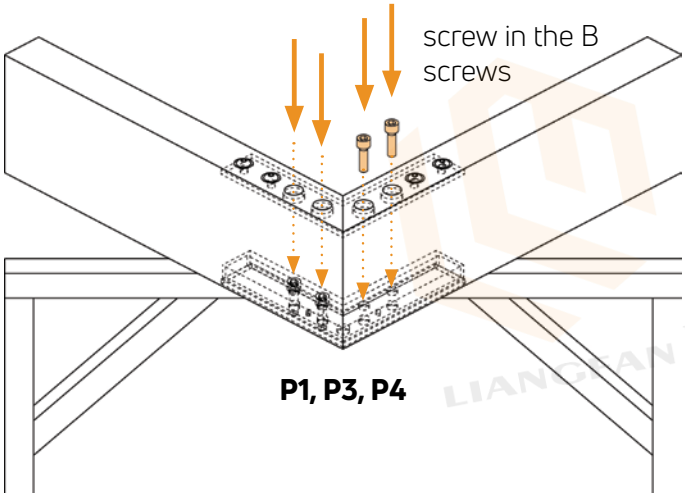
STEP 7.2

Screwing a longitudinal frame profile and lower L - angle connecting and with threads (positions P1, P3, P4)

Through openings on longitudinal profiles, profile and lower L-angle connecting and with threads are screwed with **B screws.**

Repeat at position P1, P3, P4 (these positions are wall mounted or without posts)

In position P5, the lower L - angle will be screwed together with the post.

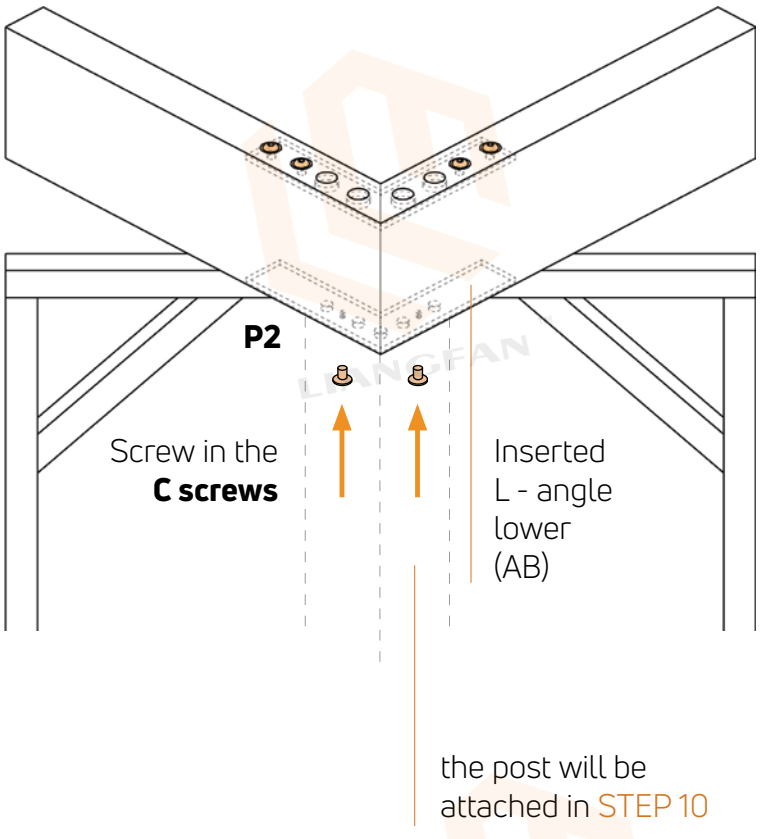


STEP 7.3

Longitudinal frame profile and lower L - angle (position P2 - with post)

Through the middle oval hole in the lower part of the frame the lower L-angle is attaching to the frame with **C screws** from below to prevent the L-angle from moving before screwing the post.

In position P2, the lower L - angle will be screwed together with the post in STEP 10.



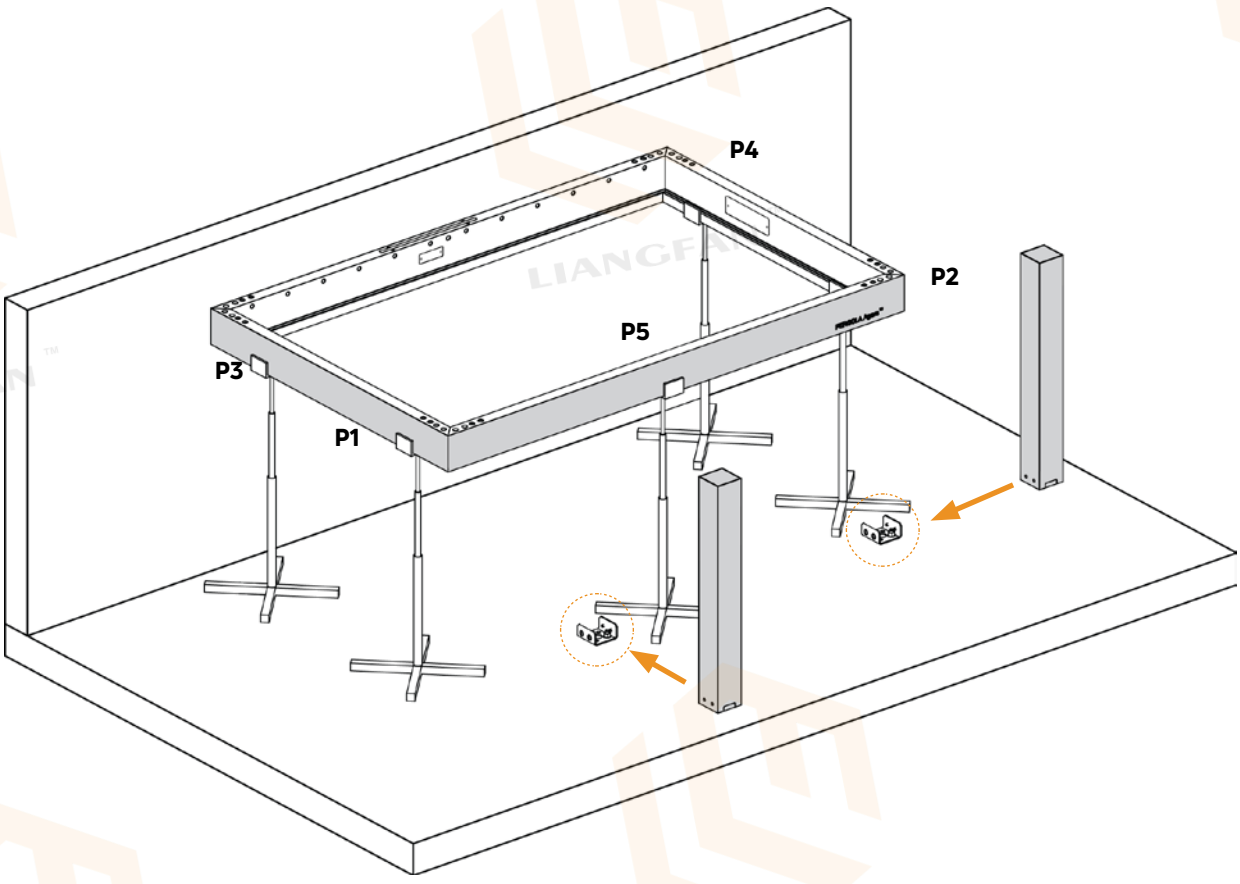
STEP 10

Laying frames on posts

LIFTING POSTS

1. Lift the composite profiles using lifting pads.
2. Place the posts on their position and screw them. **Do not forget to use your protective equipment.**
3. It is necessary to pay attention to the correct position and orientation of the posts.

Check your plans and your order.



STEP 10.1

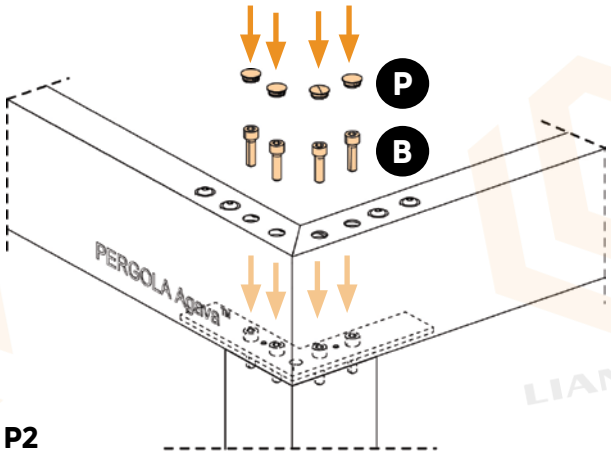
Screwing the post on position P2

20 cm long

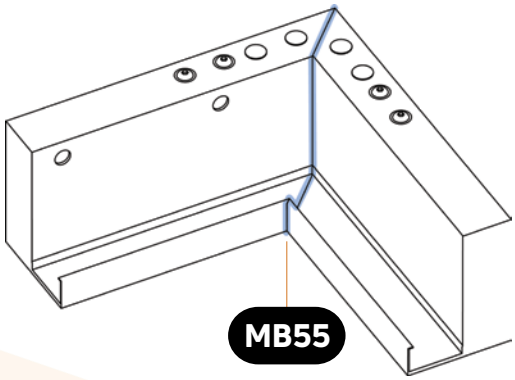
SCREWING THE LOWER L - ANGLE WITH A SUPPORTIVE POST (P2)

1. Use the **screws B** and screw the lower L - angle with post.
It is necessary to have a hexagonal key, to be long at least 20 cm.

2. Openings on the upper side of the frames, seal with plastic **bushes P**.
The bonding edges can be sealed with adhesive. Use the Merbenit MB55 adhesive.



P2



P1, P2, P3, P4

STEP 10.2

Screwing the post on position P5

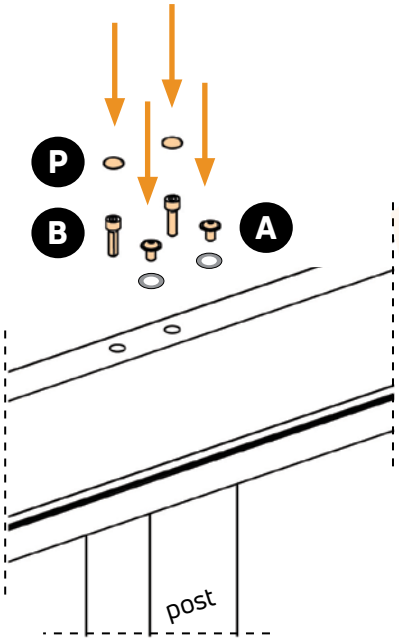
20 cm long

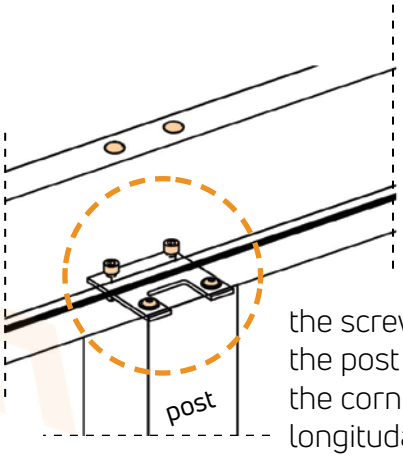
SCREWING THE PLATE FOR POST OUT OF THE CORNER WITH A SUPPORTIVE POST (P5)

1. Place the post on its position and screw it with **screws B**. Screw the **screws A** in the gutter with rubber washer under them.
Do not forget to use your protective equipment.

2. Seal the openings on the upper side of the frames with plastic **bushes P**.
The bonding edges can be sealed with adhesive. Use the Merbenit MB55 adhesive.

3. It is necessary to pay attention to the correct position and orientation of the post.
Check your plans and your order.





the screws connect the post that is not in the corner, with the longitudal profile

STEP 11

Attaching the frame to the wall

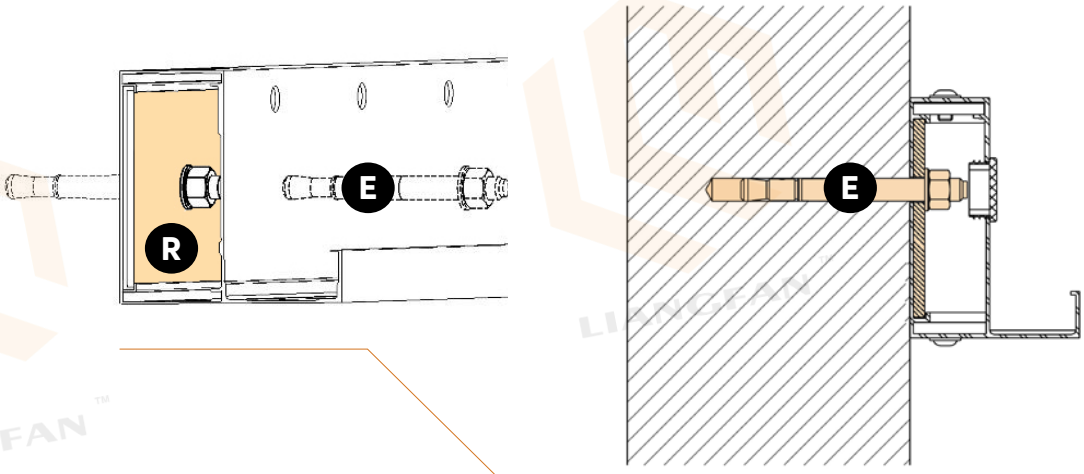
The frame is raised and leaned to the wall, then the profile of the frame is fastened (P3, P4). **Do not forget to use your protective equipment.**

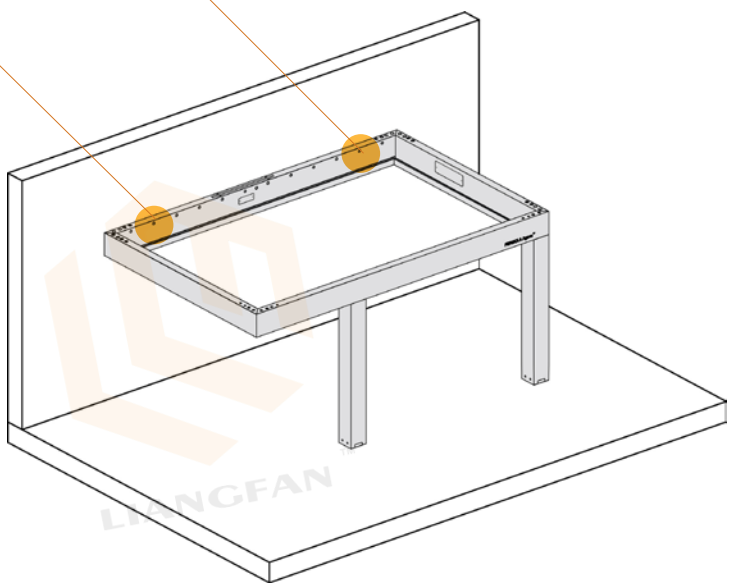
The frame must be supported by the pedestals until the fixing to the wall is completed.

The **R plate** was inserted into the profile in STEP 5.

To drill the hole to the wall, use **drill Ø 12.**

Use anchor **bolts E** for fixing profile to the wall.



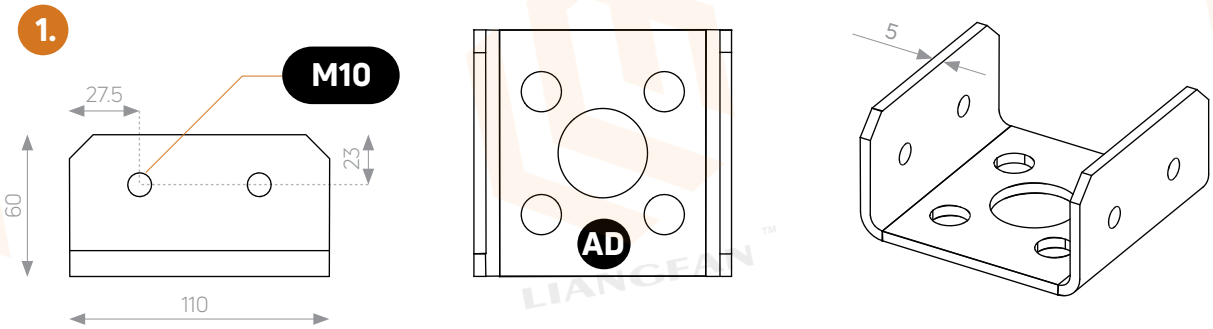


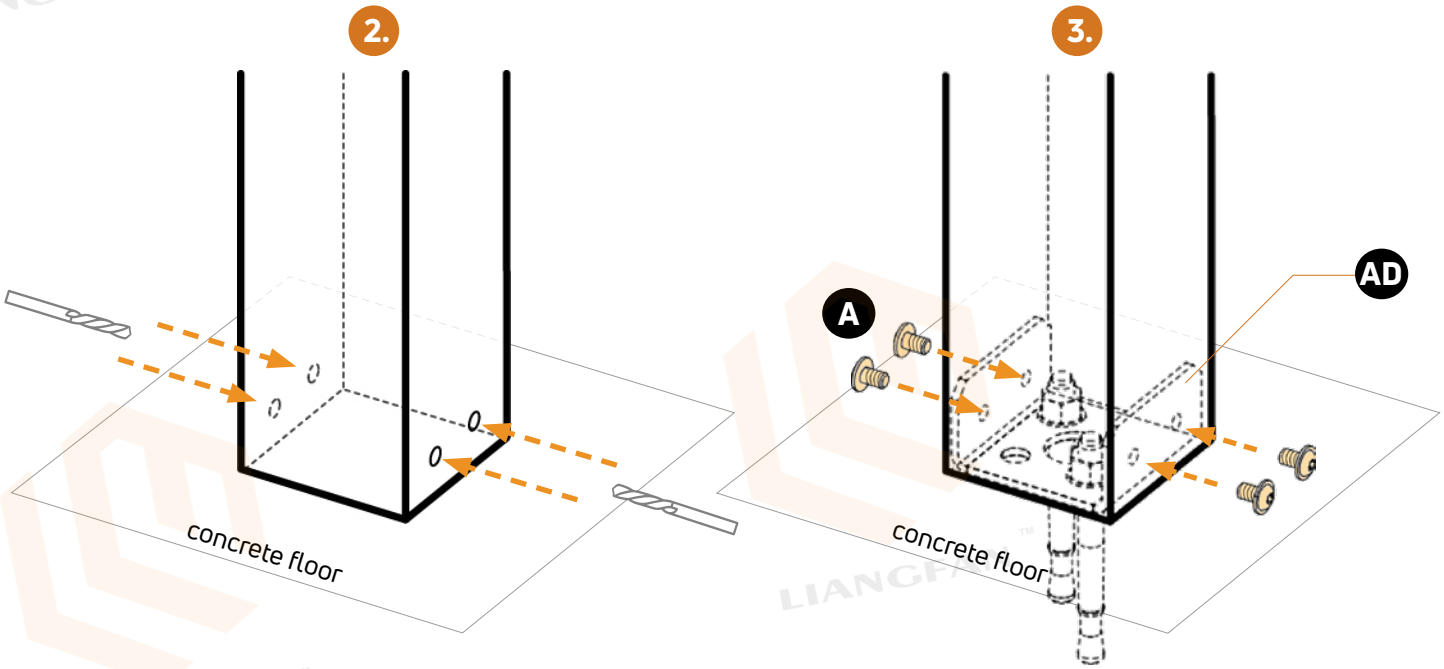
STEP 12

Screwing the post and foot support

1. The post is placed on **foot support AD**. There are two holes **M10** in the foot support.
2. **Two holes** must be drilled into the **post**. The positions of the holes are adjusted to the conditions at the installation site. **Check the positions of the holes M10 on the foot support!**
3. After the post is placed on foot support, **screw A** is screwed to fix post and foot support.

The post must be grounded on floor.



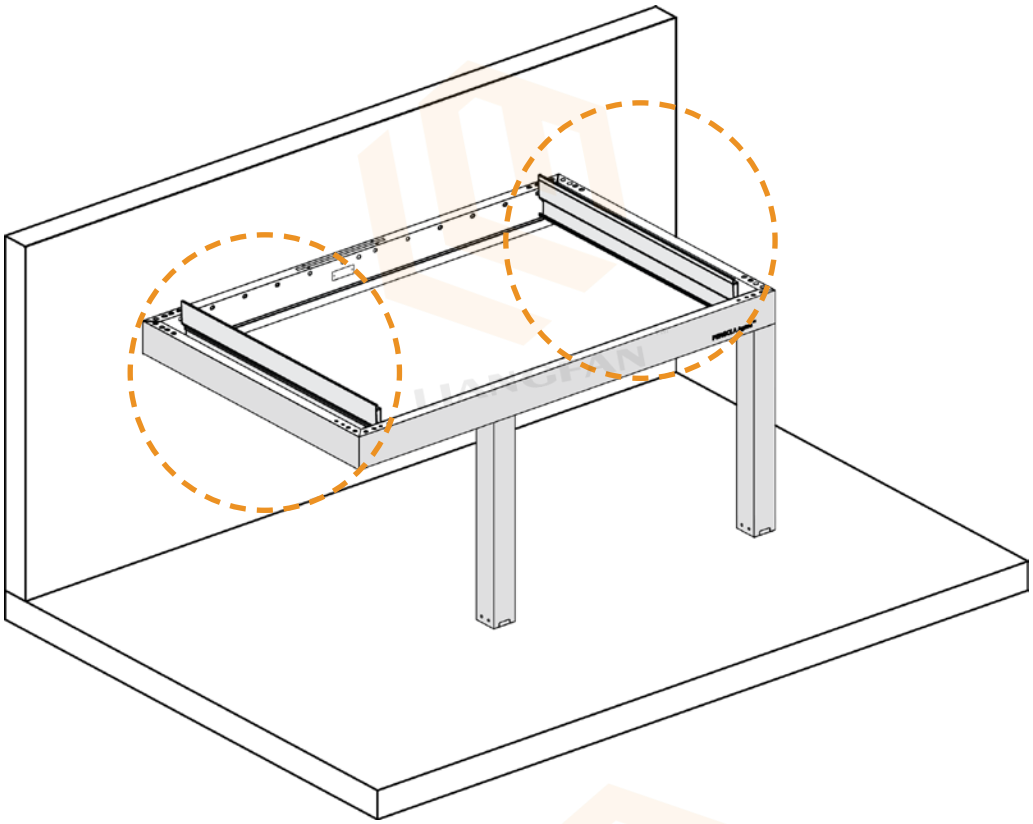


STEP 13

Assembly of blades

The blades are inserted into a structure and standing frame.

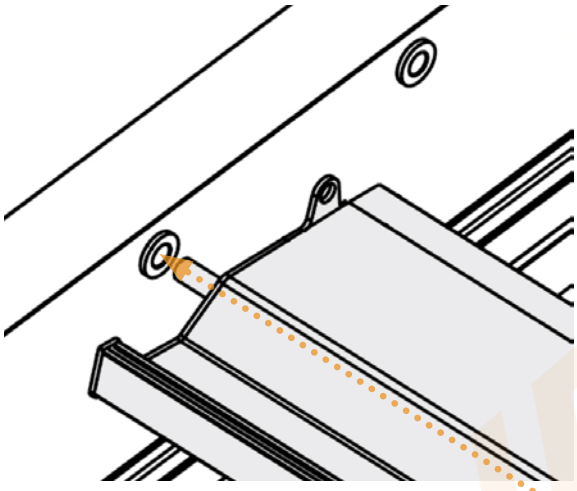
First, insert the blades at both ends of the structure.



STEP 13.1 Inserting the blades

The long axis of the blade is inserted into the profile with motor drive.

The long axis of the blade is on the side of the blade where the cover with "ear" is located.

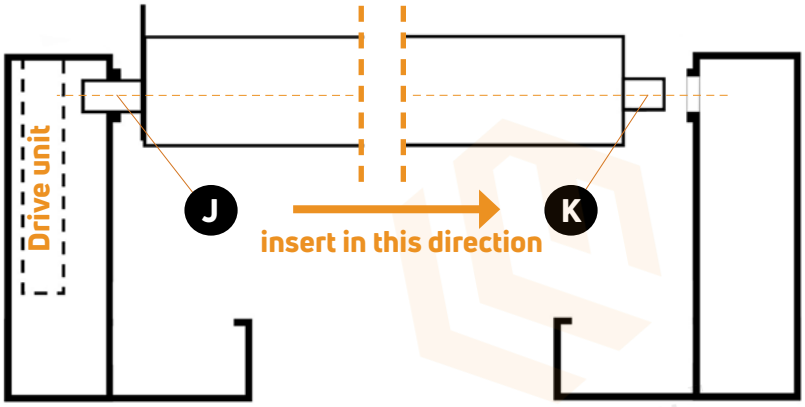


Inserting the blade

POSITION 2

Position after installing **the longer axis (kingpin) J in the motor drive frame.**

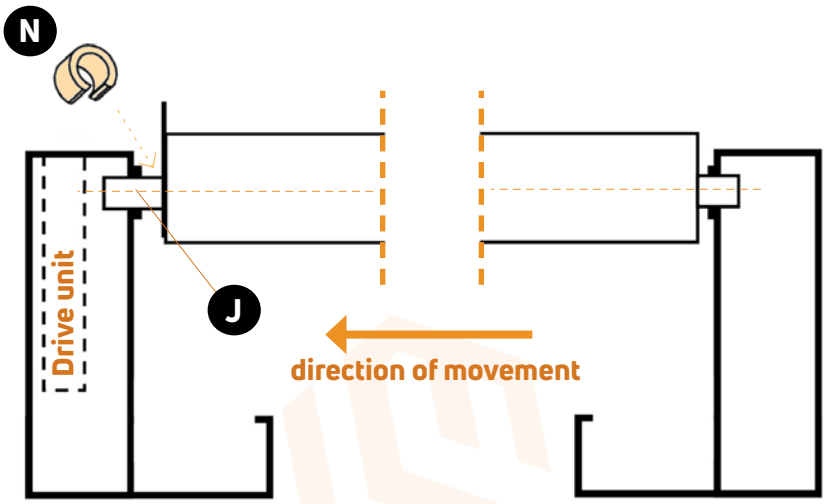
The shorter axis (kingpin) K of the blade is then inserted into the opposite lying **coaxial opening.**



POSITION 2

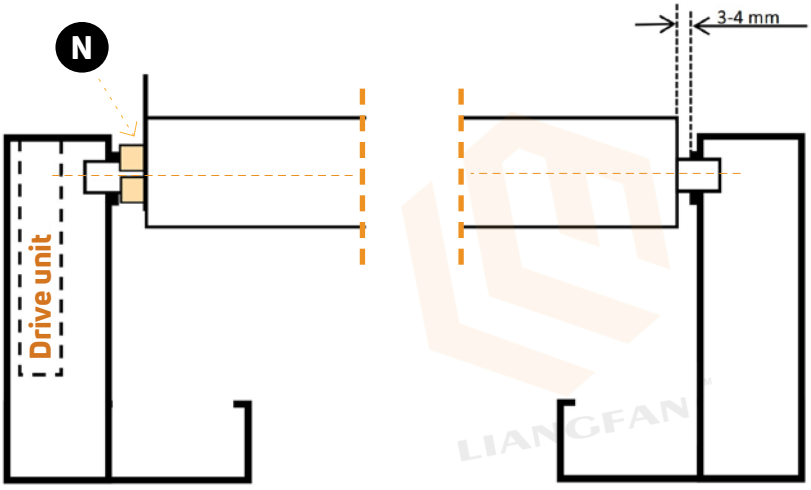
Position 2 of the blade when **both axis are inserted into the frame.**

Place a **distance plastic bush** N around **the longer axis (kingpin)** J



POSITION 3

After installing the **distance plastic bush,** move the blade in the direction of the longer axis. On the side of the shorter axis there should be a space of **3-4 mm** between the blade and the frame.



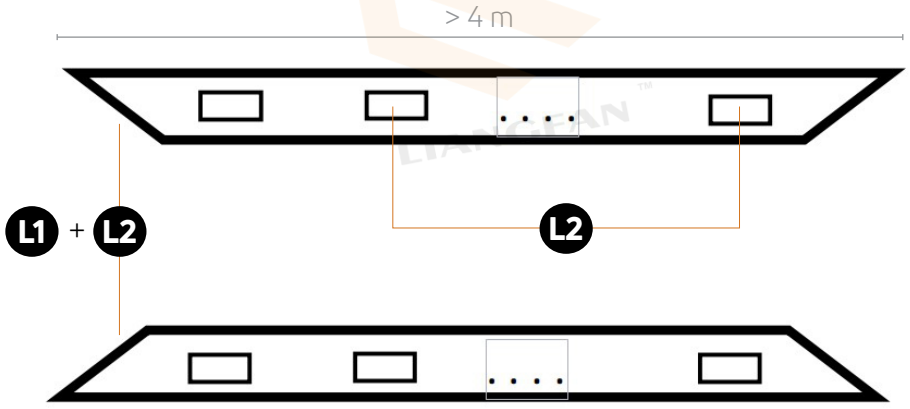
STEP 13.2

Inserting the blades with connecting wire rope

If the frame is longer than **4 m**, some blades have reinforcement bindings inserted into their axis.

Number of those blades depends on the lenght of **L1, L2 profiles**.

Positions of these blades are determined by service holes **(1)** on the top of the longitudinal frame profile.



STEP 13.3 Inclination of blades

For water to outflow properly, the blades must have a certain inclination.

The inclination of the blades differs between different Pergola Agava models.

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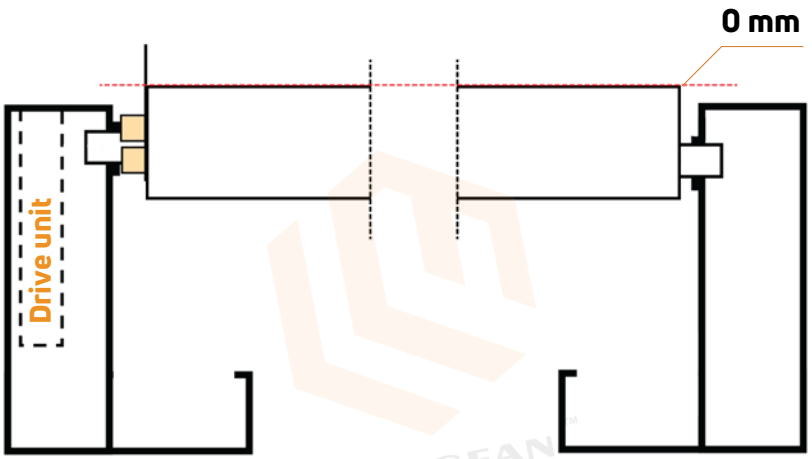
The difference in blades position height is **0 mm**.

The inclination of the blades can be achieved by inclining the frame (STEP 8.1 and 8.2)



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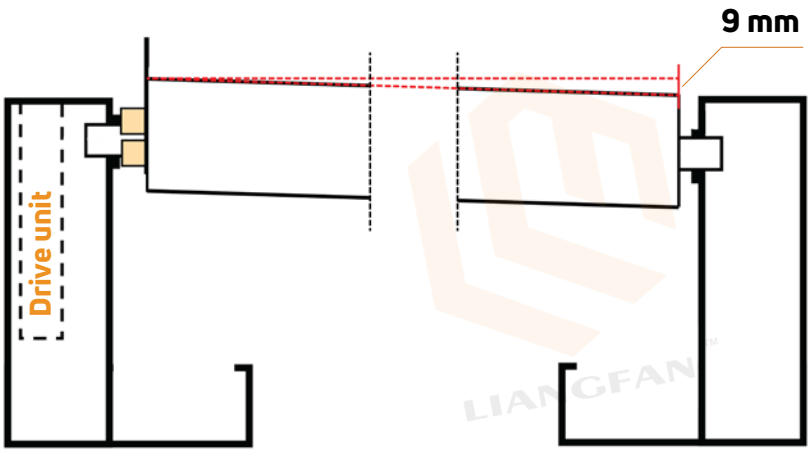
The difference in blades position height is **9 mm**.

The blade is declining from Drive unit side.



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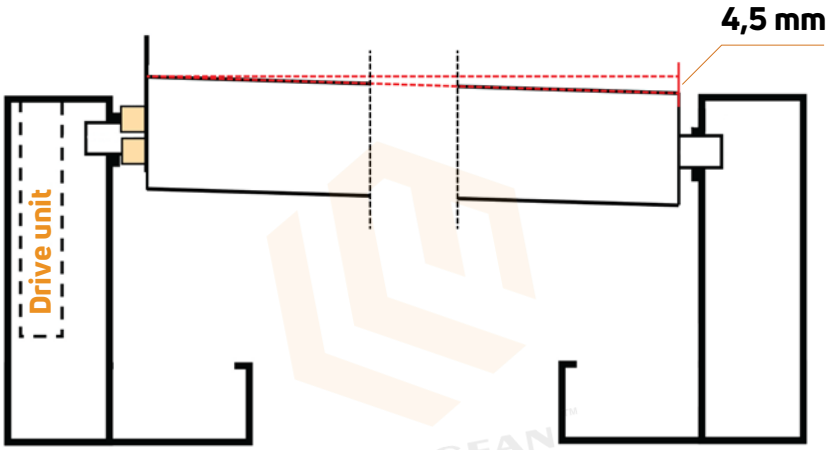
The difference in blades position height is **4,5 mm**.

The blade is declining from Drive unit side.



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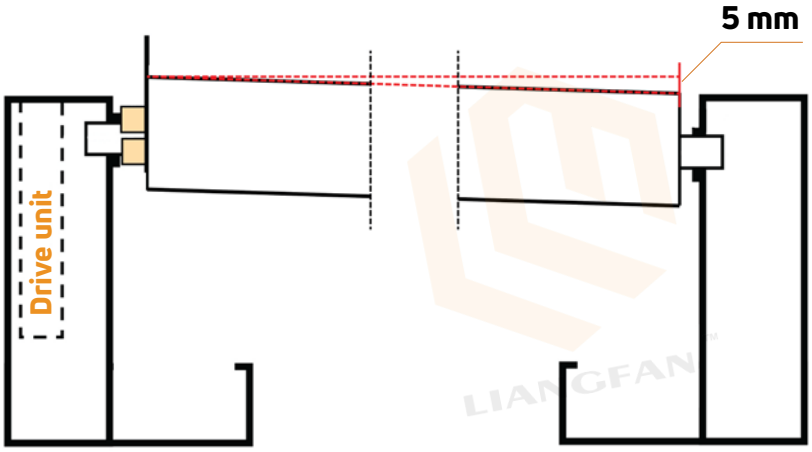
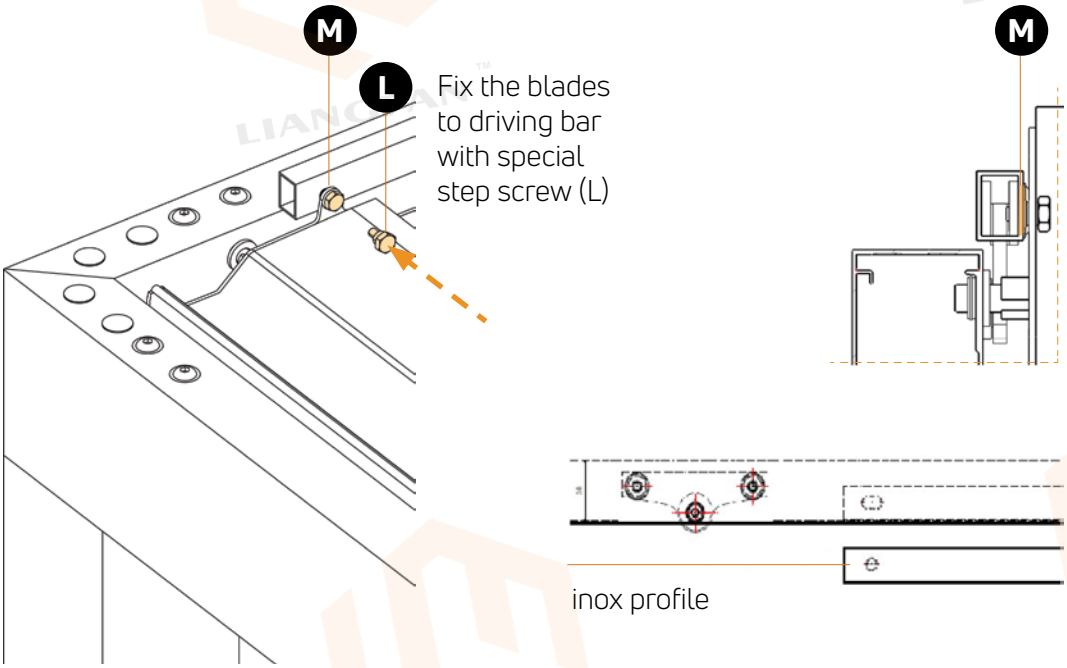
The difference in blades position height is **5 mm**.

The blade is declining from Drive unit side.



STEP 14

Connection of blades to drive bar



STEP 14.1

Adjustment of closing of the blades

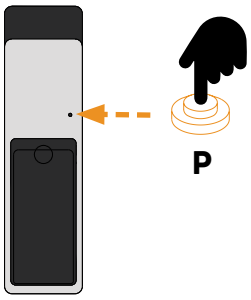
1. On the side where the blades are still open, unscrew the blades.
2. Move the inox profile **1 mm** from the center towards the corner of the pergola, where the blades are not fully closed.
3. Fasten the blades with **L-screws** and Make **"self-test".**
4. For security reason we suggest to block alu bar and inox plate together with **M6 screw and nuts.**

STEP 14.2

Self test - Self learning of limit switches

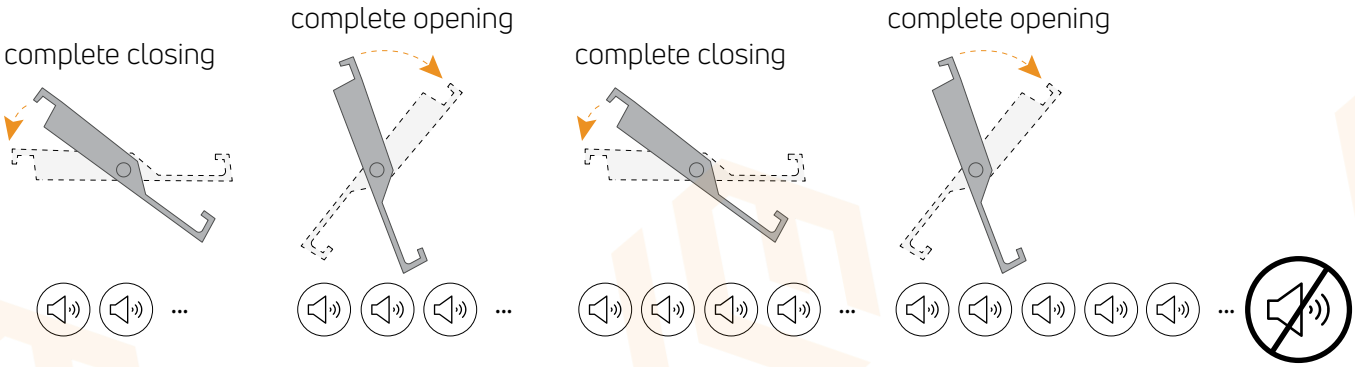
When you fix screws, make a **"self-test" on Remote Control.**

1. Press **P** and hold it about 10s until it's signalled by a sound.



DO NOT change the DIP configuration. This change would be signalled by a new intermittent sound and flashing of L3 on Teleco driver and would require a new configuration procedure.

2. **Motor 1** and **Motor 2** configuration.

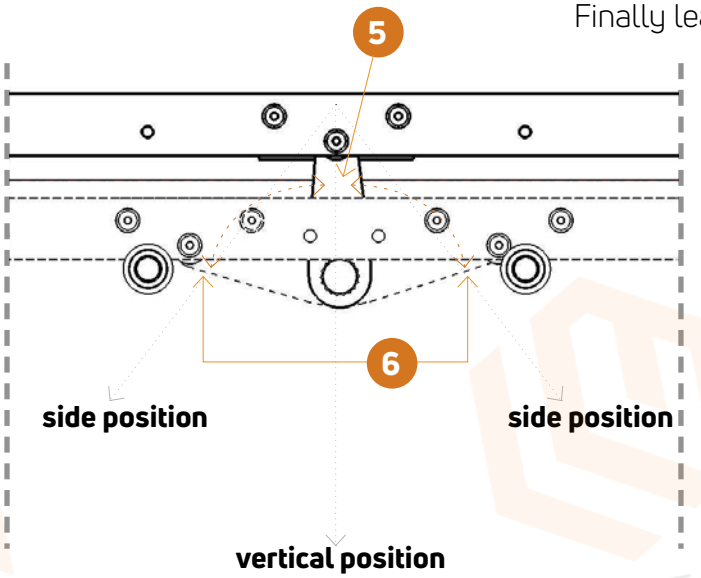


If the "self-test" failed and blades dont open and close correctly, you have to set them manually.

Move the rotating lever 5 to the both end positions 6 .

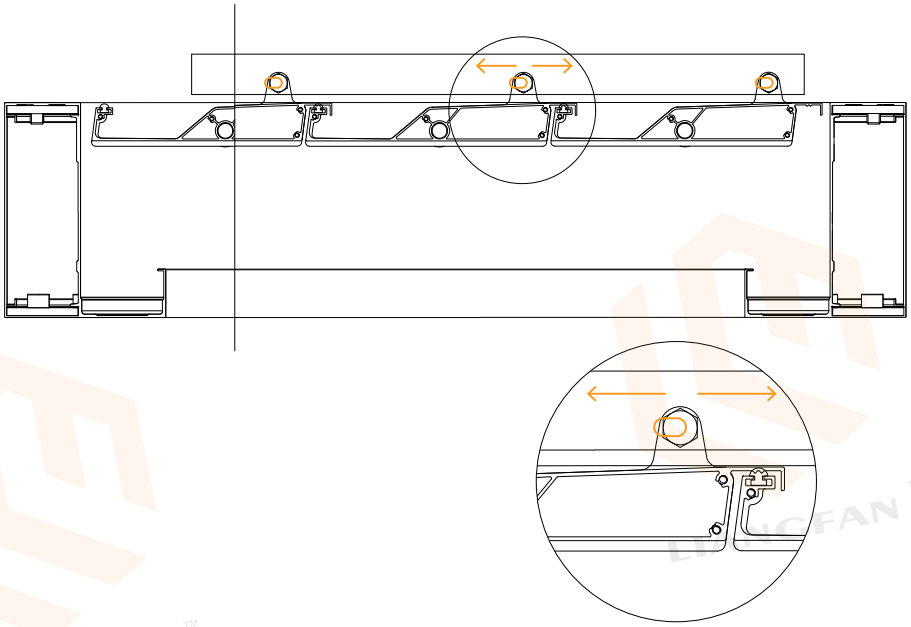
Follow the instructions for driving the drive (Chapter G).

Finally leave your lever in a vertical position.



ADJUSTING THE SCREW

Adjust the special step screws (L) by moving them on to the left or right.

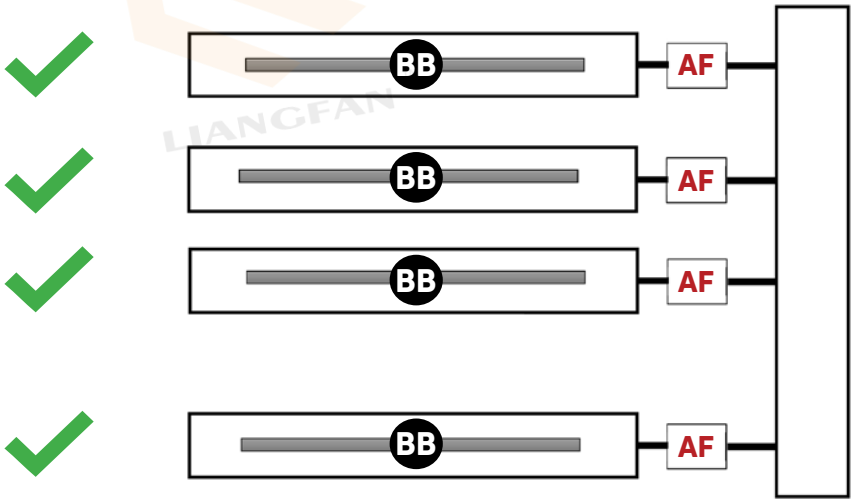


STEP 14.4

Connecting the sockets and testing integrated LED lights

1. **LED LIGHT**
Connecting of plug and socket on **AF** joint.

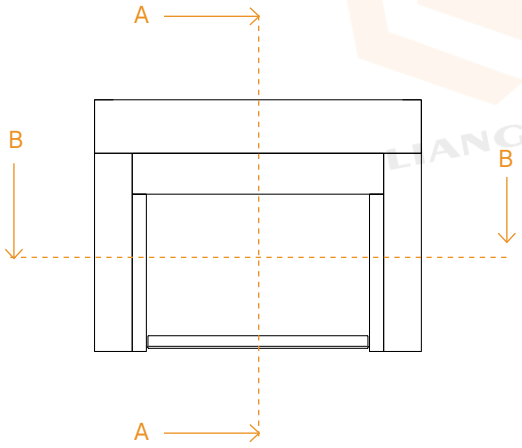
2. **TESTING LED LIGHTS**
Use the remote control and follow the instructions, OPTIONS chapter. Check if **all LEDs** are **ON** and **OFF**. When testing is complete, disconnect the connectors (**AF**). **BB blades** have integrated **LED lights**.



OPTIONS

ZIP ROLLER BLIND

Front view

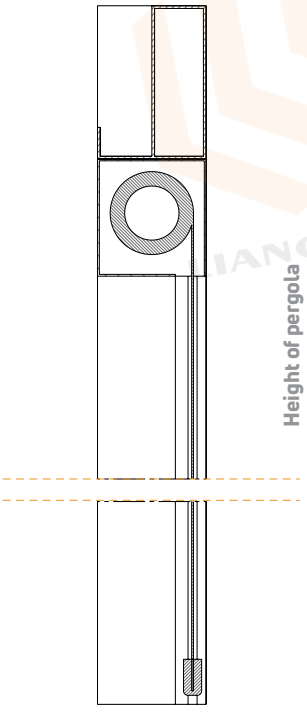


Guides of the **roller** 1 left and right, must be fixed on the **posts** 2

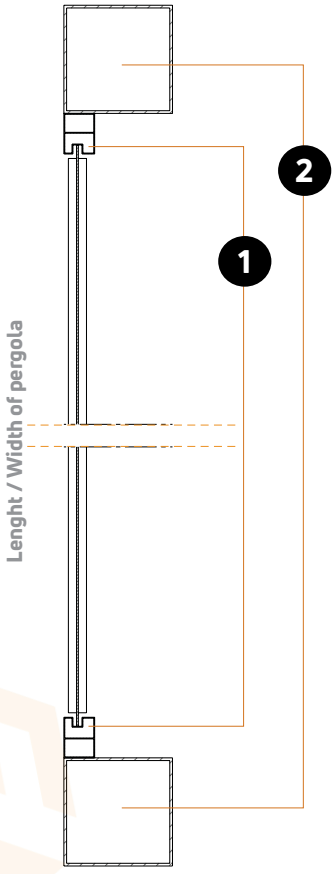
Use self-tapping screw.

The outer side of the post and the outer side of the guide must be in the same plane.

Section view A-A



Section view B-B



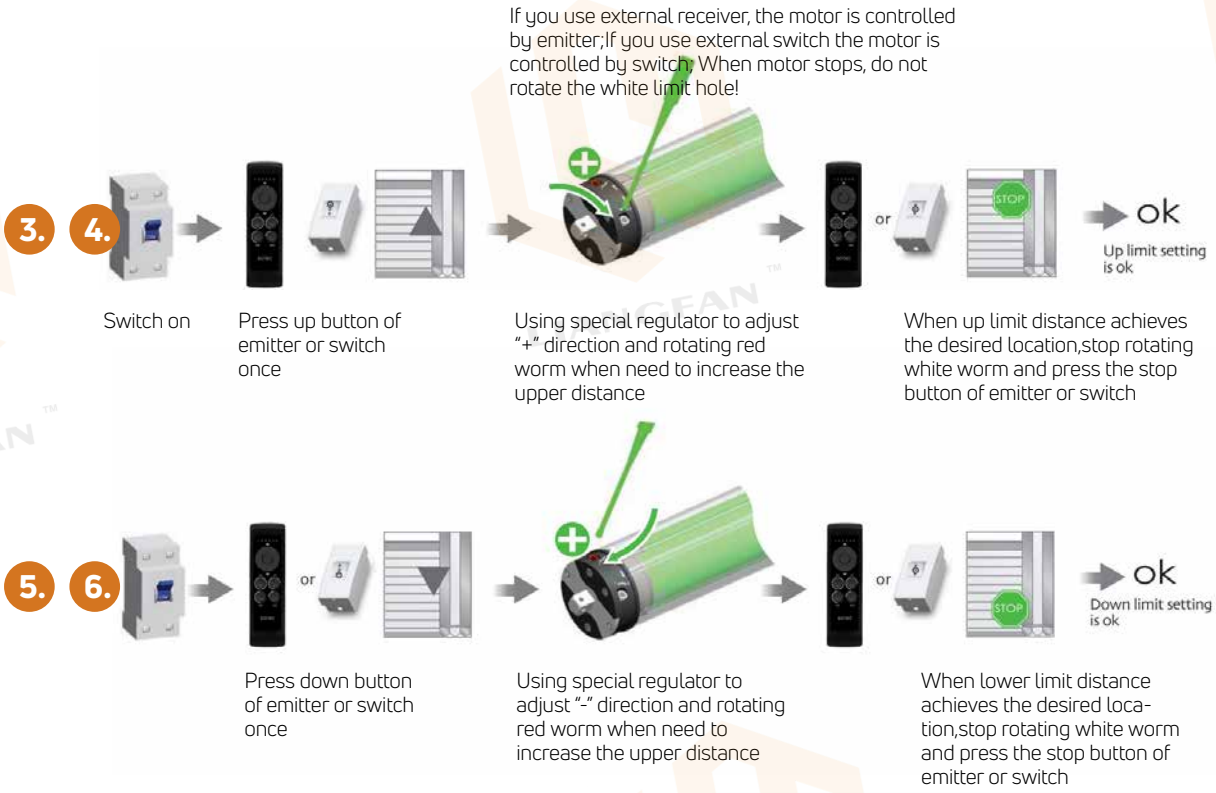
OPTIONS

ZIP ROLLER BLIND

1. Open **ZIP roller blind Cassette**, that is mounted on the profile.
2. Locate the **setting tool** with **-** and **+** point.

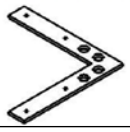
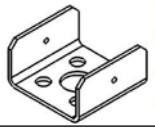
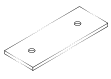
TOP AND BOTTOM LIMIT SETTINGS: ZIP Rolo setting stick is used with electric drill machine to adjust TOP and BOTTOM Points.

3. Use the remote control to lower ZIP roller to its available **highest Point**.
4. Insert the stick into the adjustment point **+** and screw it to lower roller to its **TOP Point**.
5. Use the remote control to lower ZIP roller to its available **lowest Point**.
6. Insert the stick into the adjustment point **-** and screw it to lower roller to its **BOTTOM Point**.



ITEM TYPE LIST 2

	Number of pieces	Mark on the sketch	
Longitudinal frame profile with motor and holes for blades length = L with components: - motor unit, - drive unit inside the profile, - drive batten with screws Ø10/M6 x 19 and washers M6 - cover plates for service holes for motor & connecting wire ropes with screws M5 x 10 - cables with connectors AG, AF, AH - plastic bushes.	1	L1	
Longitudinal frame profile without motor and with holes for blades length = L with components: - cover plates for service holes for connecting wire ropes with screws M5 x 10 - plastic bushes	1	L2	
Transverse frame profile with service hole length = W with components: - control unit for motor - cover plate with screws M5 x 10 - cables with connectors AG, AF, AH - transformator 1 1 0 - 24V - control unit for ZIP roller blind or heater or LED light, if it is in order	1	W1	
Transverse frame profile length = W	1	W2	
Post with components: - ALU and stainless steel plate welded to the post for screwing a post to the frame	2		

	Number of pieces	Mark on the sketch	
Blade with components: - kingpin long and short - blade covers - sealing rubber	n1		
Blade with LED light with components: - kingpin long with holes for cable - kingpin short - blade covers - sealing rubber - LED light, cable and connector	n2		
Blade with connecting wire rope with components: - kingpin long and short with holes for wire rope - blade covers - sealing rubber - wire rope - nuts M6 self-locking hex - washers M6 large flat	n3		
L-angle upper	4	AA	
L-angle lower	2	AB	
L-angle lower, connecting & with threads	2	AC	
U - support stainless steel foots	2	AD	
Metal plate for supporting post	1	Y	
Metal plate for fixing the frame to the wall ALU	m	R	

	Number of pieces	Mark on the sketch	
Screw M10 x 20 inbus round head with collar	26	A	
Screw M10 x 35 inbus socket head cap	18	B	
Screw M6 x 16 inbus round head with collar	4	C	
Anchor bolt M12 x 135	4 + m	E	
Distance plastic bush	n	N	
Rubber washer	2		
Plastic caps Ø18 for screw holes	18	P	
Plastic caps 5/4" for wall fixation holes	m	Q	

n - number of blades

m - number of holes in the wall

	Number of pieces	
Remote control	1	
Rain sensor	1	
Wind sensor	1	
Temperature sensor	1