

## **TECHNICAL AND OPERATING DOCUMENTATION**

ASSEMBLY INSTRUCTIONS,  
OPERATION AND SAFE USE

(original instructions)

- 5. Steel and aluminium components and assemblies
- 5.13. Pergola SB350

**PRODUCT NAME:**

**ALUMINIUM CONSTRUCTION  
PERGOLA SB350**

**THE PRODUCT MANUFACTURER'S DESIGNATION:**

- Manufacturer name:  
SELT Sp. z o. o.  
KRS 0000589791, share capital: PLN 64,000,000  
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- Webmail address:  
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**PRODUCT SAFETY MARKING:**

The product meets CE safety requirements.

**THIS TECHNICAL AND OPERATIONAL DOCUMENTATION:**

- is valid from: 02 October 2023.
- applies to the product versions marked above.

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## 1 INTRODUCTION

### 1.1 PRODUCT SAFETY GUIDELINES.



The product has been manufactured in accordance with the latest technical knowledge in design and manufacturing technology and complies with the safety requirements in accordance with the following standards.







Lp.	Subject	European legal basis	Polish Legal Basis
1	Construction of steel and aluminium structures Part 1: Principles for assessing the conformity of structural components	EN 1090-1:2009 +A1:2011	PN-EN 1090-1+A1:2012
2	Blinds including external slatted blinds. Performance requirements including safety	EN 13659:2015	PN-EN 13659:2015
3	Construction products (CPR)	Regulation 305/2011 of the European Parliament and of the Council	Act of 16.04.2004 on construction products (i.e. Journal of Laws 2020, item 215), as amended.
4	Essential requirements for machinery	Directive 2006/42/EC of the European Parliament and of the Council	Regulation of the Minister of Economy of 21.10.2008 on essential requirements for machinery (Journal of Laws 2008 No. 199 item 1228), as amended.
5	Low Voltage Directive (LVD)	Directive 2014/35/EU of the European Parliament and of the Council	Regulation of the Minister of Development of 2.06.2016 on requirements for electrical equipment (i.e. Journal of Laws 2016, item 806) Act of 13.06.2019 on the system of conformity assessment and market surveillance (Journal of Laws 2019 item 544) with subsequent amendments
6	Electromagnetic compatibility (EMC) directive	Directive 2014/30/EU of the European Parliament and of the Council	Act of 13.04.2007 on electromagnetic compatibility (i.e. Journal of Laws 2019, item 2388) Act of 13.06.2019 on the system of conformity assessment and market surveillance (Journal of Laws 2019 item 544) with subsequent amendments

Related documents: Declaration of Performance for compliance with EN 1090-1:2009 +A1:2011, Declaration of performance in accordance with EN 13659:2015 and instructions for installation, use of motors and control.

### 1.2 EXPLANATION OF SYMBOLS AND SIGNS

The following symbols (pictograms) indicate particularly important hazard and safety information.

Pictogram	Meaning of the pictogram	Information
	INFORMATION	Read the instruction manual before using the product. Compliance with the operating instructions is a condition: - failure-free operation of the product, - intended use, - to retain entitlements under, inter alia, the guarantee. For the safety of persons, keep the instructions.
	INFORMATION	No harmful or hazardous consequences for people or objects.

	NOTE!	Situation likely to cause damage to the product or requiring action by the user. No risk to humans.
	DANGER!	This symbol indicates all safety information, the non-observance of which poses a risk to life or health of persons. Risk to health or life. Risk: danger of serious injury or death. Dangerous operation that could cause injury or damage to the product.
	WARNING!	Risk to health or life through electric shock.
	DANGER!	Danger of crushing hands.
	WARNING!	Danger of head injury.
	ENVIRONMENT	Marking of electrical or electronic equipment subject to collection at designated points.

### 1.3 TERMS AND DEFINITIONS

The terms and definitions used in this documentation mean:

**Product (Goods): PERGOLA SB350**

The Pergola SB350 system is made of powder-coated aluminium profiles and stainless steel elements. The roof structure is made of movable aluminium blades. The blades have the possibility to change the angle of inclination. The product structure is offered as standard in a colour specified by the manufacturer.

**NOTE:** the kit consists of: two longitudinal beams (drive and bearing), two cross beams (front and rear), gutters, posts, feet, moving roof consisting of aluminium blades, concealed linkage with pins and motor built inside the beam.

**Movable roof:**

It consists of blades attached to transverse beams with adjustable blade angles. The blades are moved using a mechanism driven by an electric motor.

**Blade:** Part of the product, made of extruded aluminium profiles with an aesthetic appearance. The shape of the tongue allows rainwater to be drained away from the roof surface within the design limits (cf. section 2.2) and protection from the sun's rays and snow load to a limited value (cf. section 2.2).

**PERFORMANCE VERSIONS:**

**Freestanding** - Self-supporting structure incorporating a single mobile roof module supported by four corner posts. All have a drainage feature.

**1.4 SUBJECT MATTER, PURPOSE AND CONTENT OF THE DOSSIER**

The products manufactured by **SELT Sp. z o.o.** are the subject of this documentation.  
The documentation applies to all types of **PERGOLA SB350**.



The operating and safety instructions, together with the engine manual, must be handed over to the end user.

**GRAPHIC INSTALLATION INSTRUCTIONS ARE A SEPARATE DOCUMENT.**

It is essential for the safe and correct assembly of the product.

**IMPORTANT SAFETY INSTRUCTIONS  
WARNING - FOLLOWING THESE INSTRUCTIONS IS ESSENTIAL  
FOR THE SAFETY OF PERSONS  
KEEP THIS INSTRUCTION**

The documentation is part of the delivery of the product and should be kept close to it at all times.

The documentation includes:

- important recommendations for the use and maintenance of the product,
- important recommendations for transport and storage,
- guidelines to be followed for the operation of the product.

**SELT Sp. z o.o. shall not be liable for damage resulting from failure to observe the recommendations contained in this documentation.**

In order to further improve the product, SELT Sp. z o.o. reserves the right to make changes which, while maintaining the essential technical parameters, are deemed advisable in order to increase the product's quality of service and safety of use.

The copyright for this documentation remains with SELT Sp. z o.o. in Opole. Without the permission of SELT Sp. z o.o., the documentation may not be used in any way, either in whole or in part.

**2 TECHNICAL PRODUCT INFORMATION**

The technical product specification is available by logging on to [www.selt.com](http://www.selt.com).

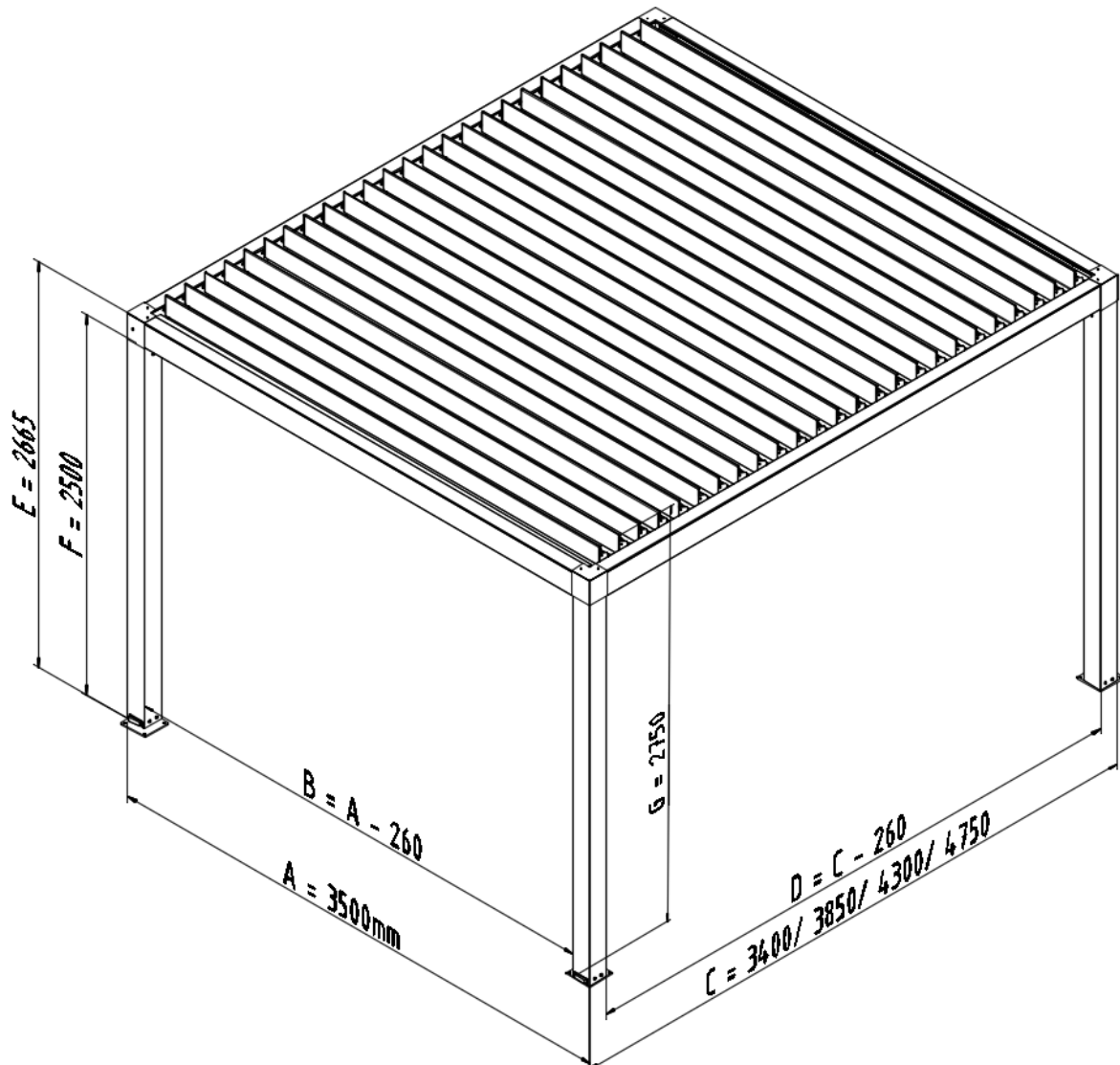
**2.1 TECHNICAL PARAMETERS:****Pergola SB350 - free-standing**

Fig. 1 Pergola SB350 free-standing Overall dimensions: **A** - fixed width, **C** - length (4 dimensions available), **E** - frame height (2665 mm), **F** - frame clearance, **G** - maximum height of the position of the blade angle change mechanism (~2750 mm).

System module dimensions:	Width*	Overhang*	Height*	Clear height*
Load-bearing structure	3500 mm (fixed)	3400 or 3850 or 4300 or 4750 mm	up to 2750 mm** (**-status of raised blades)	2500mm (fixed)
Axial spacing of roof blades	150 mm			
Difference in pen tip attachment (transverse gradient - pen axis)	No			
Scope of use / operation				
Ambient temperature (min/max)	+5 to +40°C (moving roof opening/closing)			
Air humidity (max)	90% non-condensing (opening/closing moving roof)			
Drives (drive types):	Linear motor. The motor can be operated via an external radio control unit.			
Connection to the electrical system	a power cable of approximately 4 m (the cable should be properly secured after installation).			
Driven by an electric motor with parameters:				
Engine model	24V DC motor			
- supply voltage	24 V DC			
- power	43 W			
- current consumption	1,8 A			
- degree of protection	IP 67			
- continuous operation time	up to 2 min (depending on ambient temperature)			
- extension, axial force	max 250 mm, pull-out force 600N			
- ejection speed	approx. 10.5 mm/s			
- operating temperature (min/max)	-20°C to +60°C			
Assembly:				
Application	External			
On-site assembly	For load-bearing substrate			
Drainage:	For all 4 columns with the possibility of blocking in each gutter one drain to the column (which reduces drainage capacity)			

\*-Tolerances on external dimensions are +/-10 mm.

Detailed engine performance data is available on the engine manufacturers' websites and on the website:

[www.selt.com](http://www.selt.com) → OUR OFFER → AUTOMATION



## 2.2 PRODUCT CHARACTERISTICS

The products manufactured by SELT Sp. z o.o. have appropriate technical and performance parameters.

### List of product types:

- free-standing,
- mounted outside the building, operated by means of an electromechanical drive connected to the with a control system,

### They are characterised by the following features:

- Electrically-openable roof (blades), designed to provide protection from the sun as well as the rain (according to the parameters of the product and its location).
- Permissible use of the product outdoors in accordance with the product parameters.
- The location, finish, installation method and seals used, as well as intense weather conditions, including heavy rain and/or snow, have a major impact on the level of rain protection the product provides.
- Movable roof blades allow the sunlight to be regulated.
- Hidden motor and drive mechanism.
- The upper chamber of the beams, which is closed with a revision, allows cabling to be distributed.
- The application and use of the product should take place within the limits of the size limited by the third wind class according to EN 13659) and/or the maximum snow load.
- Starting the rotation of the blades during snowfall, icy conditions or when there is snow or ice on the roof, as well as use outside the temperature ranges specified in the instructions, is not permitted and may result in damage to the product or even personal injury or death.
- It does not emit toxic substances during its lifetime.
- Noise emissions from an electromechanically driven product (related to the working movement of moving parts, produced by the electric motor, mechanism and pens during operation) are not considered a significant hazard and are a matter of comfort.
- The product's motor has an enclosure protection rating of IP 67.
- The design of the product and drive allows the blades to be stopped at a selected angle in their working area.
- The rotary movement of the blades, can be activated by a manual switch or by remote control.
- Variations in the closing angle of the movable roof blades can be around 2° and are a natural feature of the system due to the manufacturing tolerances of the components and their adjustment during installation.
- The guards for the moving parts are designed and manufactured to ensure the safety of the operators, assuming they are operated correctly.
- Vapour may condense on the product and especially on the lower part of the product and water may run off or drip.
- Waterproof, aesthetically pleasing drainage via integrated gutter and columns with drains.
- Drainage is to two gutters and all posts, possible blockage of 1 drain per gutter.
- The maximum drainage capacity drains rain up to 0.05 l/s/m<sup>2</sup> with a maximum duration of 5.3 minutes (with 4 drainage holes).
- Permitted use for snow protection (up to 30 kg/m<sup>2</sup> )-as an even layer of uniform height.

## 3 TRANSPORT AND STORAGE OF GOODS

### 3.1 COMPLETENESS AND QUALITY CONDITION OF THE DELIVERY

The goods of SELT Sp. z o.o. are in accordance with their production technology. In the case of any reservations concerning the product or damage to its packaging, such reservations or remarks should be notified to the driver / warehouseman / assembly team and marked on the WZ document under pain of losing any claims on this account, and a protocol describing such reservations or remarks should be drawn up with the participation of the driver.

At acceptance, mechanical defects, scratches, cracks, etc., as well as quantitative objections must be reported in particular, under penalty of being deemed not to exist. Hidden defects must be reported in accordance with the warranty or guarantee conditions.

### 3.2 GENERAL CONDITIONS FOR TRANSPORT AND STORAGE OF THE PRODUCT

**List:**

- The product is pre-packed in a cardboard box, which protects it from damage during storage, during transport and during its movement to the final installation site,
- the products to be transported/stored must be placed according to the arrows on the product packaging,
- products should not be stored in more than 2 layers due to the possibility of crushing the packaging, which may result in permanent damage to the product,
- do not load the product packaging with other objects,
- products placed on the means of transport must be secured against displacement and damage during transport (e.g. spacers, safety belts, etc.),
- during transport the products must be protected from rain or snow,
- storage areas should be dry, ventilated and protected from the harmful effects of the weather (sun, rain, etc.),
- if the weight of the product exceeds 25 kg, its transport to the place of final assembly must be carried out by at least two persons (depending on the weight of the ordered product).

### 3.3 DESCRIPTIONS THAT MUST MANDATORILY APPEAR ON THE PRODUCT PACKAGING.



Before installing and using the product, carefully read the technical and user documentation available by logging on to <http://www.selt.com/dte-pl>.

## 4 ASSEMBLING THE PRODUCT

This chapter contains the general requirements for the installation of the product.



**Note: The graphic assembly instructions are a separate document necessary for the correct and safe assembly and operation of the product**

Correct installation is a prerequisite for the correct functioning of the product.  
SELT Sp. z o.o. recommends the use of qualified fitters who will have the skills to assemble the product correctly.

### 4.1 GENERAL REQUIREMENTS FOR SAFE INSTALLATION

- the rules of the trade must be observed,
- the applicable health and safety regulations must be complied with, particularly with regard to the safety of working with electrical equipment and working at heights,
- the product must be fixed mechanically; foams, adhesives or similar materials must be used in accordance with the recommendations of their manufacturers, taking into account the specific nature of the product,
- the base to which the handles of the product are to be attached should be of an adequate design,
- prior to installation, all unnecessary objects, including electrical cables, must be removed from the installation area (check the course of the installation in the area of the fixing points to ensure that they are not damaged), and the installation area must be marked and appropriate safeguards provided to protect people.

#### **Information table for the substrate to which the substructure is to be mounted**

The product should be mounted to a substrate with the right parameters or a substructure with the right parameters. The aforementioned requirements for the substrate and substructure require the assessment of a specialist and are the responsibility of the developer and contractor.

Other installation methods than those suggested by SELT are possible, provided that the requirements of building and safety knowledge are observed. In any case, this requires specialist knowledge and is done at the risk of the builder or contractor.

It is recommended that arrangements be made in this regard with an authorised designer.

### 4.2 REQUIREMENTS FOR THE SAFE INSTALLATION OF THE PRODUCT AT HEIGHT



The installation of the product, by necessitating work at height, is particularly hazardous work, as it poses a particularly high risk of danger to the safety and health of people, particularly falls from height.

It is the responsibility of the installer (hereinafter referred to as the Installer) or the party commissioning such work (hereinafter referred to as the Investor) to ensure that a health and safety plan is drawn up during installation.

The developer/installer should specify specific health and safety requirements when carrying out work at height, and in particular ensure:

- direct supervision of their execution by persons designated for this purpose (e.g. works manager, foreman),
- appropriate safety measures, primarily fall protection equipment,
- detailed instruction of workers performing work at height.

Work at a height of more than 2 m where personal protective equipment against falls from height is required must be carried out by at least 2 persons.

Work at height should be organised and carried out in a way that does not force workers to lean beyond the handrail of the railing or the outline of the device on which they are standing. It is not permitted to stand on parts of the product.

The Installer/Installer must ensure that only authorised and appropriately trained and informed persons have access to sites where works at height are being carried out. The Investor/Installer shall inform of the works at height being carried out and of the necessary safety measures to be observed during such works by persons present or likely to be present in or adjacent to the area where such works are being carried out.

### 4.3 PREPARATION FOR INSTALLATION

- unpack the product and check that all the components necessary for its installation are present,
- before installation, check that the substrate/substructure has sufficient load-bearing capacity for safe installation and operation.

**Note:**

It

is

up to the Installer/Investor to purchase and select the screws, dowels and bolts that connect the system to the structure of the building.

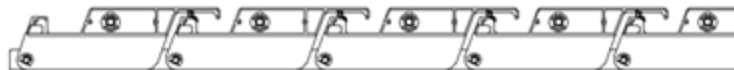
#### 4.4 GENERAL GUIDELINES FOR ASSEMBLING THE PRODUCT

- The SB350 pergola is an open outdoor terrace covering. The equipment under the pergola must be designed for outdoor use.
- 3 people are required to assemble the supporting frame safely.
- Incorrect installation or errors during installation can have serious consequences in the operation of the product.
- before starting the installation, check that the installation space is free of obstacles, including people and objects, and ensure that the installation space and the surrounding area are properly marked and secured,
- anchoring elements for mounting the product to the substructure are not included, as they should be selected individually by the installer depending on the material to which they are to be fixed (it is recommended to make arrangements with an authorised designer),
- the substrate/substructure must be load-bearing and able to withstand the forces generated by the anchoring of the product and during its use,
- Selt shall not be liable for damage or loss caused by the use of anchoring elements that are too weak or by anchoring in a substrate with insufficient load-bearing capacity,
- protect the product from soiling (e.g. mortar, installation foam, silicone) which may cause damage,
- if it is necessary to use polyurethane foam, silicone or other agents, it is essential to follow the manufacturers' recommendations on the packaging



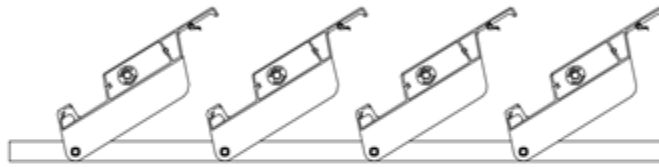
Incorrect installation can contribute to dangerous situations for the user.

System  
front



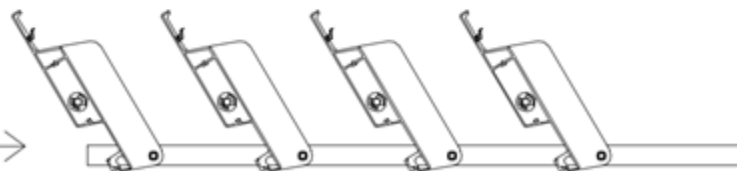
The Blades are closed

System  
front



The Blades are partly open

System  
front



The Blades are fully closed

Fig. 2. Standard blade opening direction setting on Pergola SB350

The illustrations are for illustrative purposes only and do not write off all product features, including those relating to the use of gaskets.

**Only the following sealant should be used for sealing: FIX ALL CRYSTAL from Soudal or a product with equivalent properties**



**Technical data (according to the sealant manufacturer):**

- consistency	Paste	Elongation after rupture	350% (ISO 37)
- time of epidermis formation	approx. 4 min. (at 23stC/ 50% RH)	Permissible deformation	+/-20% (ISO 11600)
-fast curing	Approx.4 mm/24h (at 23stC/ 50% RH)	Thermal resistance (after curing)	from -40 deg C to +90 deg C
- relative density	1.05 g/cm <sup>3</sup>	Flexibility module	0.6 N/mm <sup>2</sup> (ISO 37)
- Hardness (Shore A)	38 +/- 5	Max. stress	1.8 N/mm <sup>2</sup> (ISO 37)
Flexible return	>75% (ISO 7389)	Application temp.	from +5 deg C to +35 deg C

**4.5 ASSEMBLY TOOLS**



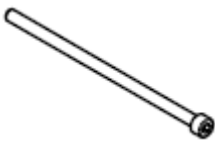

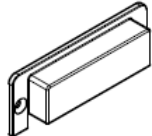


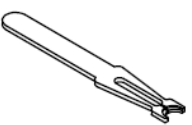
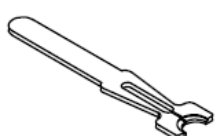




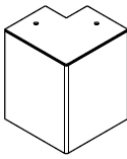


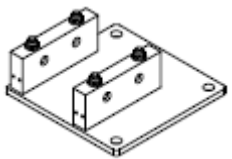
Instructions for assembly, operation and safe use are available at [www.selt.com](http://www.selt.com).

**List:**

- drills for metal and concrete,
- impact drill,
- anchors (except for SELT delivery)
- ladder x2,
- measure,
- hammer
- pencil/writer,
- spirit level,
- spanners,
- Allen spanner set,
- screwdriver with bit set
- silicone gun.

In addition, persons assembling the product must be provided with appropriate personal protective equipment (such as, but not limited to, protective clothing, gloves, helmet, safety goggles and others according to individual conditions, such as, but not limited to, height protection).

**Accessories added to the product (in packet 2):**

					
ISO 10642 M8x20 - <b>16 pcs.</b>	ISO 10642 M4x12 - <b>8 pcs.</b>	ISO 4762 M8x170 - <b>8 pcs.</b>	DIN 125 8.4 - <b>8 pcs.</b>	Drain cover - <b>4 pcs.</b>	Bushing drain - <b>4 pcs.</b>
					
Drain plug - <b>2 pcs.</b>	Key assembly - 7 - <b>1 pc.</b>	Key assembly -10- <b>1 pc.</b>	ISO 10642 M6x12 - <b>2pc.</b>	ISO 4017 M6-12 - <b>2 pcs.</b>	
					
ISO 7050 ST2,9x13 - <b>8 pcs.</b>	DIN 914 M6x8 - <b>2 pcs.</b>	Corner grille - <b>4 pcs.</b>	ISO 10642 M8x16 - <b>16 pcs.</b>	Silicone <b>1 pc.</b>	<b>Pole base - 4pc.</b> (2 pcs. left, 2 pcs. right)

								Item 26			
Sege DIN 6799-10				Sege DIN 6799-7				Spacer sleeve			
<b>Overhang [mm]</b>				<b>Overhang [mm]</b>				<b>Overhang [mm]</b>			
3400	3850	4300	4750	3400	3850	4300	4750	3400	3850	4300	4750
<b>32 pcs.</b>	<b>36 pcs.</b>	<b>40 pcs.</b>	<b>44 pcs.</b>	<b>23 pcs.</b>	<b>26 pcs.</b>	<b>29 pcs.</b>	<b>32 pcs.</b>	<b>7 pcs.</b>	<b>8 pcs.</b>	<b>9 pcs.</b>	<b>10 pcs.</b>

Item 35			
Bearing sleeve IGUS-8			
<b>Overhang [mm]</b>			
3400	3850	4300	4750
<b>23 pcs.</b>	<b>26 pcs.</b>	<b>29 pcs.</b>	<b>32 pcs.</b>



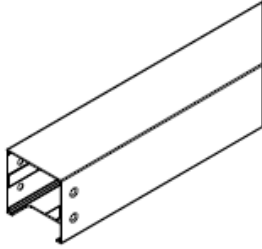
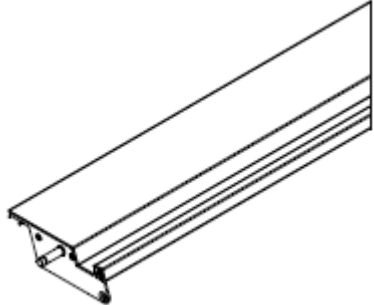
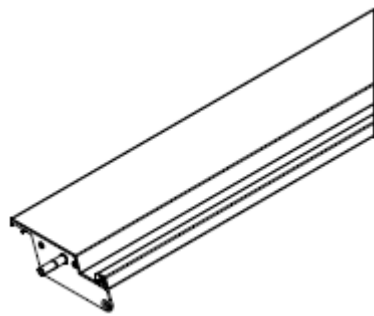
The motor is pre-mounted in the drive beam and connected to the power supply and the Pergola DC control unit. A 230 V AC power supply is required to be connected to the power supply via the blind hole with the choke below the Pergola DC control unit. The connection must be made by a person with the appropriate authorisation and qualifications.

**Numbering of shipping parcels:**

PACKAGE 1	
Item 11	Item 12
Crossbeam A - <b>1 pc.</b>	Crossbeam B - <b>1 pc.</b>

PACKAGE 2 (+accessories in this pack)		
Item 7	Item 21	
Longitudinal drive beam (right) - <b>1 pc.</b>	Cable - <b>1 pc.</b>	
	Remote control - <b>1 pc.</b>	Power pack - <b>1 pc.</b>

PACKAGE 3
Item 8
Thrust bearing beam (left) - <b>1 pc.</b>

PACKAGE 4/5	PACKAGE 6				PACKAGE 7	
Item 2/6	Item 20					
						
Pole - 2 pcs. per pack	Pen - 3 pcs. per pack				Drive pen - 2 pcs.	Item 17
	Overhang [mm]				Regular pen - 1 pc.	Item 20
	3400	3850	4300	4750		
	18 pcs. 6 packets	21 pcs. 7 packets	24 pcs. 8 packets	27 pcs. 9 packets		

4.6 ASSEMBLY



**Attention:**

Four installation variants are possible, differing in the positioning of the corner foot outline and the direction of drainage from the columns.

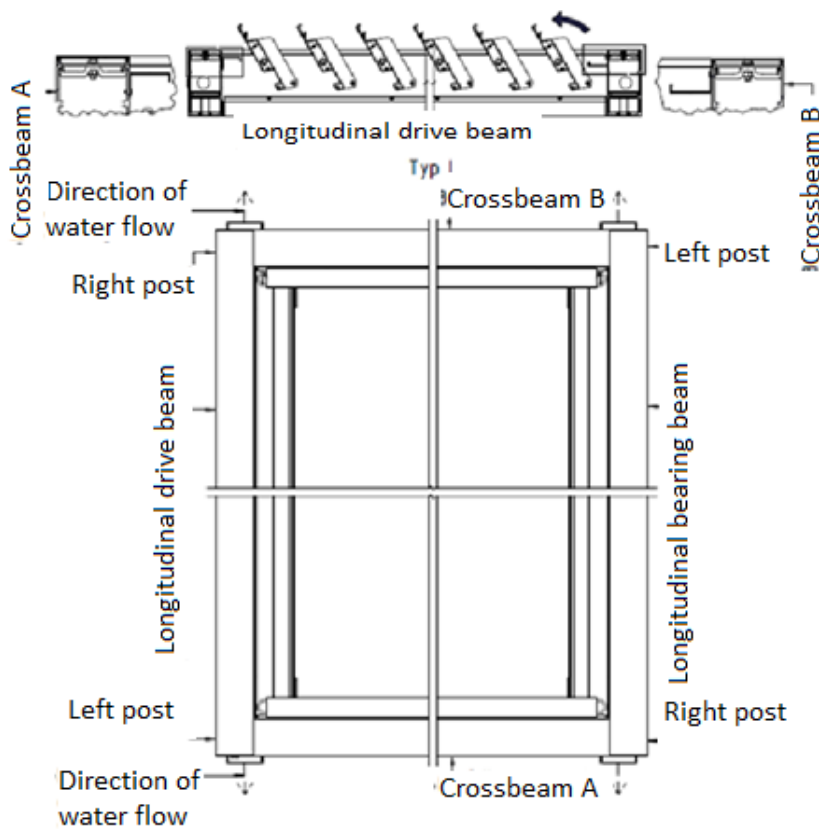


Fig. 3. Type I - feet flush to the outside and drain to the front/back.

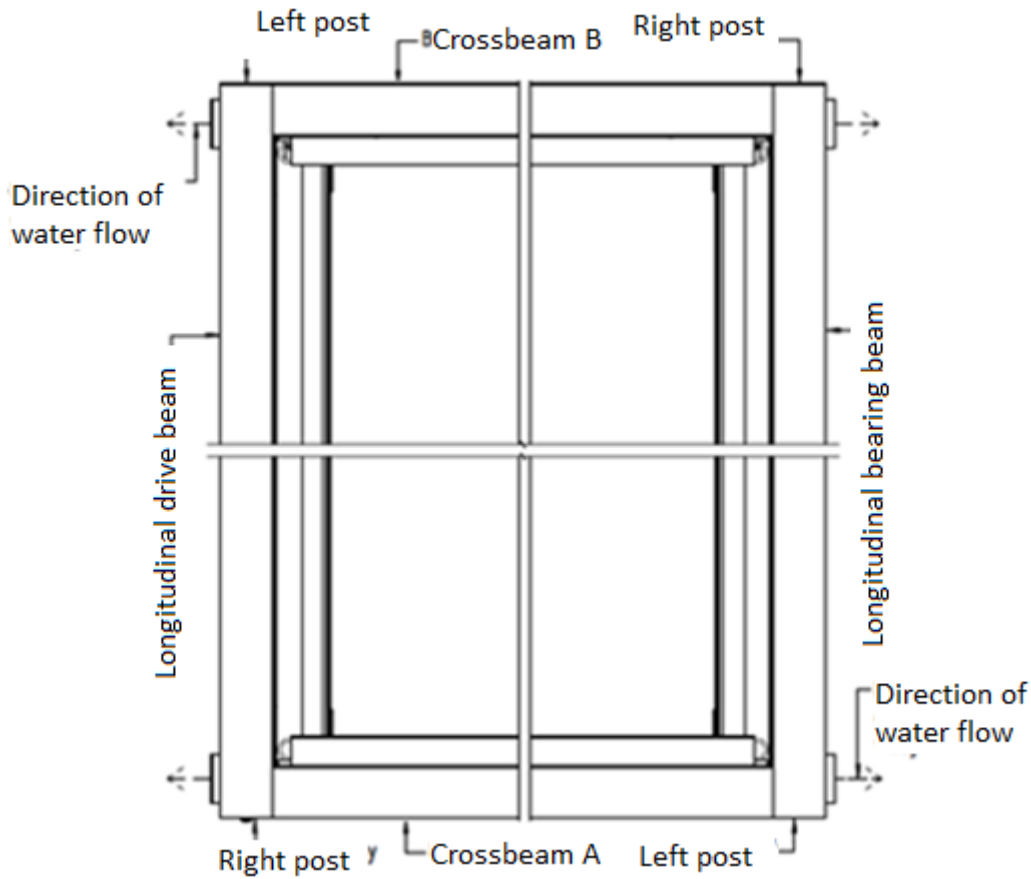


Fig. 4. Type II - feet flush to the outside and drain to the side.

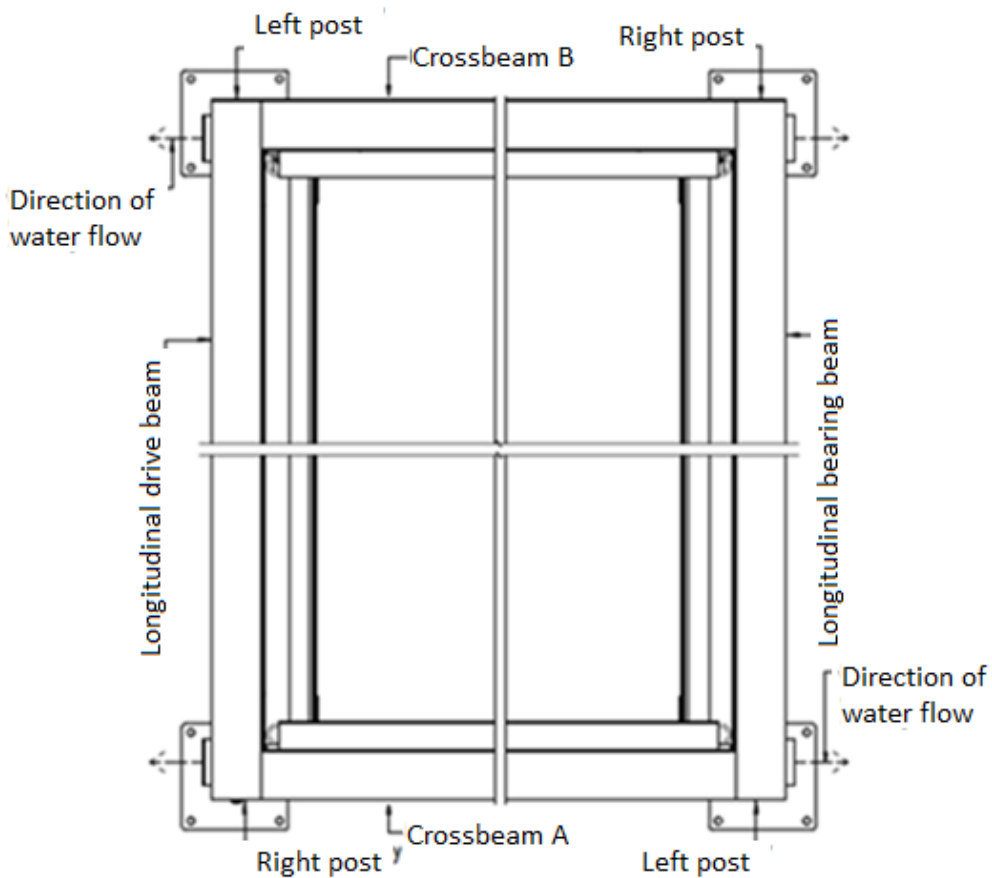


Fig. 5. Type III - feet projecting outwards and draining sideways.



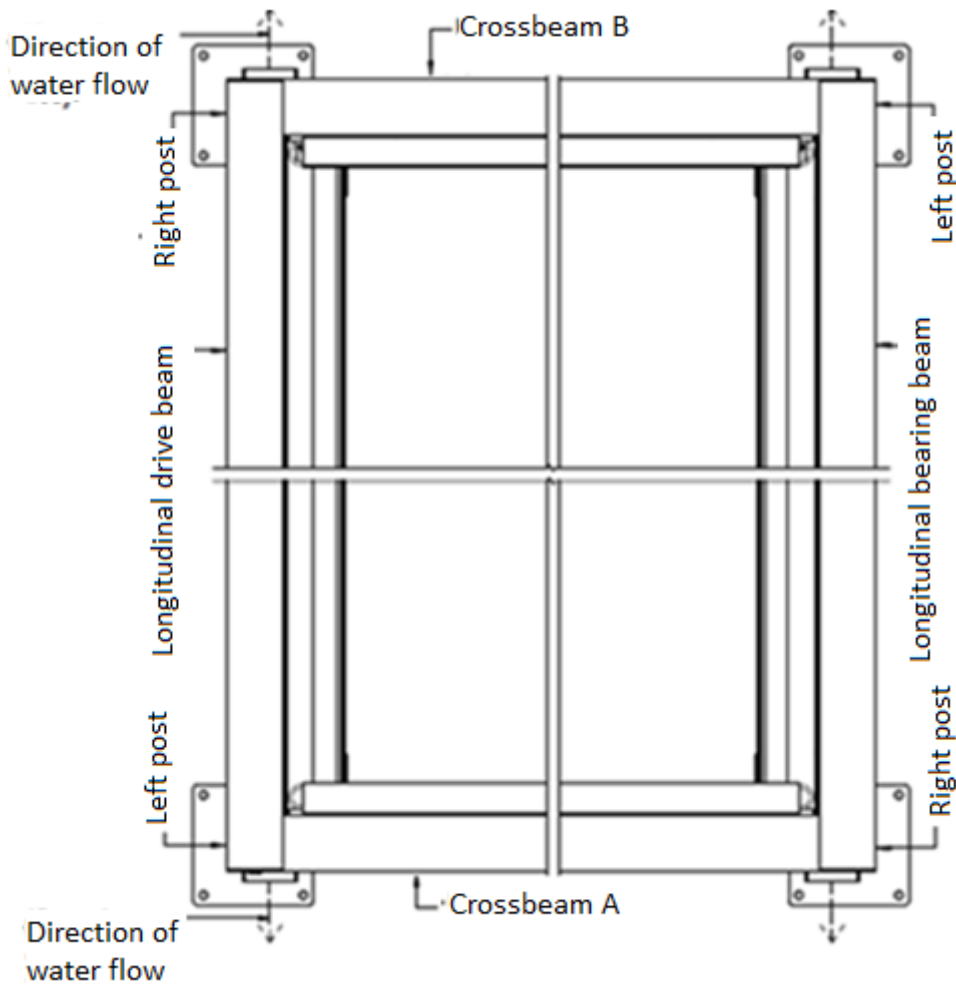


Fig. 6. Type IV - feet projecting outwards and drainage to front/back.

**Attention:**



- Before installation, the visual condition of the packaging of the components delivered for installation, the visual condition of the components and their completeness must be verified. SELT Sp. z o.o. shall not be held liable for any damage occurring after receipt (passing of risk).
- The components are supplied with packaging and a rudder cover for protection during assembly.
- Accessories (feet, bolts, screws, small and large circlips, small and large slip rings, silicone, remote control and aerial, keys for circlips, bezels, sleeves and gutter plugs) are packed in cardboard boxes.

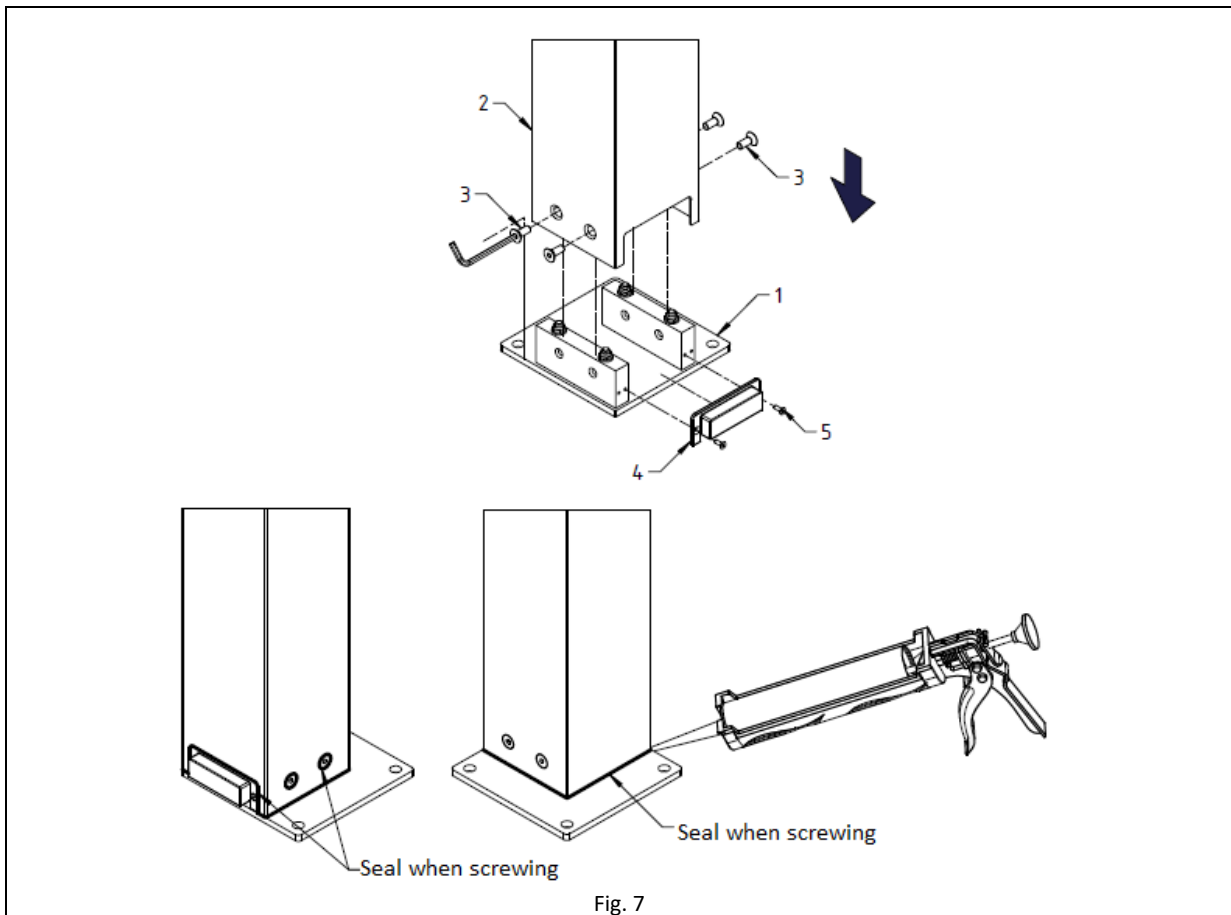
4.6.1 ASSEMBLY PERGOLA FRAMEWORK

**Attention:**

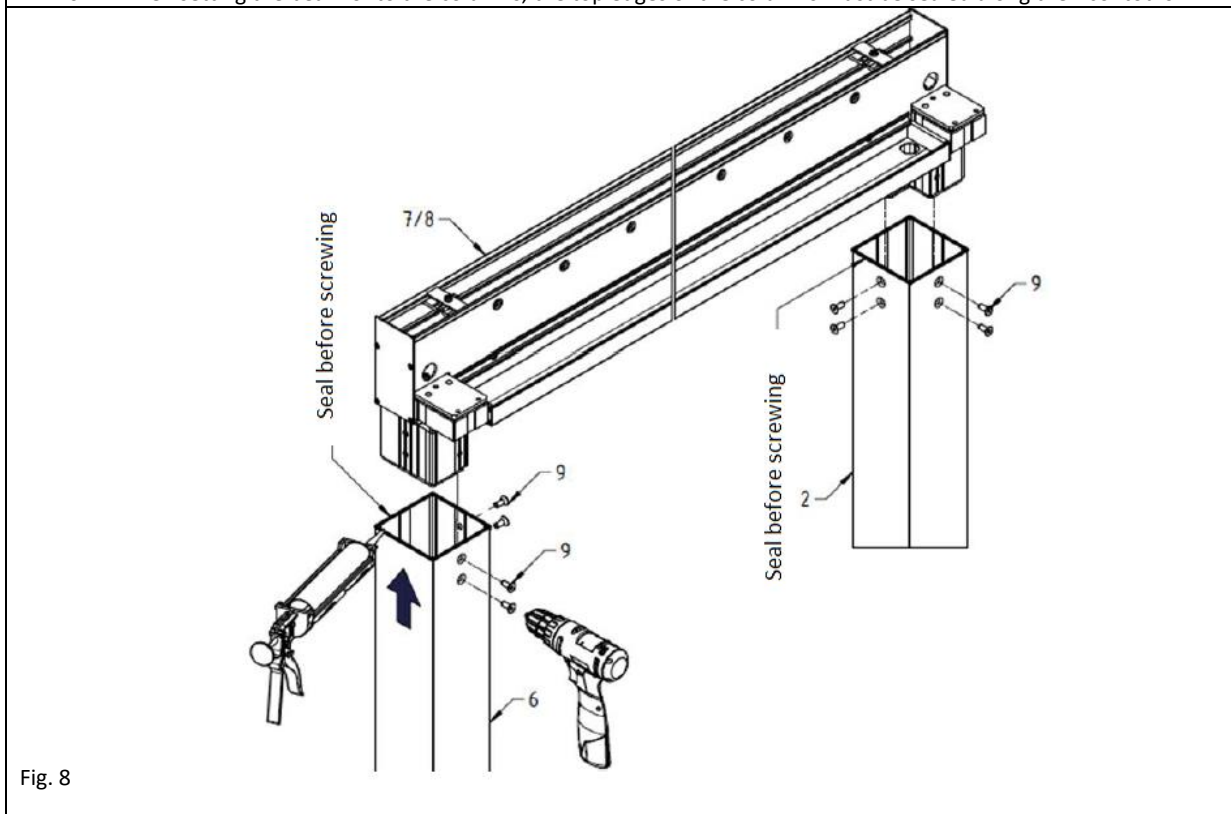


- The substrate provided for anchoring the pergola should be load-bearing and level.
- Choose from four dedicated footing and drain options

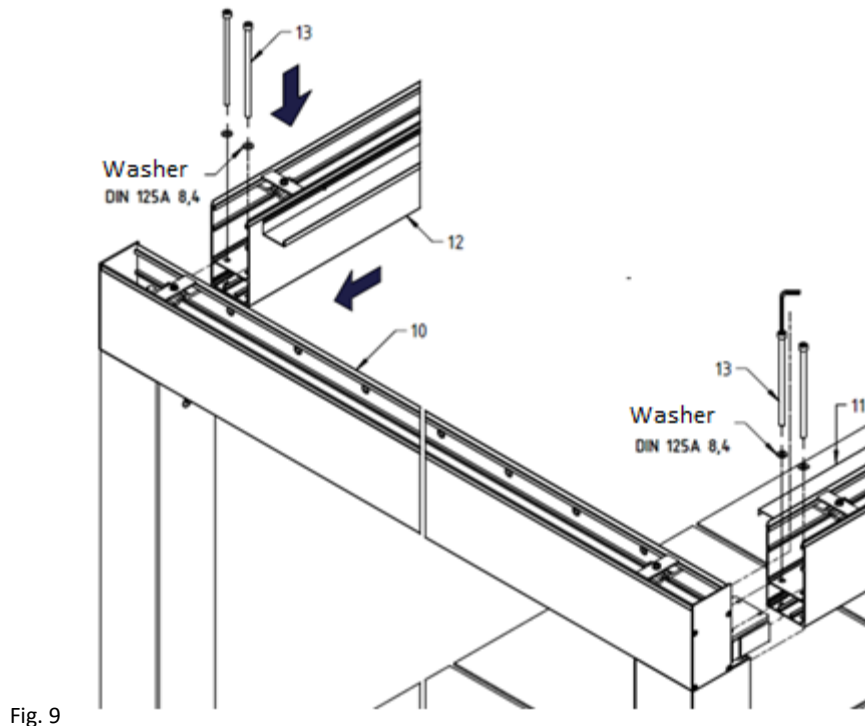
1. Assemble all 4 poles as shown in Figure 7.
2. Connect the pole base (1) to the pole (2) using the supplied ISO 10642 M8x20 screws (3).
3. Tighten the bezel (4) in the indicated position with ISO 10642 M4x12 screws (5). When tightening, seal the area where the bezel (4) connects to the base (1) and the post (2) as well as the locations of the screws (3) connecting the post (2) to the base (1).
4. Once bolted together, seal the joint between the post (2) and the base (1). This will allow water to leak out in front of the dedicated hole.



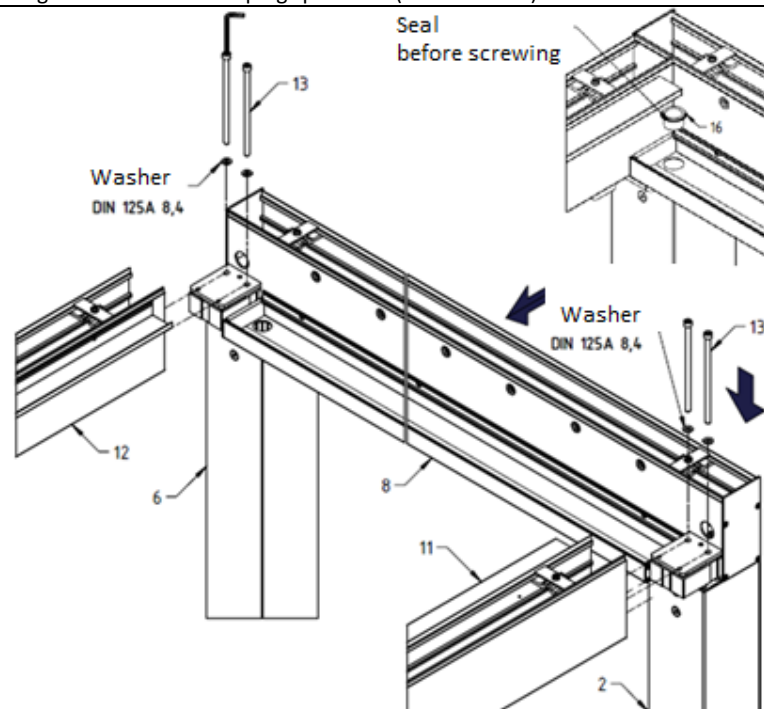
5. Screw the two gates comprising the post (right) (2) and the post (left) (6) to the drive thrust beam (7) and the bearing beam (8) with ISO 10642 M8x16 screws (9) as shown in Fig. 8.
6. When setting the beam onto the columns, the top edges of the columns must be sealed along their contours.



7. Place the bolted door with the drive beam (10) in an upright position and slide on crossbeam A (11) and crossbeam B (12) and bolt together using ISO 4762 M8x170 bolts (13) according to figure 9.
8. Support the other side of the crossbeams until the second door has been fitted. If the transverse beams cannot be slid over freely, loosen the bolts in the longitudinal beam (10).



9. On the cross-beams (11 and 12), slide on the other side the previously screwed door (see point 2) consisting of the left-hand (6) and right-hand (2) posts and the longitudinal bearing beam (8) as shown in Fig. 10. After sliding, screw the whole assembly together using ISO 4762 M8x170 screws (13). After assembling the structure, fit the silicone sealed drain sleeve (16) into the gutter drain holes (detail - fig. 11). It is possible to plug one selected drain hole in each gutter with the drain plugs provided (fix to silicone).



10. Once the entire structure is assembled, diagonals, distances and the correct levelling (horizontal and vertical) must be measured - Figure 11.
11. Once the structure is correctly positioned, anchor all the columns. After anchoring, seal the space between the transverse beam, the longitudinal beam and the gutter - Figure 12.

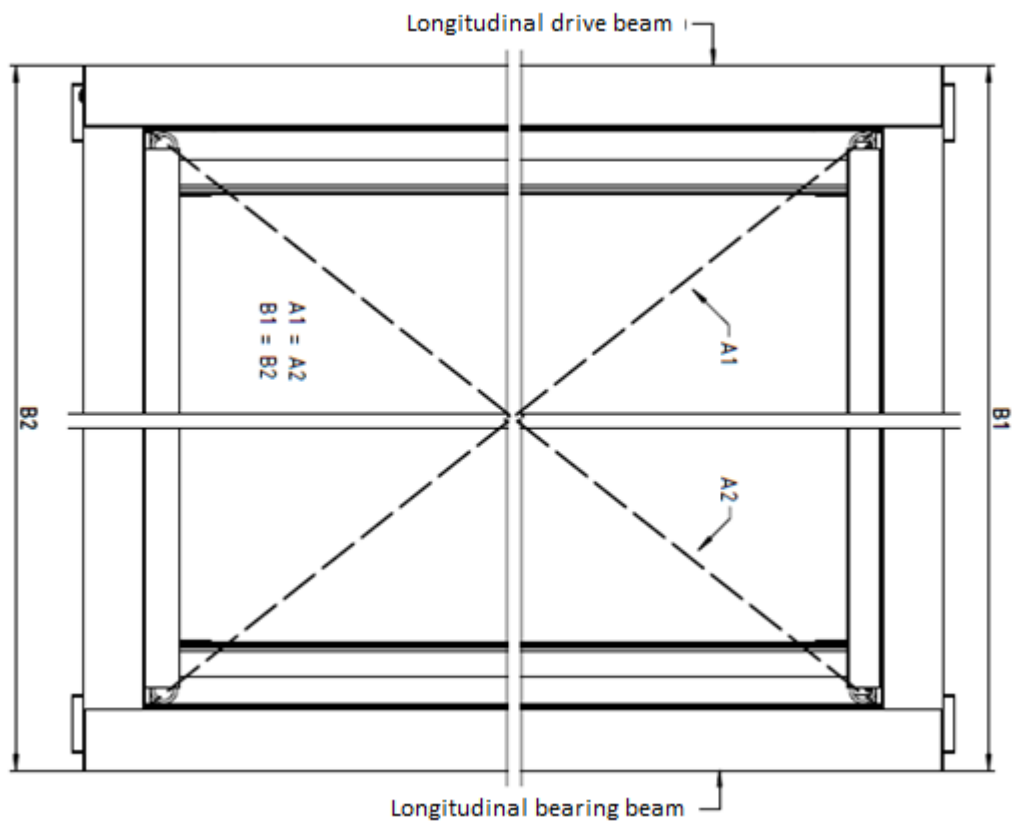


Fig. 11

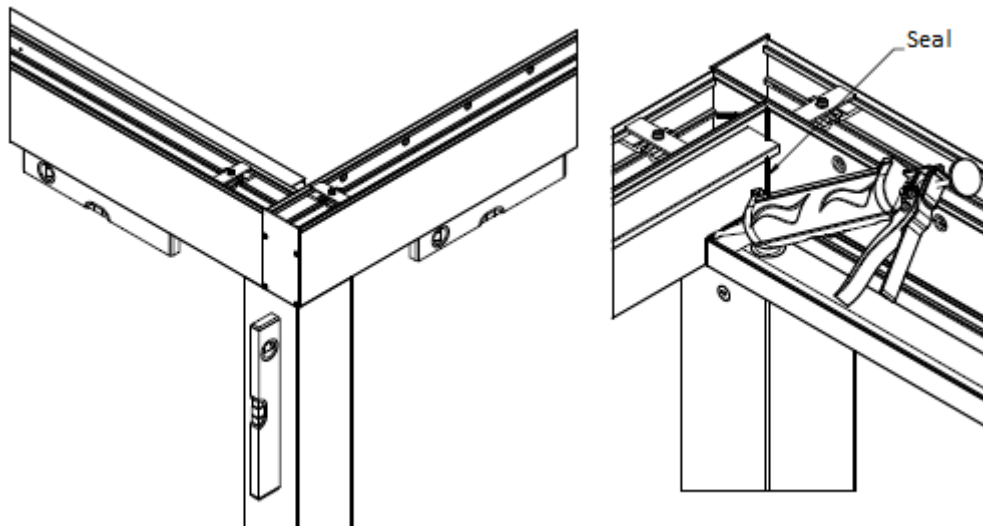


Fig. 12

4.6.2 BLADES ASSEMBLY

12. Fit the bearing bushing (35) supplied in the accessories into each pen, pressing it carefully from the outside into the pen drive cap in the corner hole - as shown in fig. 13.

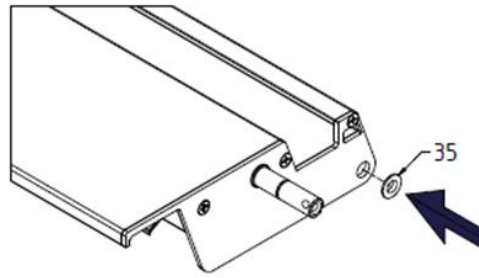


Fig. 13

13. The assembly of the blades should begin with the insertion of the two drive blades (17). These are in packet no. 7 and have different pins on the drive side - the thread inside the pin (fig. 14) .  
 14. The holes dedicated to the installation of these blades in the drive beam have zip ties attached. These should be removed immediately before fitting the blades.

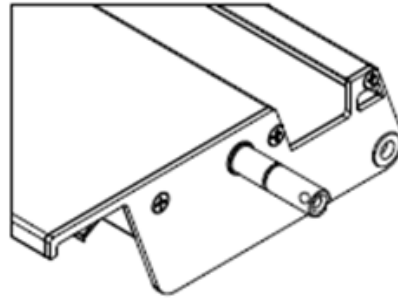


Fig. 14

15. Insert the drive blades sequentially into the marked holes in the drive thrust beam. Lift the blades above the beam, insert them diagonally into the drive thrust beam (7) - fig. 15, then lower the opposite end and slide it into the bearing thrust beam (8). The end on the bearing side has to be secured from the inside of the beam with a binder DIN6799 - 10 using the supplied assembly key (19) - fig. 16.

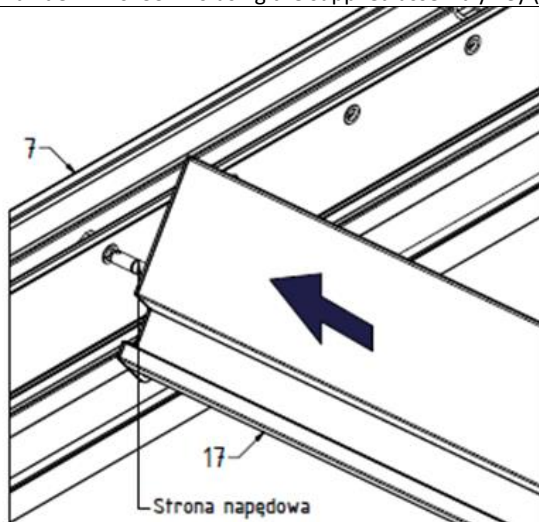


Fig. 15

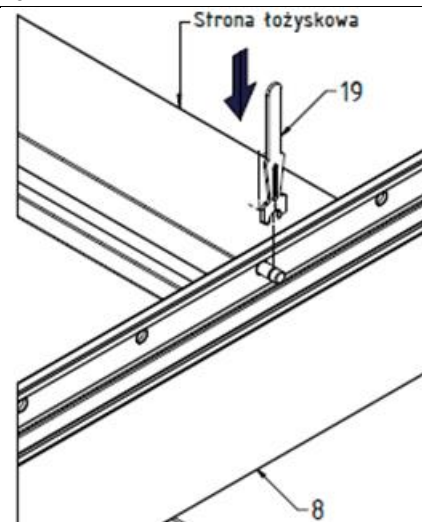
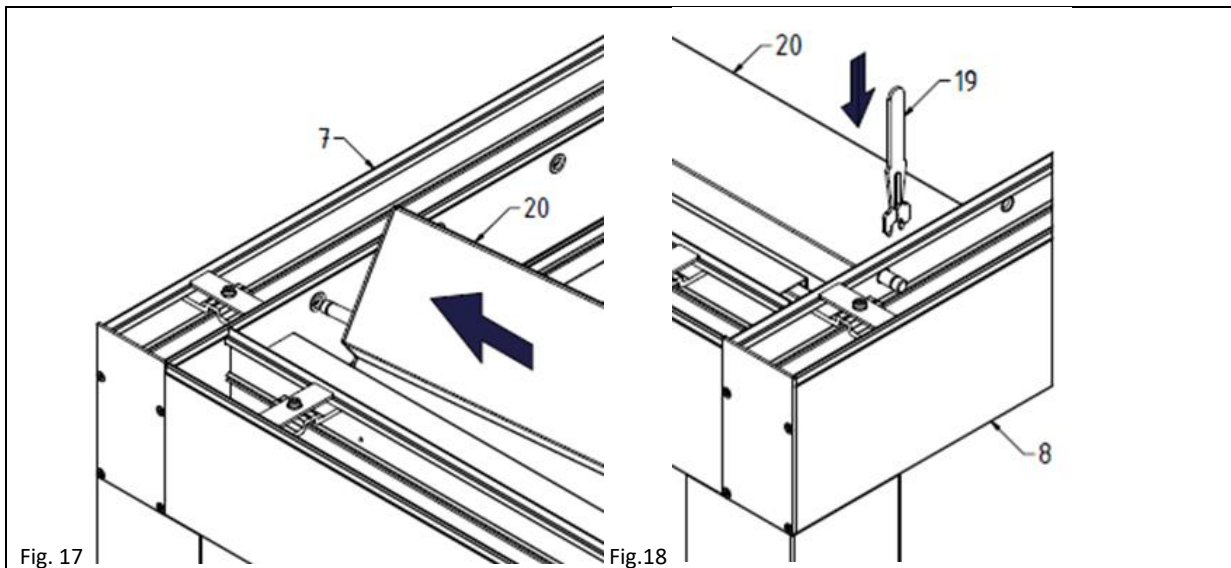
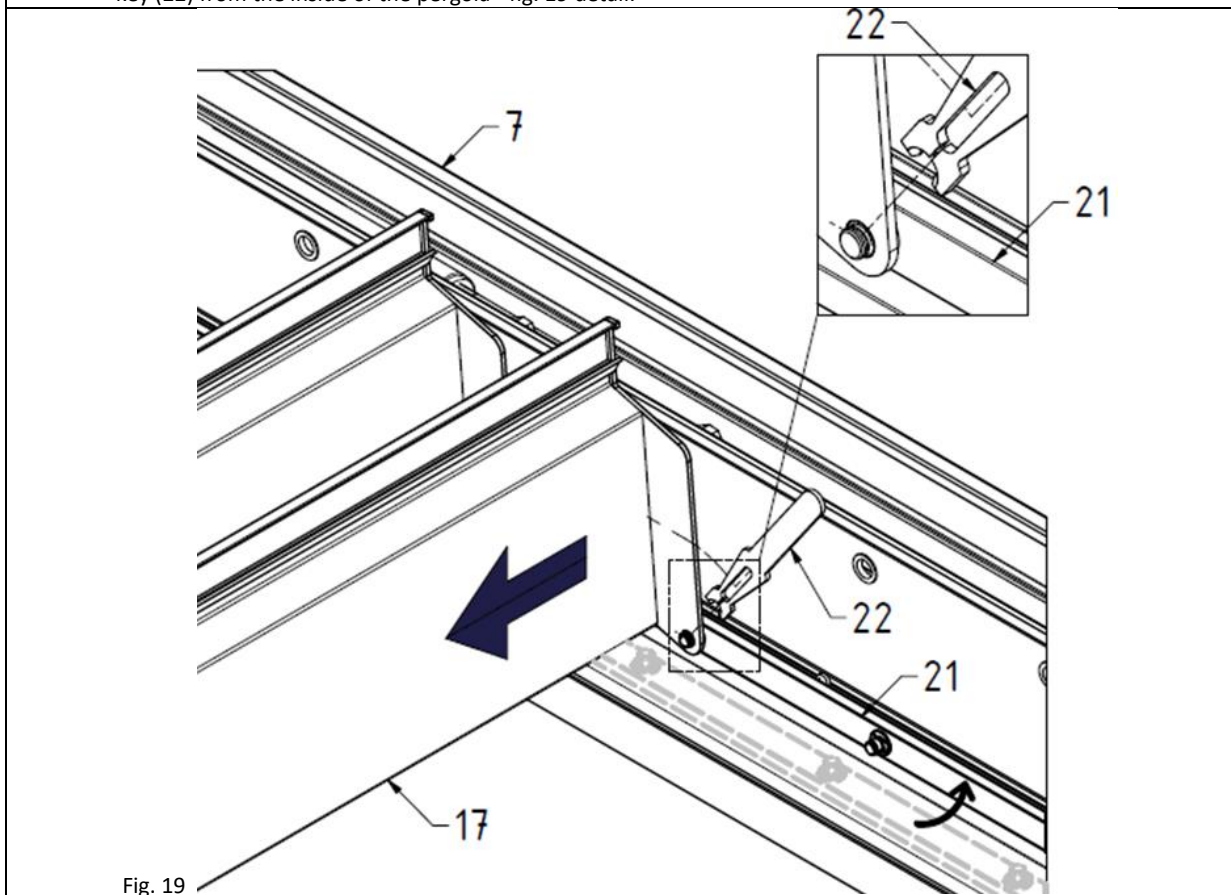


Fig.16

16. After fitting both drive blades, insert the outermost blade (20) - fig. 17.  
 17. The blade should be inserted in accordance with the procedure given above, maintaining the same sectional arrangement as the drive blades. After insertion, it should be secured from the inside of the bearing bar (8) with a binder DIN6799 - 10 using the supplied assembly key (19) - fig. 18.  
 18. Repeat the above assembly for the other extreme pen.

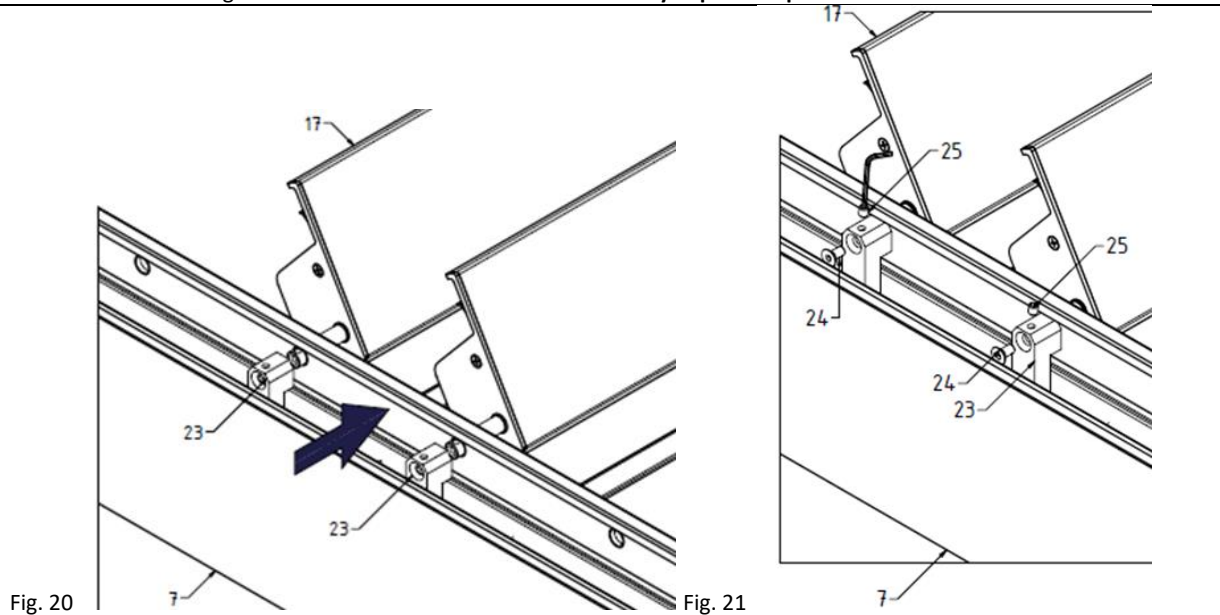


19. From the drive beam side (7), insert the drive linkage (21) into the trough with the pins already attached - fig. 19 (dashed line).
20. To make it easier to fit the linkage, move the blades (17 and 20) towards the thrust beam (8). Then lift the linkage (21) and apply it from the side between the pen cap and the drive beam (7) with the pins turned inwards on the system - fig. 19.
21. First, the linkage is mounted onto the two drive blades (17) by inserting the protruding pins from the linkage into the bearing holes of the blade cap and securing them additionally with a DIN 6799 - 7 binder using an assembly key (22) from the inside of the pergola - fig. 19 detail.

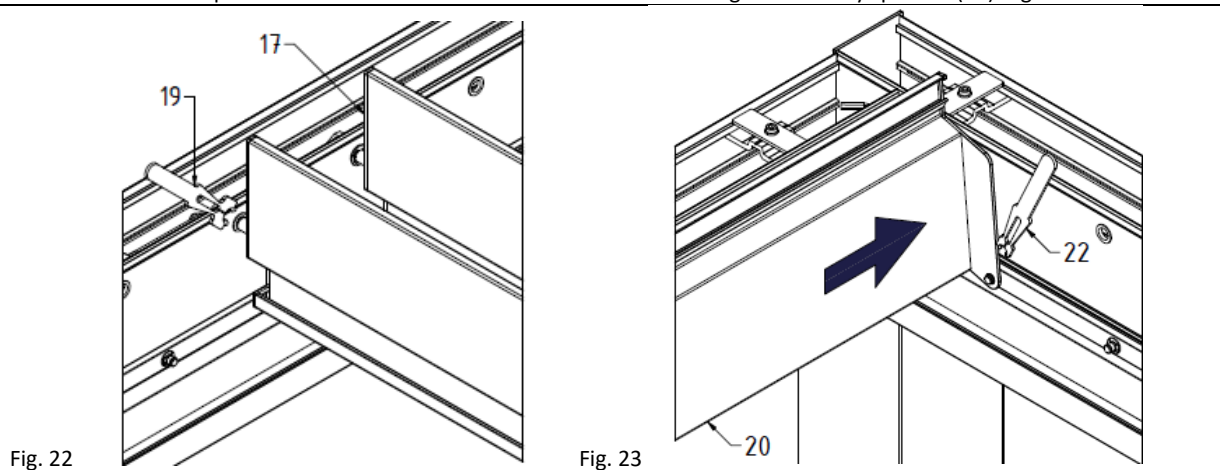




22. The drive beam (7) inside is armed with a drive assembly (23).
  23. Once the linkage has been fitted to the drive blades, attach the drive arms (23) to the drive blade cap pins (17) - fig.20 and tighten them from the front with ISO 10642 M6 x 12/ISO 4017 M6 x 12 screws (24) and lock them from above with DIN 914 M6 x 8 screw (25) - fig.21.
- NOTE: If there is a problem mounting the arms, connect the motor and move the piston to a convenient position for mounting. The electric motor should be connected by a qualified person.**



24. Additionally secure both drive blades (17) on the inner side of the drive beam with DIN 6799 - 10 using the assembly spanner (19) - fig. 22.
25. After assembling the drive system (23), align the quills vertically and place the previously mounted quill (20) on the tie rod pins and secure them with a binder DIN 6799 - 7 using an assembly spanner (22) - fig. 23.



26. Start the installation of the subsequent blades (27) from the side of the drive blades (17) going towards the ends of the pergola and following the information in points. 12/13 and para. 15 according to the positioning of the drive side (7) and bearing side (8) as shown in fig. 24 and securing the blades from the inside of the beam with a binder DIN6799 - 10 using the supplied assembly key (19) - fig. 25.
27. Push the blades (27) onto the tie rod pins during assembly and secure with a DIN 6799 - 7 binder using an assembly spanner (22) - Figure 26.

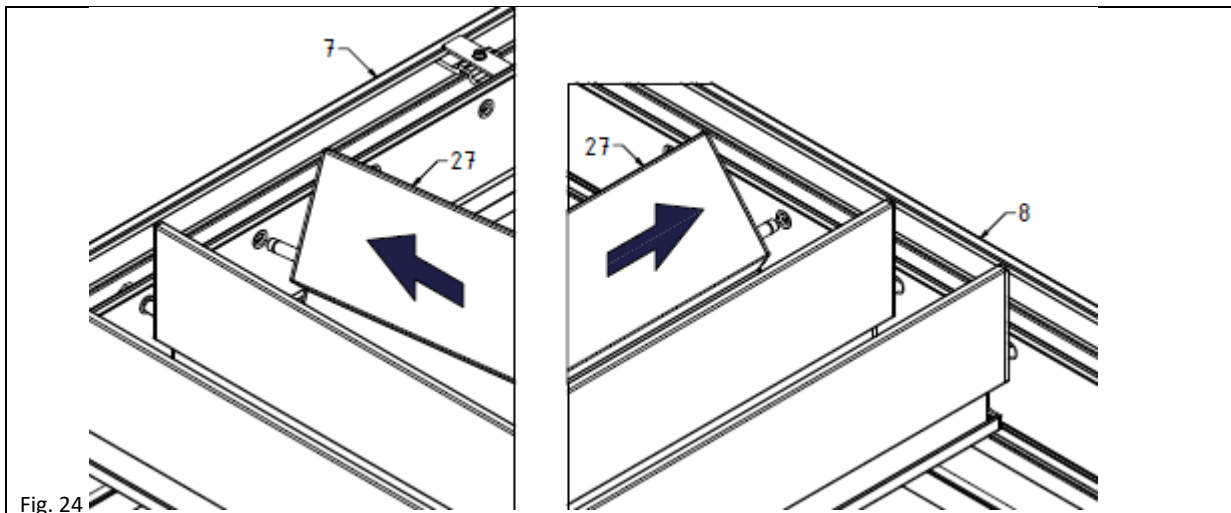


Fig. 24

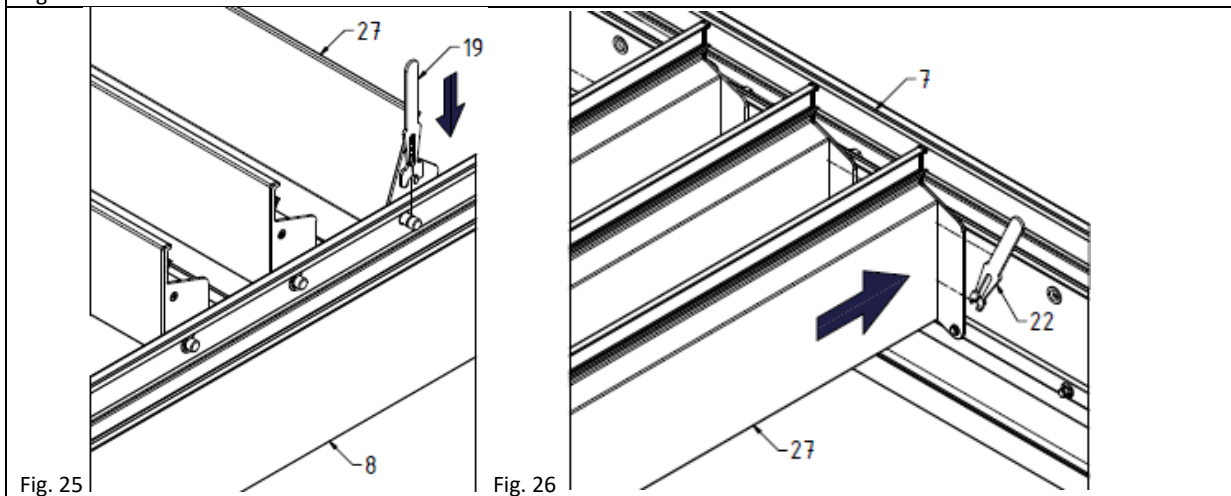


Fig. 25

Fig. 26

28. Once all the blades have been fitted, starting with the first blade (20) on the drive side (7), install the spacer sleeves (26) on the inside of the beam at every third blade and secure with DIN 6799 - 10 using the dedicated mounting key (19)-fig.27.

**NOTE: If there is a problem installing and securing the bushing, tighten the tongue to the longitudinal drive beam (7).**

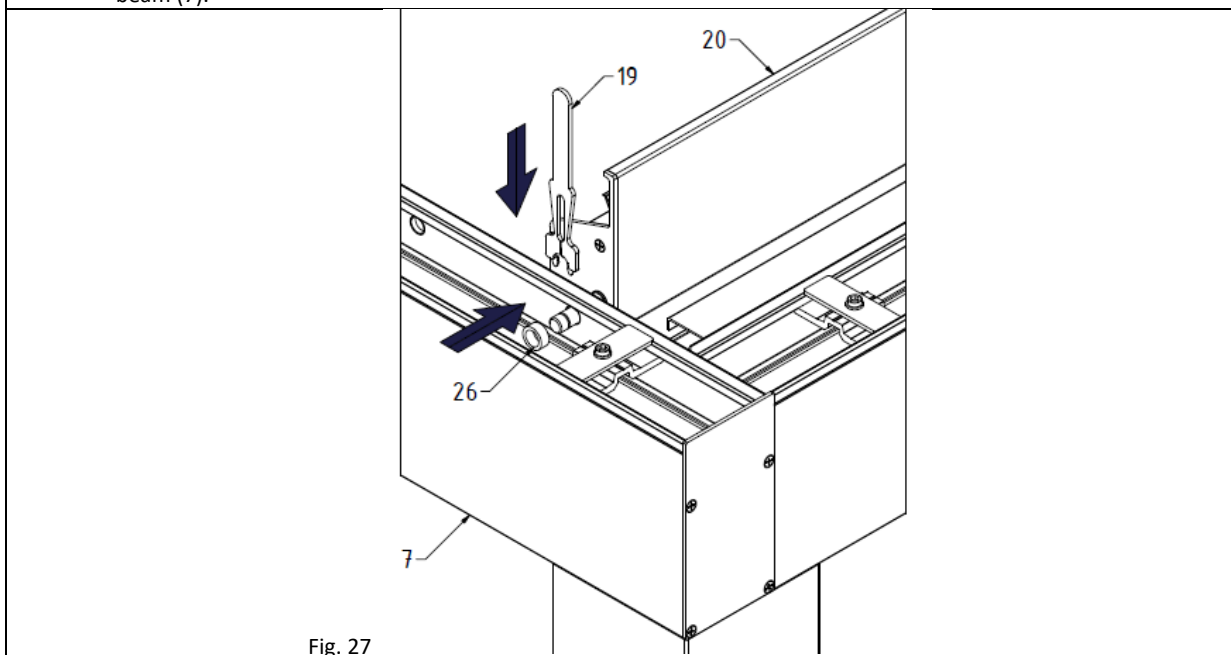


Fig. 27



4.6.3 ASSEMBLY OF THE CONTROL UNIT

29. The control unit is pre-installed and connected to the cap on the inside of the beam. It is possible to reposition the cap with the control unit in any corner.
30. To do this, unscrew the blanking plug (30) with the control unit installed and in the location where the control unit is to be installed. Pay attention to the wiring connections already made, which may then need to be temporarily disconnected and reconnected. It may also be necessary to add a cable with an identical conductor cross-section.
31. Remove one of the side profile caps (28) and screw the cap with the Pergola DC controller (30) in place using the same screws (29)- fig. 28.

**ATTENTION:** The motor and the power supply are connected to the control unit according to paragraph 5.6 of this DTE only by a qualified person. The cables can be connected even before the control unit cap has been fitted.

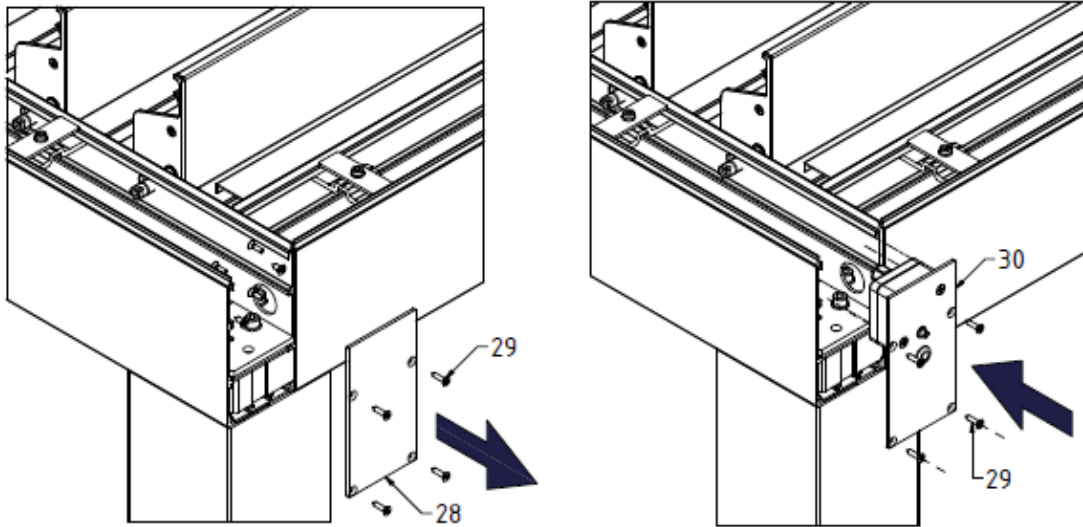
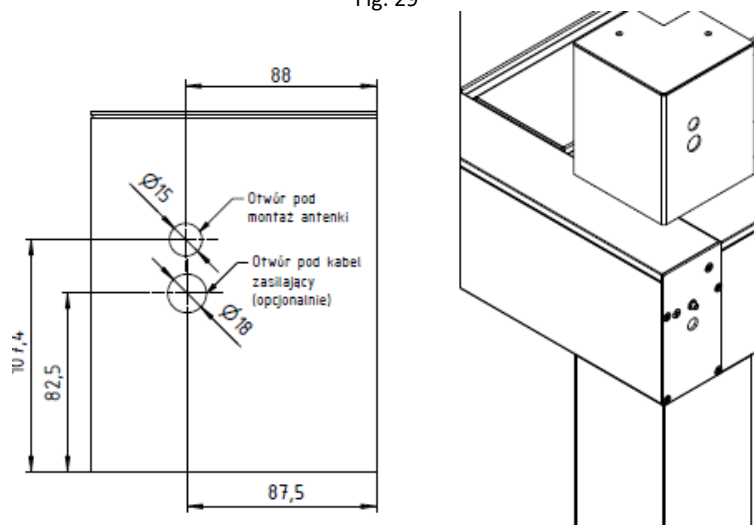


Fig. 28

32. Once the control unit has been mounted, the fascia should be drilled for the WiFi antenna thread and optionally for the power cable, as shown in Figure 29. The fascia should be fitted to the power cable before the revision is finally mounted on the beams.

**ATTENTION!** If the power is fed directly into the blanking plate from the outside, a hole must also be drilled in the panel for the cable. The cable hole in the corner trim is an option. The hole can be made in any corner of the system.

Fig. 29



33. Insert the power cable into the drive beam (proposed use of the lower hole in the beam cap with the control unit) and connect to the appropriate cables as per paragraph 5.6 of this DTE. Use a gland at the cable entry to prevent moisture ingress.
34. Switch on the power supply and check that the system is functioning correctly (open and close the pens twice), then secure the cables by routing them correctly in the beams (it may be necessary to temporarily tighten the external aerial on the cap (30) for the test).

**ATTENTION!** The power supply may only be connected by a suitably qualified and authorised person. The power cable to be connected must be disconnected from the mains during installation.

#### 4.6.4 INSTALLATION OF GRILLES

35. Click on all rim profiles from above with the revision profiles (31) - fig. 30. The correct closure of the fascias depends on the uniform spacing of the braces inserted at the top edge of the beams.
36. Tighten the bezels (32) on the corners of the pergola with the 2 screws ISO 7050 - ST2.9x13 (33) included in the accessories - fig.31. In the corner with the control unit, install the pre-drilled bezel with additional holes on the power cable.

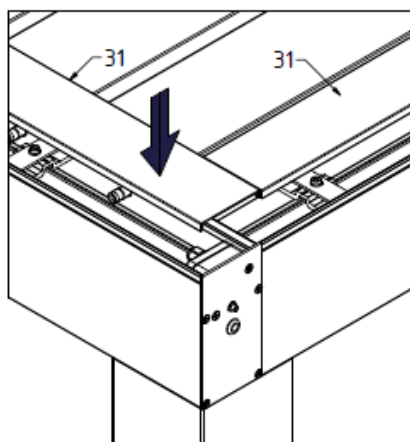


Fig. 30

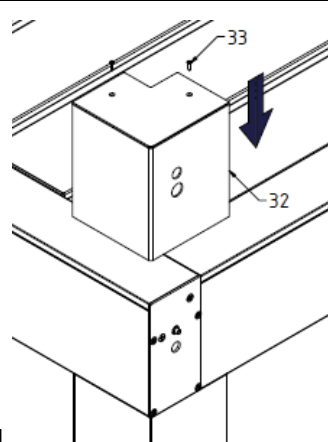


Fig. 31

37. After tightening the corner grilles, mount the control unit antenna (34) by screwing it onto the thread where the control unit is mounted - fig. 32. The antenna has a joint that allows it to be bent at 90 degrees.

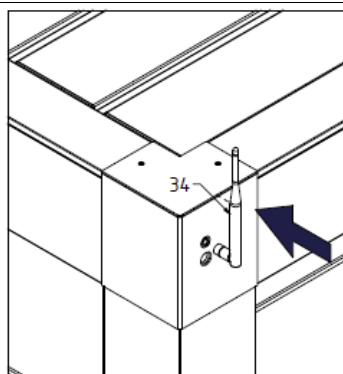


Fig. 32

#### 4.6.5 INSTALLATION OF GRILLES

38. A magnetic holder is included with the remote control. Embed the ring magnet in the desired location using the supplied dowel pin or the screw itself. The remote control has a built-in magnet in the back and is tactilely held on the holder.

## 4.7 GUIDELINES FOR FOUNDATIONS

For a free-standing pergola with a maximum size of 3.5x4.75 m and according to the location data (given under the table below), the maximum design reactions are\*:

Reaction directions with a positive sign	V [kN]	T1 [kN]	T2 [kN]	M1 [kNm].	M2 [kNm].
	<b>PERGOLA SUPPORT 3.5x4.75 m</b>				
	<b>-3.84 (press)</b>	0	1,56	-0,08	1,56
	<b>4.06 (pulls out)</b>	-0,83	1,35	-1,00	1,12
	-3,84	0,05	<b>1,58</b>	0,07	1,61
	-1,55	0,13	1,40	0,13	<b>1,81</b>
	-1,80	<b>-0,97</b>	0,55	<b>-1,31</b>	0,66

\*Reactions were calculated for a pergola model with flow blocking ( $\phi=1$ ) for both mutually perpendicular directions. A reduction was applied for a load return period of  $t=10$  years.

**Location recommendations for SB400 pergolas:**

- For the Polish territory - location in the first and third wind load zones up to 300 m above sea level (base wind speed  $v_{b,0} = 22$  m/s) . For the second wind zone (coastal) and areas above 300 m a.s.l. in zones 1 and 3, a comparison of the wind load to the recommended zones should be made
- the location adopted for wind category III and IV sites (sites regularly covered with vegetation or buildings or with isolated obstacles no more than 20 metres apart - villages, suburban sites and permanent forests, and sites with at least 15% of their area covered with buildings with an average height exceeding 15 metres - urban sites)
- It is not permissible to leave the roof blades open or to shade the walls in winds exceeding wind class 3 according to EN 13659 (45 km/h = 12.6 m/s = 10.2 kg/m<sup>2</sup>) as this may damage the supporting structure of the pergola.
- snow load of up to 30 kg/m<sup>2</sup> as a uniform roof load (without snow bags or snow drifts),
- In special cases:
  - use of locations above ground level (i.e. more than 1.2 m in zone III or more than 6.2 m in zone IV),
  - the use of wall building,
  - when using higher columns,
  - locations outside the indicated wind zones and/or above the specified height above sea level, an individual analysis must be carried out by a person with building qualifications.

The maximum diameter of the holes in the column feet is 13 mm. The maximum anchor size is M12. Anchor size M12 grade 5.8 or A2 grade stainless steel anchors should be used for anchoring in the ground.

For anchoring the footing in concrete min. C20/25 we recommend mechanical or chemical anchors.

Recommended anchors (mechanical):

- Fischer FAZ II 12/10 anchor (if no additional levelling shoe under the footing),
- Fischer anchor FAZ II 12/30 (in case of additional levelling screed under the footing)

Recommended anchors (chemical):

- Fischer FIS A M12x120 grade 5.8 anchor + FIS V Plus resin (reduce anchor embedment depth if additional subfloor is to be installed).

It is not permissible to lay a foundation on non-bearing soils (non-structural embankments, humus, peat, silt, plasticised clay, soils with inclusions of organic parts, wood, rubble, etc.). - in such cases, we recommend consulting a geotechnical engineer.

Due to the use of rainwater run-off in the outflow columns, it is important that the area around the footing is carefully compacted and flexibly sealed in the ground due to possible mechanical influences from the wind. For the location at ground level, it is necessary to ensure anchorage and support on a stable load-bearing substrate without layers which are prone to washing out, loosening or crushing (sub-bases, thermal insulation).

The soil for the foundation may be exposed to frost, which means that it may be subject to rising/lifting in springtime. The ground frost zones have been defined for these soils, below which the underside of the foundation must be sunk so as not

to be exposed to unfavourable ground movement. These are predominantly clayey soils (clay, silty clay, loam, clayey sand, loess).

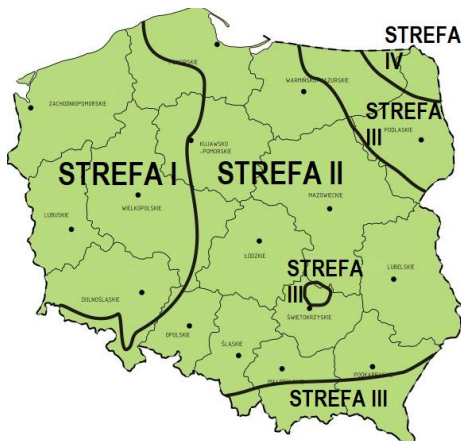


Fig. 33- Ground frost zones in Poland.

Frost depths in the zones marked opposite:

ZONE I - 0.8 m

ZONE II - 1,0 m

ZONE III - 1.2 m

ZONE IV - 1.4 m

Selt recommends making foundations of reinforced concrete of min. C20/25 with a minimum size of **35x35 cm** and a height of min. 100 cm.

The minimum depth in the ground is:

- a) for non-friable soils min. 70 cm,
- b) in the case of friable soils, not less than the depth of the frost zones for Poland - defined as 80 or 100 or 120 or 140 cm - depending on the region of the country,
- c) Alternatively, in the case of friable soils, it is permissible to reduce the depth of the bottom of the foundation to 70 cm below ground level, provided that the soil below is replaced to the frost depth by C8/10 lean concrete with a contour greater than 5 cm from the contour of the footing or by a bedding material compacted to an index  $I_s > 0.95$ .

In addition:

- the soil at the bottom of the footing trench must not be loosened,
- during the excavation of the footings, do not allow the bottom of the excavation to be flooded by rainfall or the ground to freeze (during periods of low temperatures),
- the construction of foundations may require building permits.

**Recommended footing**

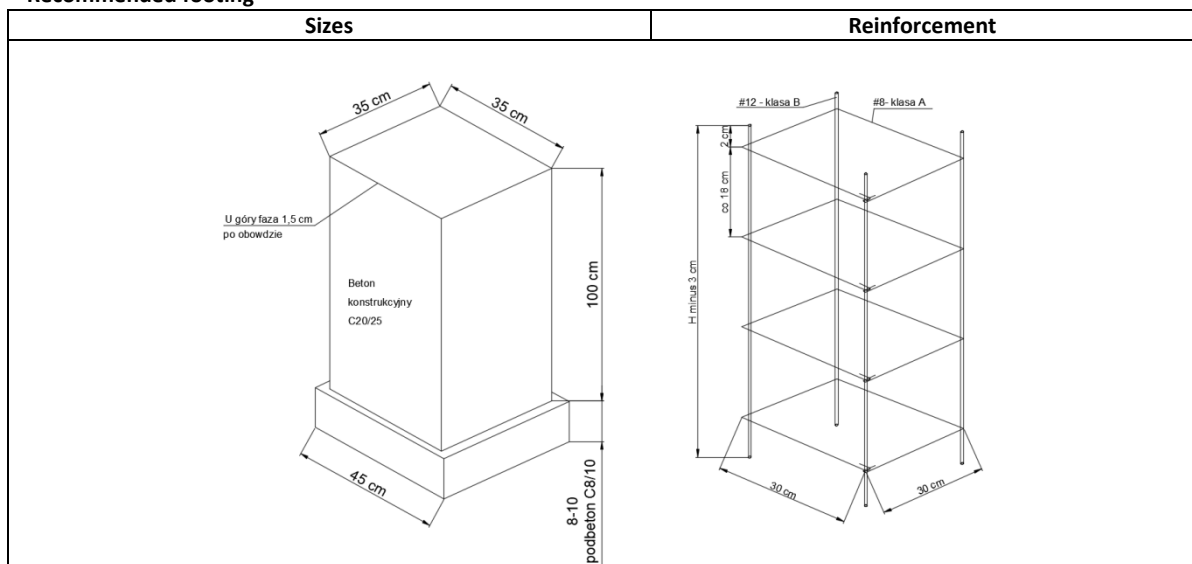


Fig. 34 Shape and reinforcement of the footing

If ballasts are used on stable ground instead of foundations, the required weight of the ballast under the column is 340 kg.

## 5 PRODUCT HANDLING AND SAFETY



The product may only be used if there are no defects.

### 5.1 GENERAL HEALTH AND SAFETY REQUIREMENTS

- In order to ensure the proper functioning of the product, SELT Sp. z o.o. forbids any structural changes, failure to comply with the above condition relieves the manufacturer of any responsibility for the product, any damage or loss and the customer loses any warranty or guarantee rights on it.
- During transport, assembly and disassembly as well as during handling, care and maintenance of the product, health and safety and environmental protection regulations must be observed.
- The product should only be maintained and repaired by persons with the appropriate authorisations and qualifications (trained).
- Persons entrusted with the day-to-day use, hygiene and maintenance of the product are obliged to read and observe the operating instructions in their entirety.
- It is not permissible to clean the product in any way other than that described under "Maintenance and repairs".
- Maintenance work and product repair should only be carried out when the product is disconnected from the electricity supply.
- Observe the markings on the product (e.g. pictograms, arrows indicating the direction of movement).
- Care must be taken to ensure that the markings are not covered by a layer of paint or damaged in such a way that they cannot be read.
- The electrical and control installation should be carried out and inspected by an authorised person.
- The switch for controlling the device should be mounted at a height that complies with national regulations for people with disabilities, preferably at a height of less than 130 cm.
- In the event of snowfall, and when the temperature is at or below 0 degrees, the blade rotation mechanism must not be operated.
- Control the thickness of the snow cover on the roof. It is forbidden to exceed the permissible snow load.
- If the drive arms are unscrewed from the blade, the roof will close abruptly, posing a risk of cutting and pinching; before doing so, the blades must be opened and permanent locking elements inserted between them to prevent spontaneous closure. The filling must not damage the paintwork.
- The SB350 pergola must not be used, including being underneath in the event of storms, hailstorms, heavy snowfall, heavy rain (the roof should remain in the open position).
- The pen working area should be free of any obstructions and objects (e.g. cables, twigs, leaves).
- It is forbidden to stand, climb, load or hang on the pergola structure of persons or things (especially on the roof blades).
- It is prohibited to attach any objects to the product without the express written consent of the manufacturer.
- It is forbidden to put one's hand between moving blades and other moving parts or to insert fingers between profiles.
- The product should be mounted at a height that prevents free access to the blades and mechanisms, and where there is partial free access to these elements, other safeguards should be used to exclude this access.
- In the event of abnormal noises from the engine or other components, the power supply should be cut off immediately until it can be verified that a fault has occurred and the fault corrected if necessary.
- Heat sources such as barbecues, open fires must not be located under the pergola.



### 5.2 SAFETY REQUIREMENTS RELATED TO SPECIFIC CONDITIONS AND PLACES OF USE OF THE PRODUCT.

The specific safety requirements apply to children up to the age of 42 months. The special use requirements apply in all places where young children have access to or are likely to be present, such as, for example, homes, children's homes, hospitals, churches, shops, schools, nurseries, public places and other places where children may be present. In the event of a change of use to one of the above, the above comments should be implemented.

The special use requirements also apply in all areas where people with disabilities are present.



Before using the product, it is up to the Purchaser to carry out an individual risk assessment of its use with particular regard to the safety of children and people with disabilities.

When determining the performance requirements of a product, it is important to consider reasonably foreseeable conditions of use and potential hazards.



Do not allow children to use the roof control device. Keep the remote control device away from children.



It is imperative that children or others do not put their fingers into the moving parts of the roof and the openings in the profiles. Do not allow children to play near moving roof parts.



Risk of head injury from being in the area of moving roof blades. It is forbidden to stay in the area of the running feathers and mechanisms. If the drive arms are disconnected from the drive blades, the blades will close abruptly on their own - risk of cutting and crushing.



Inspect the installation frequently for signs of wear or damage to the cables. Do not use if repair is necessary.



Avoid contact of the product with hot objects (e.g. heaters, cookers, irons, chimneys, etc.) or placing sources of convective heat (e.g. cookers, cookers, barbecues, etc.) under the mobile roof, as this may lead to damage to the product.

### 5.3 SPECIAL SNOW LOAD REQUIREMENTS

**The manufacturer allows a maximum snow load of up to 30 kg/m<sup>2</sup> on the roof blades.**

Snow can load the roof as an even layer of uniform height.

There must be no localised accumulation and formation of snowdrifts or snow sliding from adjacent roofs and buildings onto the pergola.

Due to the different snow weights due to the duration of snow deposition and the influence of moisture, the snow weight varies over a wide range. Different snow weights according to EN1991-1-3:

**Fig. E.1 Average snow weight by volume**

Type of snow	Volume weight [kN/m <sup>3</sup> ]
Fresh	1,0
Settled (couple of hours or days after falling)	2,0
Old (couple of weeks or months after falling)	2,5-3,5
Wet	4,0

#### Recalculation of permissible cover thickness

Pergola	Permissible thickness of snow cover depending on type [cm]			
	fresh	settled	old	wet
SB350	<b>30</b>	<b>15</b>	<b>8</b>	<b>7</b>



With snow accumulation, there will be visible and excessive sagging of the blades and beams and the possibility of localised leaks from the blades and gutters. In addition, excessive column deflection and horizontal roof floating may occur for SB350.

We warn of the need for continuous monitoring and a rapid response to the increase in coating thickness, particularly during additional wind exposure.

**5.4 OPERATING SAFETY****Recommendations and actions:**

- the product is safe to use provided that the instructions in the documentation are followed and that it is installed correctly,
- use the product only for its intended purpose,
- It is forbidden to use a product which does not comply with shock and fire safety requirements,
- keep remote control devices out of the reach of children, they are not a toy,
- it is forbidden to exceed the specified product operating parameters set out in the technical and user documentation,
- the running time of the electric motor is defined in point 2.1 "Technical characteristics" (it depends on the motor type and manufacturer, details are available on the motor manufacturer's website or [www.selt.com](http://www.selt.com)). Exceeding the specified operating time of the motor can lead to permanent damage to the motor,
- It is forbidden to use a faulty or incomplete product or to carry out makeshift repairs; such use may damage the product, endanger the health and life of the user and may invalidate the guarantee,
- no sharp objects or protruding parts should be kept in the vicinity of the guards which might catch on the moving roof and damage it,
- the system must not be operated, including the rotation of the blades, in the event of heavy snow, rain, frost or hailstorms,
- it is not permitted to be under the pergola during violent or intense weather phenomena (e.g. heavy rain, heavy snowfall, thunderstorms, hailstorms, strong winds, etc.),
- a wind sensor is strongly recommended,
- the system should be cleaned regularly and serviced at the intervals indicated,
- use only original spare parts,
- all work relating to the inspection and repair of the product should be carried out by a suitably trained person with the required authorisations and qualifications,
- it is forbidden to use the product and the electrical installation without valid and required inspections and measurements,
- it is essential to disconnect the product from the electrical system before carrying out any maintenance or cleaning work,
- when working on the façade of a building to which the product is anchored, the product must be disconnected from the power supply,
- look out for any signs of wear or damage to electrical cables,
- if you notice signs of wear or damage to the electrical cables, disconnect the product from the power supply and have the fault rectified by an authorised person,
- in the event of very noisy operation of the motor or other components, switch off the power supply immediately and have the fault checked and repaired if necessary,
- It is forbidden to use or leave sharp objects on the product,
- if an automatic weather sensor is used (wind/sun), it should be switched to manual mode during the period: when the product cannot be used (e.g. due to lower temperatures, suspected malfunctions, during inspection and maintenance periods, when the installer operates the product's blades and mechanisms); it is also recommended to switch off this sensor and open the roof in case of prolonged absence,
- the product should be cleaned regularly, at least once a year, and more often as required under conditions of increased pollution (e.g. urban environment) and in coastal environments,
- when cleaning the product take special care because of moving parts and possibility of injury; disconnect the power supply, mark and secure the work area properly; before cleaning of the product remove loose dirt with a Hoover with a soft brush or broom and then clean with water and mild detergents using a soft cotton cloth; after cleaning always rinse the surface of the blades with water (use cleaning agents in accordance with the manufacturer's instructions); it is forbidden to use abrasive agents or pressure washers which may damage the lacquer coating,
- moving or rotating parts of the product should be lubricated annually with silicone spray,
- the product must be inspected continuously and contaminants such as branches, leaves, birds' nests and other objects must be removed at all times; when removing these contaminants, care must be taken that they may fall on persons in the vicinity of the product or on objects under the product,
- The use of sharp objects on the product may damage the paint finish,
- roof coverings in urban and coastal environments are exposed to pollutants (smoke, smog, acid rain, salty seawater), which results in soiling of the paint coating. The product should be cleaned regularly, at least once a year, and more often in polluted or coastal environments.





Do not operate the product in strong gusts of wind, during snowfall, freezing rain or in very heavy rain, as the product may be damaged or destroyed and people in the vicinity may be endangered (applies to product installed outdoors). In such cases, the roof blades should be in the closed position. Wind automation is recommended to help meet safety conditions.

In the event of any malfunction of the product, immediately notify the relevant SELT service centre. Using a defective product and attempting to repair it yourself poses a danger to health and life and may result in the loss of warranty rights, among other things.

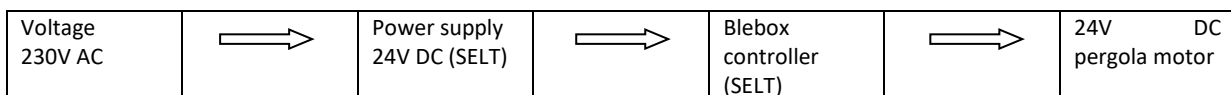
## 5.5 CONNECTION TO THE ELECTRICAL SYSTEM



SELT performs the factory installation of the Pergola DC controller with motor and 24V power supply inside the drive beam. The customer feeds and connects the 230V AC mains power supply to the power supply contacts in the beam. The operation is to be carried out by a person with the appropriate authorisations and qualifications.

In addition, once the installation is complete, the bezel should be drilled in-house to provide access to the antenna thread and, once it is secured to the corner, the external WiFi antenna should be tightened onto the brass thread.

### Diagram of the connection of the product to the electrical system:



Once Pergola SB350 has been assembled, the drive and control system can be connected to the previously prepared installations: power supply and control. It is the responsibility of the installer/investor to prepare the installation.

The connection to the electrical supply system is to be made on the basis of an individual wiring diagram drawn up in advance, taking into account the principles of electric shock protection.

The connection must take into account the environmental conditions in which the product will be used and the recommendations contained in the engine manual. Annex at the end of this document.

Normal environmental conditions:

- Such conditions exist, for example, in living quarters and offices, auditoriums and theatres, classrooms (with the exception of some laboratories), etc.

Environmental conditions with increased risk:

- Hazardous environments include bathrooms and showers, kitchens, garages, cellars, saunas, pet rooms, hospital operating theatres, hydrothermal pumps, heat exchangers, spaces enclosed by conductive surfaces, campsites, open areas, etc.

In rooms and spaces where there are conditions of increased risk, automatic devices should be used to switch off the power supply to the faulty product, e.g. residual current circuit breakers.

Residual current circuit breakers:

- recommended for use in bathrooms, kitchens, garages and cellars,
- mandatory for swimming and showering pools, saunas, construction sites, the power supply of outdoor equipment, agricultural and horticultural farms, camping sites and recreational vehicles, as well as rooms at risk of fire.

Residual current circuit breakers are only a supplement to direct contact protection, they cannot be the only means of protection. Their function is to supplement protection when other means of protection against direct contact are ineffective or in the event of carelessness on the part of the user.

When connecting, the safety regulations for use must be taken into account, e.g. the minimum height, from the floor, at which electrical equipment can be installed.

General guidelines for safe connection:

- the connection must be made by an electrician with electrical qualifications and professional experience,
- Comply with health and safety regulations when connecting,
- Electrical connection and adjustment of the motors must be carried out in accordance with the motor manufacturer's instructions enclosed with the product / available on the website below.



**A detailed description of the conditions for shock protection purposes to be met by the electrical installation which is to supply the product.**

In accordance with the standards in force in the country concerned. Depending on the consumers used and the control configuration.

Power class	What we feed	Type of installation	Overcurrent protection	Protection against electric shock
Class I equipment has basic insulation which provides protection against direct contact. In addition, in order to provide protection against indirect contact (interference protection or supplementary protection), a protective conductor (PE) or a protective-neutral conductor (PEN) is connected to the protective terminal of the appliance. This achieves: 1. protection by automatic circuit-breaking through the use of suitable devices 2. limitation of touch voltages to levels that do not exceed the safe touch voltage (UL) values established for the given environmental conditions.	24V motor supplied by a 230V/24V inverter Class I device	It is necessary to use a 230V~3-core installation (protective conductor, neutral and phase conductor)	Fuse matched to the power of the consumer	Residual current circuit breaker
Class II equipment is characterised by the use of reinforced insulation, which provides both direct and indirect contact protection. Another way to provide protection against electric shock in Class II equipment is to use primary and secondary insulation. Because reinforced or additional insulation is used, it is not necessary to connect the equipment housing to the protective earth conductor, and it is possible to supply equipment in this class, for example, via two-wire cables with IEC C7 connectors. Protection class II equipment is marked, e.g. on the nameplate, with an appropriate symbol (so-called square within a square).	24V motor supplied by a 230V/24V inverter Class II device	It is sufficient to use a 230V~2-core installation (neutral and phase wire)	Fuse matched to the power of the consumer	Residual current circuit breaker

The electrical connection and adjustment of the motors must be carried out in accordance with the motor manufacturers' instructions.

The instructions are enclosed with the product and are also available on the motor manufacturers' websites:

[www.selt.com](http://www.selt.com) → OUR OFFER → AUTOMATION



The motor is fitted with a thermal cut-out that will switch off the drive after approximately 2 minutes of continuous operation to protect against overheating (depending on external conditions). After being switched off by the thermal protection, wait until it has cooled down. The waiting time depends on the type of motor and the ambient temperature (usually after about 18 minutes the thermal protection should switch off).

5.6 CONTROL



If the control point is left in its factory blank location, only the corner bezel needs to be drilled and the external antenna tightened

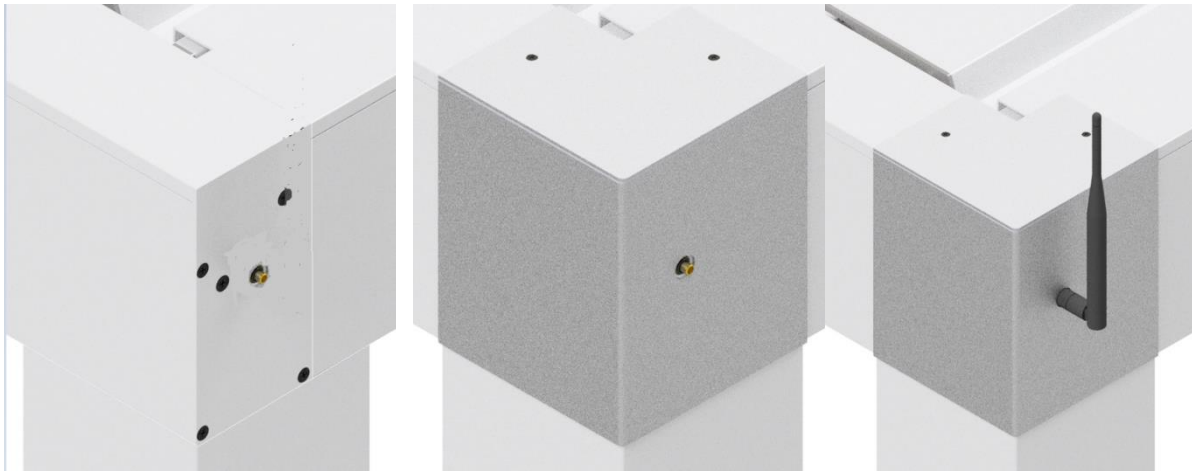


Fig. 35 External view of the factory control module in the corner of the pergola

- from left, external view of the thread for the controller antenna
- middle - view of the thread from the DC pergola controller after the drilled bezel has been applied (note: you will have to drill the bezel yourself - according to the position of the thread - see installation instructions)
- right -fastening the external antenna on the bezel (by the customer)



The remote control is pre-installed in the drive bar in the packaging from the power supply. Once removed, the magnetic mount supplied with it can be fitted. Tighten the magnet ring with the supplied pin in the desired location. The back of the case has an internal magnet that allows the remote control to be attracted to the holder by the magnetic field.

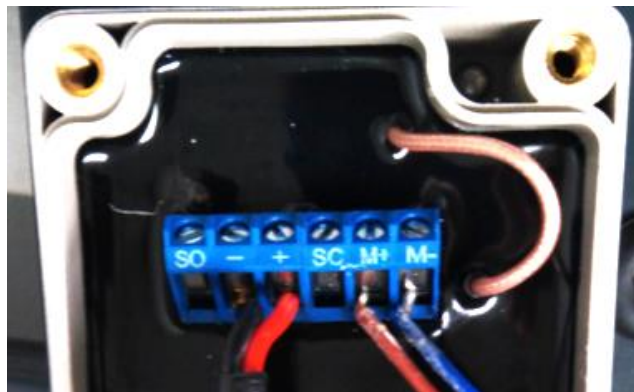
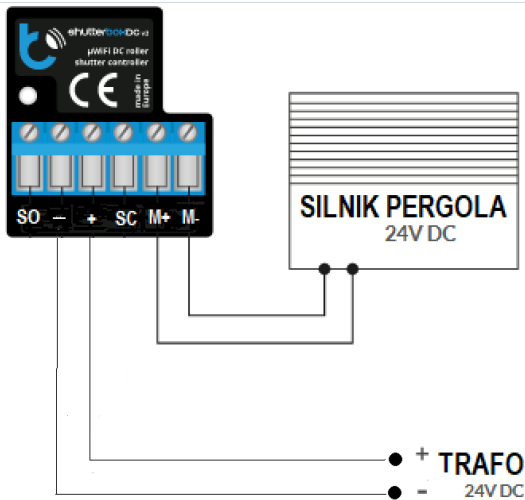


Fig. 36 Wiring diagram for the Pergola DC control unit (made by SELT at the factory)

Programming of the control (assignment of remote controls, weather sensors and other controls) should be done in accordance with the control manufacturer's instructions.

Wiring harness labelling for 24V= motor with Hall sensor (six-wire version):

Power wire:

Connecting (+) to the brown wire and (-) to the blue wire, we obtain piston ejection.  
 Connecting (-) to the brown wire and (+) to the blue wire results in retracting the piston.

- black - Hall sensor power supply (not used)
- red + Hall sensor power supply (not used)
- green - Hall sensor output A (not used)
- white - Hall sensor B output (not used)



It is essential to insulate unused wires from the cable harness.

Connecting the motor leads inside the PergolaDC controller (fig. 36):

CONNECTING THE HALLA SENSOR MOTOR to the Pergola DC control unit	ENGINE + <b>M+</b>	ENGINE - <b>M-</b>	HALL +	HALL -	HALL1 out	HALL2 out
SITO 24V=	brown	blue	Red (not connected)	Black (not connected)	Green (not connected)	White (not connected)

**Note:** bold font indicates description as it is on the blue terminals on the PergolaDC control unit

#### Actions required when installing and connecting the wiring of the PergolaDC controller:

- before installing the controller, disconnect the voltage in the powered circuit; remember that all installation works should be carried out with disconnected power supply voltage (disconnecting the mains installation fuse of the power supply circuit or disconnecting the power supply from the socket),
- the controller should be installed in a place protected from adverse environmental conditions, protected from access of third parties - in a flush-mounted box or inside the casing of the controlled device,
- metallic components (wires, housing parts) reduce the device's range and therefore the comfort of use,
- it is advisable that the unit is fixed in a stable and stationary position,
- refer to the diagram and then proceed to assemble the controller,
- pay particular attention to the markings on the controller connector,
- start by connecting the power leads from the dedicated 24V DC transformer to the (+) and (-) pins,
- connect the motor in turn to the pins marked "M+" and "M-"; the order in which the motor leads are connected is irrelevant at the installation stage - the direction of movement can be set at a later stage of the controller's configuration,
- make sure that the device has been connected in accordance with the wiring diagram and that there are no metal elements in the vicinity of the controller which could accidentally short-circuit the contacts, start the device by switching on the power supply voltage (switch on the mains circuit fuse or plug the power supply into the socket).

#### Controlled by dedicated remote control:

The remote control is already pre-assigned to the PergolaDC control unit. If the remote control is replaced/replaced, it must be re-assigned from within the application.

#### Control by dedicated app:

Required download of the free wBox app. For Android devices, the app can be found in the Play shop. For iOS devices, the app can be found in the App Store.

Using your mobile phone or tablet, connect to your device's wireless network. To do this, go into the settings of your smartphone or tablet, then into the WiFi network configuration and find the network named "shutterBoxDC\_v2-xxxxxxxxxxxx", where xxxxxxxxxxxx is the serial number of the device. Connect to this network.

You can also perform the configuration using your phone/tablet's web browser. After connecting to the controller's wireless network, turn on your browser and go to: [www.blebox.eu](http://www.blebox.eu).

Continue to follow the controller manufacturer's instructions.

## 5.7 COMMISSIONING AND ADJUSTMENT

#### Recommendations and actions:

- the end positions of the blades (closed and open position) must be adjusted during installation,
- the person adjusting the limit switches should have knowledge and experience in this field,
- adjustment of the limit switches must be carried out in accordance with the engine manual; special care must be taken in any adjustment because of the need to operate in the area of the blades and mechanisms,
- before commissioning the product, electrical measurements must be carried out, primarily to check the effectiveness of the neutralisation of the product and the electrical installation by a qualified person,
- do not start the drive motor without checking that the product is correctly fitted,
- do not lean or hang on the product or leave tools on it when setting the stops,

**When commissioning a mobile roof, special attention should be paid to:**

- correct and uniform rotation of the moving roof blades.
- correct tripping of limit switches



The unauthorised adjustment of end positions, by an untrained person, can lead to personal injury or death, as well as the product.



The indication of the blade tilt angle in the application is approximate. The measurement error is influenced by the method of control (transition between tilt steps or from zero to a preset step) and by the eccentric mounting of the blade axis generating additional inertia and a change in rotation speed.

**PergolaDC control troubleshooting**

Symptoms	Possible causes	Solutions
The driven product does not work.	The wiring is incorrect.	Check the PergolaDC wiring and modify if necessary. The control panel antenna must be outside the product and connected to the control panel as specified by the control panel manufacturer.
	The battery of the PergolaDC transmitter is discharged.	Check that the battery is discharged and replace if necessary (2 AAA 1.5V batteries).
	The control transmitter is not compatible.	Check compatibility and replace transmitter if necessary.
	The PergolaDC transmitter used is not programmed into the receiver.	Use a transmitter that is already programmed or program the transmitter in question.

**5.8 MISUSE OF THE SYSTEM**

**THE FOLLOWING MUST NOT BE CARRIED OUT**

- Use of the product in the event of a defect or suspected defect; it is recommended that further use of the product be discontinued.
- Report the fault to the supplier / system fitter / installer.
- Discontinue use of the product if there are signs of wear or damage to the electrical wiring and report concerns immediately to the direct supplier.
- Do not stay in the working area of the mobile roof while the system is in operation.
- Do not use a faulty or decomposed system. Use of such a product may damage it and create a risk to the health and life of the user and may void the warranty.
- It is forbidden to use a product that does not comply with shock and fire safety requirements.
- It is forbidden to exceed the product operating parameters specified in the technical and operating documentation.
- Do not keep any sharp objects or protruding parts near the system, which may snag and scratch it,
- Use not in accordance with DTE.
- Leaving the side screens unfurled at wind speeds above 49 km/h

**Persons assigned to handle**

- Do not allow children to play with the components used to operate the system, e.g. the remote control or the switch.
- Keep the remote control away from children.

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**SB400PRO pergola working space: risk of crushing, cutting and pulling in**

- Do not touch moving parts when closing or opening the moving roof. This may cause crushing, cutting, pulling in or jamming between, for example, the blades and other components of the system.
- It is forbidden to disengage the drive arms from the drive blade pins without first locking the space between the blades - the blades will fall rapidly of their own accord due to the eccentric mounting.
- There must be no obstructions within the working area of the mobile roof that could interfere with its operation or cause damage to it.
- In the event of a blade overrun, the roof should be opened slightly in the first instance and then the obstacle removed.
- It is not permitted to be in the pivot zone of the pens while they are in operation.
- No obstructions (cables, branches, etc.) may be in the area when the blades are rotated.
- It is forbidden to place one's hand between the moving blades and fingers in the area of the profile and drive mechanism and drive mechanisms.

Automatically controlled products may start up automatically. When carrying out any work on the product, permanently immobilise the product so that it does not start accidentally. Make sure that no dangerous situation arises.

## 6 USE AND MAINTENANCE OF THE SYSTEM

### 6.1 INTENDED USE OF THE SYSTEM

The system must be used in accordance with its intended use as specified by the manufacturer. If the system is operated and modified in a manner other than that described in this documentation, the system manufacturer has grounds to disallow warranty or guarantee claims.

SB350 pergolas manufactured by SELT Sp. z o.o. do not require any special maintenance. Using the product in accordance with the manufacturer's recommendations assures the user of proper functioning of the product.

If the product is used in a manner other than that described in this documentation or modified without the authorisation of SELT Sp.

z o.o. then it is used incorrectly.

Unauthorised changes affecting the safe operation of the product are not permitted.

Proper use of the product includes:

- normal use or foreseeable use, which does not include, for example, risks taken by the user intentionally or knowingly,
- application of permissible operating values,
- compliance with operating recommendations,
- carrying out periodic product inspection and maintenance,
- comply with the requirements set out in this Documentation,
- to comply with the requirements under "Technical specifications".

In case of misuse:



- the product may endanger operators,
- the product will be exposed to damage,
- This may have a negative impact on its functionality,
- not to use the system during maintenance or repair work, or in other cases as indicated by the manufacturer.



The gutters in the system are supplied by the manufacturer as sealed components.

Sealing of gutter connections during installation is the responsibility of the builder/installer and is not subject to warranty.

**Carry out periodic checks for leaks and seal repairs at intervals of no more than 6 months.**

**SELT Sp. z o.o. is not responsible for damage caused by improper use.**



Operating the system out of sight can cause serious injury as well as damage to the product.

If side screens are used in the product, not retracting them in winds above 49 km/h (13.6 m/s) may result in deformation of the structure or damage to the system.

### 6.2 INSTRUCTIONS FOR NON-EXPERTS

Non-professionals are those who carry out activities related to the day-to-day use and ongoing maintenance of the product.

Before using the product, read this documentation carefully.

A thorough knowledge of the documentation allows for fault-free and safe operation of the product.

**List of activities that can be performed by non-experts:**

- ongoing use of the product via remote control,
- ongoing inspection of the product by opening and closing the roof blades with continuous observation of all product components,
- have the product serviced, repaired and cleaned by a specialised installer.

### 6.3 INDICATIONS OF RISK , ACCIDENT OR INCIDENT

Description of residual risk

Risk factor	Description of correct procedure
Accident	<ul style="list-style-type: none"> <li>- disconnect the product from the power supply,</li> <li>- take first aid measures on casualties</li> <li>- call for help tel. 112</li> </ul>
Product failure (hazard)	<ul style="list-style-type: none"> <li>- disconnect the product from the power supply,</li> <li>- remove users from the danger zone,</li> <li>- In the event of fire, use only ABC-class fire extinguishers,</li> <li>- notify the fire brigade if necessary,</li> <li>- notify the service company</li> <li>- if the failure only results in blockage of the product without additional hazards - check the section "Product failure (blockage)".</li> </ul>
Product failure (blockage)	<ul style="list-style-type: none"> <li>- disconnect the product from the power supply.</li> <li>- perform an external visual inspection for the presence of foreign elements in the blades or drive,</li> <li>- check visible parts of the cables for insulation damage or discontinuity,</li> <li>- in the absence of obvious causes, check the point "engine overheating"</li> <li>- inform the supplier in order to obtain a solution</li> </ul>
Spontaneous blade closure (when the drive arms are disconnected)	<ul style="list-style-type: none"> <li>- before the arms are disconnected from the blade pins, the filling/securing between the blades must be fitted in the open position to block their descent</li> </ul>
Strong wind (above 49 km/h)	<ul style="list-style-type: none"> <li>- We recommend the use of a wind sensor that closes the laths, which is more advantageous in terms of the wind resistance of the entire structure. The wind speed value is determined according to the wind class for the structure.</li> </ul>
Snowfall and icing	<ul style="list-style-type: none"> <li>- in the event of snowfall, place the slats in the snow position (slightly open)</li> <li>- the permissible snow load must not be exceeded</li> <li>- in winter when there is a risk of snowfall and slats icing up, we recommend opening the slats to the snow position. - it is possible to use an automatic controller that automatically opens the slats slightly (snow position) when temperatures are close to freezing and rain or snow falls.</li> <li><b>CAUTION</b> If snow or ice builds up on the fins when attempting to start, mechanical damage may occur. It is recommended to use a motor with an overload sensor.</li> </ul>
Intense rainfall	<p>The system is adjusted for rain protection (for a certain rain intensity). In the case of heavy rainfall, the pens are left in the open position. - The drives have a protection class of at least IP65 and are mounted under a cover (canopy). Protection is therefore provided against drops falling from any angle, but care must be taken to position the power cable so that rain drops do not run down the cable towards the motor.</p>
Electrocution,	<p>The electrical installation must be carried out in accordance with the standards in force in the country concerned. -</p> <ul style="list-style-type: none"> <li>- electrical conductors with double insulation and an additional cover to protect the conductors mechanically and against UV radiation</li> <li>- residual current protection</li> </ul>
Short circuit in the installation and fire	<ul style="list-style-type: none"> <li>- conductors with a suitable cross-section according to the power of the consumers and the selected overcurrent protection</li> <li>- overcurrent fuse according to the power of the consumers</li> </ul>
Engine overheating	<p>The motor is designed to run with cooling intervals. For DC motors, there is usually no thermal fuse, so the controller should ensure that the running time is limited.</p>
Faulty control system (engine)	<p>Risks due to possible failure of control system components.</p> <p>Possibility of a short circuit at the device input</p> <ul style="list-style-type: none"> <li>- overcurrent protection of the supply line will be triggered. Possibility of short-circuiting the relay contacts,</li> <li>short-circuiting both contacts of the controller</li> <li>- short-circuiting the contacts of the DC motor relay or the solid-state switches, depending on the configuration of the switching elements, can short-circuit the power supply line and then the overcurrent protection will trip.</li> <li>- faulty motor control</li> </ul>

	- defect in the electrical installation
Noise	Noise during drive operation does not exceed 70dBA. Typically it is between 50 and 60 dBA when measured at a distance of 1m. The noise is generated when the product's fins are repositioned.
Important additional notes	Technical data can be found on the motor nameplate. The moving parts of the motor must be mounted at a height of more than 2.5 m above floor level or another surface from which there is access to the motor.

## 6.4 MAINTENANCE AND REPAIRS

### Ongoing inspections

This is carried out by the customer himself. SELT recommends that servicing is carried out at the times stated below.

#### **Basic activities comprising the current review:**

- Visual inspection and ongoing removal of foreign bodies that may interfere with the correct operation of the product and the movement of the mechanisms (on an ongoing basis at least once a day before use and after violent atmospheric phenomena),
- Checking the patency of drains (optional for gutters) - once a week and after heavy downpours,
- Removal of debris from gutters (optional for downspouts) - once a week and after heavy downpours,
- Checking the thickness of the snow accumulation - in the event of snow accumulation on the product - on a daily basis and additionally after heavy rainfall or blizzards,
- Removal of excessive snow (above the snow load limit) and any snow drifts and overhangs - each time the snow load is exceeded and if the snow load is unevenly distributed,
- Visual inspection and ongoing removal of phytosanitary contamination (as soon as noticed),
- If a fault is observed, disconnect the product from the power supply and have it repaired immediately,
- Observing the opening and closing of the blades with continuous observation of all parts of the product - depending on the frequency of use - at least once a week,
- Disconnect the product from the power supply (in particular in such a way as to prevent the product from being started up by the automation system) prior to servicing the product's moving and electrical components,
- If the product is placed at a height of more than 2.5 m, it is recommended that the above work be carried out by a specialised team.

#### **Technical inspections**

This is carried out by SELT or a specialised installer on commission after the warranty period has expired. The scope is defined in each case by the specialised installation team and the execution is confirmed by a service protocol.

#### **Cleaning**



It is essential to disconnect the product from the power supply before cleaning.

#### **Cleaning of metal / aluminium components:**

- It is recommended to clean light dirt on accessible metal / aluminium surfaces with water and mild detergents, using a soft cotton cloth, always rinse after cleaning (if necessary).
- Remove phytosanitary contamination (as soon as it is noticed).



**Prohibited activities when cleaning the product:**

- The use of pressure washers, as well as cleaning agents, sponges and solvents (e.g. alcohol, petrol) is prohibited.
- It is forbidden to use cleaning agents with chlorine, ammonia, paraffin, acetone and bleach to clean the system as well as in its vicinity, as this will result in the risk of corrosion.
- The use of sharp tools (e.g. wire brushes), cleaning agents that cause scratches (e.g. scouring powders, pastes) is prohibited.
- Do not firmly hold or pull the system or its individual components.
- Do not replace damaged components with replacements! Use original spare parts!
- Water must not be allowed to enter the engine.
- Do not deform the blades.
- After cleaning, connect the power supply (control) and test the operation of the system. Keep an eye on the operation of the system and if unusual behaviour and noises occur, report the problem to the direct supplier.

**Repairs**

Any abnormal/abnormal operation of the system or abnormal noises from its operation require the user's intervention and a report to a specialised installer. Repairs are carried out by SELT Sp. z o.o. or a specialised installation team on the basis of a separate agreement.

**7 COMPLAINT/TECHNICAL DEFECTS****7.1 CLAIMS (MANUFACTURER'S WARRANTY)**

Complaints can only be made by the entity that purchased the product from the manufacturer.

The term and conditions of the guarantee and the way in which complaints are dealt with are set out in the General Terms and Conditions of Guarantee and the General Terms and Conditions of Sale available on the manufacturer's website.

- A prerequisite for accepting a complaint is that the contract, order or invoice number is stated and the complaint is made in writing. It should contain a precise description of the defect, the name of the company which assembled the product and the date on which the defect was found.
- The notification should include a detailed description of the defect, the name of the company that installed the product and the date on which the defect was found.

**Goods without an indicated invoice number, order number or contract number and will only be deemed to have been successfully claimed after completion. The conditions for warranty claims are defined in a separate agreement.**

**7.2 TECHNICAL DEFECTS**

In the event of system defects, you should:

- if possible, open the moving roof and put the unit out of service,
- immediately report the defect of the product to the competent specialized assembly team.

## 8 DISMANTLING / DISPOSAL / DECOMMISSIONING OF THE PRODUCT



Improper disassembly of the system can cause serious injury and damage to the system. The dismantling of the system should be carried out by a suitably specialised installation team or a person with appropriate health and safety training and recovery expertise.

### a) Disposal of waste electrical and electronic equipment

At the end of the life of the product, it is necessary to dismantle it and segregate the individual materials and components in accordance with the Decree of the Minister of Climate of 2 January 2020 on the waste catalogue in order to dispose of it.

#### Important information on disposal:



According to the provisions of the Act of 11 September 2015 on waste electrical or electronic equipment, it is prohibited to place together with other waste used equipment marked with the symbol of a crossed-out municipal waste container. A user wishing to dispose of electronic or electrical equipment is obliged to take it to a waste equipment collection point.

These statutory obligations have been introduced in order to limit the amount of waste produced from waste electrical and electronic equipment and to ensure an appropriate level of collection, recovery and recycling. The equipment does not contain hazardous components that have a particularly negative impact on the environment and human health.

Lp.	Subject	European legal basis	Polish Legal Basis
1	Waste electrical and electronic equipment	Directive 2012/19 EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)	Act of 11 September 2015 on waste electrical and electronic equipment (Journal of Laws 2020, item 1893, as amended).
2	Waste catalogue	Commission Regulation (EC) No 574/2004 of 23 February 2004 amending Annexes I and III to Regulation (EC) No 2150/2002 of the European Parliament and of the Council on waste statistics	Regulation of the Minister of Climate of 2 January 2020 on the waste catalogue (Journal of Laws 2020, item 10)

### b) Disposal of used batteries

In accordance with the provisions of the Batteries and Accumulators Act of 24 April 2009, the **end user** is obliged to hand over used portable batteries that are no longer a source of energy to a waste battery **collector** or collection point. It is prohibited to place used batteries together with other waste in the same container.

In order to prevent contamination of the environment and the possible risk to human and animal health, the used battery should be disposed of in a suitable container at designated collection points.

Lp.	Subject	European legal basis	Polish Legal Basis
1	Waste batteries and accumulators	Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91 / 157 / EEC	Act of 24 April 2009 on batteries and accumulators (consolidated text Dz. U. of 2020, item 1850)

## 9 CE MARKING AND LABELLING OF THE PRODUCT

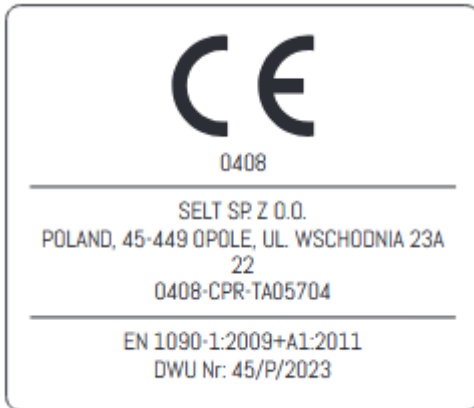
### 9.1 CE CONFORMITY OF THE PRODUCT

The SB350 Pergola's safe construction has been made to comply with EN 13659:2015 (roof) and EN-1090-1 (EXC2 rated superstructure).

TO MAINTAIN THIS CONDITION AND TO ENSURE SAFE USE AND MAINTENANCE OF THE SYSTEM, THE INSTALLATION INSTRUCTIONS AND THE OPERATION AND SAFETY INSTRUCTIONS MUST BE FOLLOWED.


9.2 INFORMATION ACCOMPANYING THE CE MARKING

a) labelling on the product:



b) labelling on accompanying documents


<p><b>SELT Sp. z o. o.</b> <b>Opole, 23A Wschodnia St.</b> <b>POLAND</b> <b>23</b></p>
<p><b>External louvre pergola</b> <b>Pergola SB350</b> <b>24V/DC</b> <b>Power 43 W</b> <b>20 / DZ / 2022</b></p>
<p><b>EN 13659</b> <b>Sun visor</b> <b>for external use.</b> <b>Wind load resistance: class 3</b> <b>TWO 162 / S / 2022</b></p>


<p><b>SELT Sp. z o. o.</b> <b>Opole, 23A Wschodnia St.</b> <b>POLAND</b> <b>23</b></p>
<p><b>EN 1090-1</b> <b>Steel and aluminium components and kits - Pergola</b> <b>SB350</b> <b>DWU 45/P/2022</b></p>

**10 EXCLUSIONS FROM LIABILITY**

The General Terms and Conditions of Guarantee are available at [www.selt.com](http://www.selt.com). If you do not have access to the SELT Sp. z o.o. website, the warranty conditions can be obtained from your SELT Sp. z o.o. sales representative.

**10.1 EXCLUSIONS FROM LIABILITY**

SELT Sp. z o.o. is not liable and does not discharge any warranty or guarantee in the event of:

- Damage caused by transport other than SELT.
- Damage caused by storage, installation, use of the product and maintenance not in accordance with the technical and operating documentation, installation instructions or manufacturer's recommendations, unless these activities were carried out by the manufacturer.
- Damage resulting from the alteration of the system, unless the alteration was carried out by the manufacturer, on his instructions or with his written consent.
- Secondary damage resulting from the use of the appliance despite the original defect being noticed, unless the manufacturer has been informed and has recommended further use. The assessment of the causes of the damage is left to the reasonable discretion of the manufacturer. Repair or replacement of the device due to the damage referred to in this section may be carried out by the manufacturer against payment.
- Defects due to age and normal wear and tear of product parts.
- Mechanical and electrical damage caused by the user.
- Damage caused by incorrect installation of the product, carried out by a company other than the manufacturer.
- Use of anchoring elements that are too weak or attachment to a substrate (substructure) with insufficient bearing capacity (parameters).
- Damage caused by spontaneous repair.
- Damage caused when the system is used in inappropriate weather conditions (outside the scope of the instructions).
- Damage caused by abnormal weather conditions (lightning, storm, hail, water, fire).
- Damage resulting from accidents and unexpected events.
- Characteristic operating noises of the system, produced when the pens rotate (this is a product feature).
- Leaks resulting from incomplete closure of moving parts or heavy rainfall.
- Limitation of the degree of waterproofing due to location, finish, installation and sealing as well as extreme weather conditions having a major impact on the waterproofing of the product.
- Leaks or leaks between the gutters and the sub-structure, as the sealing of the gutter penetrations is carried out by the customer.
- Water formed from condensation that may appear on the lower surface of the blades and the lower surface of the structure.
- The formation of water droplets on the beams, columns or blades, unless this is due to a defect in the product, subject to consultation with an installer who will assess whether this is due to an installation or product defect.
- Splashes of water in the outlet areas of the downpipes due to their specific shape - they cannot be completely avoided.
- Damage resulting from inadequate cleaning with unsuitable tools, corrosive or abrasive substances.
- Atmospheric and phytosanitary contamination and fouling caused by animals.
- Soiling of the paintwork in urban environments exposed to pollution (smog, smoke, acid rain, dust).
- Damage caused by the influence of other products, objects or suspended accessories not foreseen by SELT.
- Deformation and damage to the structure, in particular the blades, caused by the load exerted by the user (standing, moving or hanging on the product).
- Colour variations in parts that may occur during the production process.
- Discolouration of components intensively exposed to the weather.
- Corrosion of components operated in an environment with high sea salt content in the air.
- Possible cracks in the glazing resulting from mechanical damage due to incorrect installation of the system or caused by uneven heating due to the location of the system.
- Variations in the closing angle of the movable roof blades, which can be around 2°, and are a natural feature of the system due to manufacturing and technological tolerances of the components.
- Lack of a uniform flat surface on the underside of closed blades due to differences in closure of individual blades
- Damage caused by commissioning in frost conditions and other natural factors.
- Damage caused by snow accumulation on the blades above the permissible values and with uneven distribution of snow gusts - in case of snowfall, the roof should be in the snow position.
- Damage caused by the use of equipment and flooring not intended for outdoor use under the product.

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- Damage resulting from activating the blade rotation mechanism in winds above wind class 3 (49 km/h) and from leaving the blades open in winds above this class.
  - Deflections of the construction beams, not exceeding the values specified in EN 1090-1 and Eurocode 9, are a natural feature of the system.
  - Damage or deformation caused by unrolled side screens above wind speeds of >49 km/h
  - Possible stagnation and outflow of residual water in the blade gutters.
  - Tilt angle discrepancies between application indication and actual pen tilt.

Selt is also not responsible for:

- A product in which the CE sticker has been removed or is illegible,
- A product in which the pictograms indicating particularly important hazard and safety information have been removed,
- Misuse of the product or not in accordance with its intended use,
- Damage caused by fluctuations in the mains voltage if they exceed 5% or by faulty control,
- To prevent overheating of the product, heat sources such as grills, open fires must not be located within the system,
- SELT Sp. z o.o. also assumes no responsibility for any incidents resulting from non-compliance with this documentation or for the consequences of incidents that the installer, investor or specialised installation team should have taken into account when carrying out the investment or work.

Notwithstanding the above, the scope of responsibility of SELT Sp. z o.o. is limited and results from the contract concluded with the purchaser of the product.

## APPENDIX 1 (INSTRUCTION MANUAL FOR 24VDC MOTOR)