WIND 200

Technical Manual

All images in this manual are for illustration purposes only.

ATTENTION:
Do not use this equipment without first reading the User's Manual.

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Rev. 1

Manufactured by: **Motoppar Indústria e Comércio de Automatizadores Ltda**
Av. Dr. Labieno da Costa Machado, 3526 - Distrito Industrial - Garça - SP - CEP 17406-200 - Brasil
CNPJ: 52.605.821/0001-55
www.ppa.com.br | +55 14 3407 1000

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1. IMPORTANT SECURITY INSTRUCTIONS

Recommendation:
To install the equipment, the specialized PPA installer must follow all instructions mentioned in this TECHNICAL MANUAL and in the USER's MANUAL.

With the USER'S MANUAL, the installer must present all equipment information, uses, and security items to the user.

Before using the WIND 200 FRONT DOOR OPERATOR, read and strictly follow all instructions contained in this manual.

- Before installing the operator, make sure the local mains electricity is compatible with that required on the equipment identification label. Connect the power cord only to sockets connected to the earthing network.

- Only connect to the electrical network after completing installation/ maintenance. Always make the electrical connections to the control panel with the power supply turned off.

- Ensure the door parts do not extend onto roads or public sidewalks after installation.

- Under no circumstances remove the grounding pin from the power plug. Do not use adapters that eliminate this earth connection. Utilizing the earth pin is mandatory.

- After installation, ensure the mechanism is properly adjusted and the system protection and manual release functions correctly.

2. TECHNICAL FEATURES

OPERATOR TYPE	SLIDING
RATED VOLTAGE	85 - 265 V
NOMINAL FREQUENCY	50 - 60 Hz
NOMINAL POWER	90 W
MOTOR ROTATION	3000 rpm
NOMINAL CURRENT	1.0 A
REDUCTION RATIO	2:21
LINEAR SPEED	50 cm/s (2 LEAF) 1m/s (2 LEAVES)
MANEUVERS	Heavy duty
PROTECTION RATING	IPX 0
MAXIMUM LOAD	200 Kg (2 leaves of 100 kg each or 1 leaf of 200 kg)
TEMPERATURE RANGE	-5°C / +50°C
INSULATION TYPE	Class B, 130°C

3. OPERATOR INSTALLATION AND FASTENING

ⓘ ATTENTION
Before installing the operator, remove all unnecessary cables and disconnect any equipment or system connected to the electrical network.

PROCEDURE BEFORE INSTALLATION

Identify the operator's dimensions, weight, fixation structure and the door's opening and closing conditions at the installation location. The operator can only be installed if the location is in good condition and the wall or ceiling is not warped.

ⓘ ATTENTION
Batteries are sold separately.

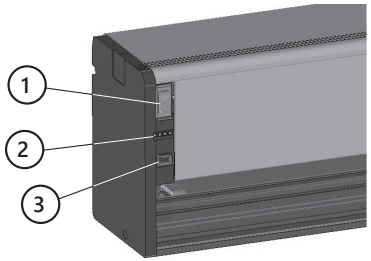
POWER CORD WITH GROUNDING PLUG

To install the WIND 200 operator, it has an electrical power supply cable with a 3-pin plug. The middle pin is connected to the operator's metal part, which is in direct contact with the network's ground wire when connected to the socket, increasing user safety.

Note: Removing the product from the power socket does not guarantee the product is disconnected; it can continue to move the door normally. The product is completely shut down with batteries via the ON/OFF switch.

1- ON/OFF button
2- LED signaling
3- Selector/Prog Connector

LED STATUS:
Red: door closed
Blue: partial
Green: open
Orange: exit only.



TRACK LOWER PART VIEW

INSTALLING 200 WIND OPERATOR ON MASONRY

When in masonry, the WIND 200 set height will occupy the corresponding space of 120 mm in height at the fixing location. It can only be installed if the location is in good condition and the wall is not warped; otherwise, necessary repairs are required.

INSTALLING 200 WIND OPERATOR ON THE CEILING

Installing the operator in a space (directly on the ceiling): when installed directly on the ceiling (clearance), an anchoring structure will be required for the fixed leaf.

NOTE: If the operator is installed in a hallway, the partitions must support the weight of the equipment, and the door leaves. Always pay attention to the technical features.

DOOR LEAF DIMENSIONS

To size the door leaves, follow the following procedures:
1st step: to calculate the size of the leaves – measure the clearance width and divide this value by the number of leaves required. The result will be the width of each fixed leaf. Movable leaves will be 50 mm larger in width than fixed leaves.

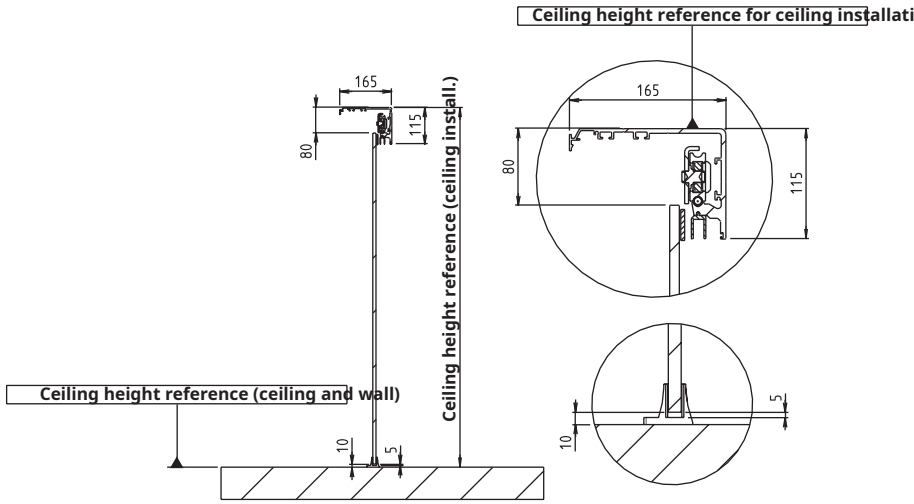
CEILING INSTALLATION – 2 LEAVES

MOVABLE GLASS Height = ceiling – 90 mm Length = Clearance / 2 + 50 mm
FIXED GLASS Height = ceiling – 115 mm Length = Clearance / 2

CEILING INSTALLATION – 4 LEAVES

MOVABLE GLASS Height = ceiling – 90 mm Length = Clearance / 4 + 50 mm
FIXED GLASS Height = ceiling – 115 mm Length = Clearance / 4

Note: 5-mm floor clearance + 10-mm adjustment upwards are already included in the formula.



WALL INSTALLATION – 2 LEAVES

MOVABLE GLASS
Height = ceiling + 25 mm
Length = Clearance / 2 + 50 mm

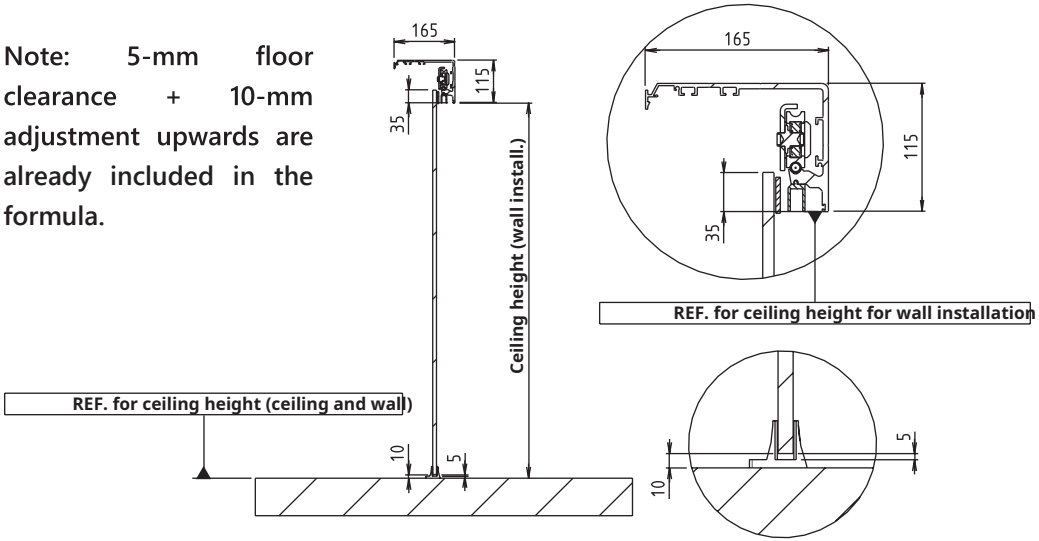
FIXED GLASS
Height = ceiling
Length = Clearance / 2

WALL INSTALLATION – 4 LEAVES

MOVABLE GLASS
Height = ceiling + 25 mm
Length = Clearance / 4 + 50 mm

FIXED GLASS
Height = ceiling
Length = Clearance / 4

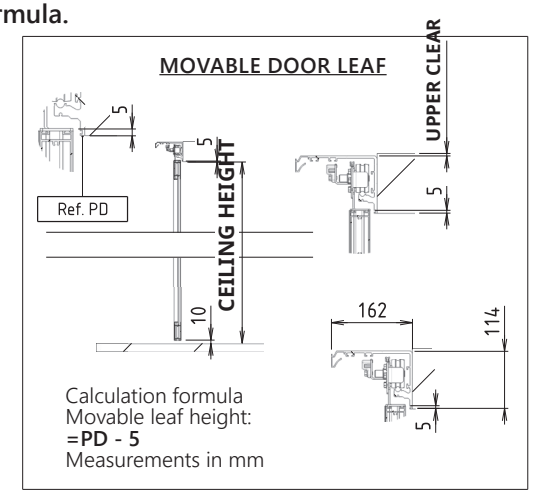
Note: 5-mm floor clearance + 10-mm adjustment upwards are already included in the formula.



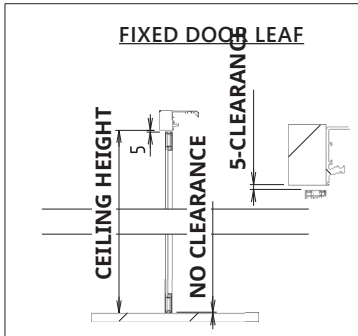
WIND OPERATOR DIMENSION OF FRAMED DOOR LEAVES WALL-TYPE INSTALLATION

Pay attention to the reference position of the ceiling height "under the track".

Note: 5-mm floor clearance + 10-mm adjustment upwards are already included in the formula.



Calculation formula
Movable leaf height:
=PD - 5
Measurements in mm



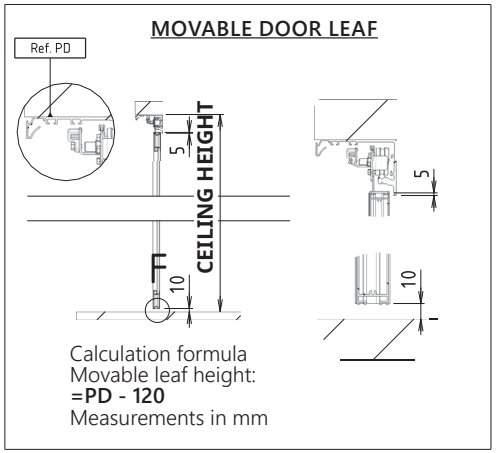
Calculation formula
Fixed leaf height:
=PD - 5
Measurements in mm

NOTE: The length calculation and the door leaves crossing formulas remain the same.

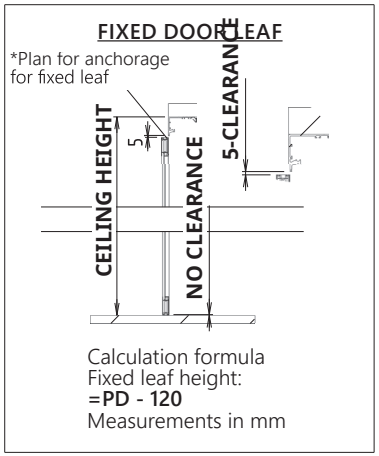
WIND OPERATOR DIMENSION OF FRAMED DOOR LEAVES CEILING-TYPE INSTALLATION

Pay attention to the reference position of the ceiling height "under the track".

Note: 5-mm floor clearance + 10-mm adjustment upwards are already included in the formula.

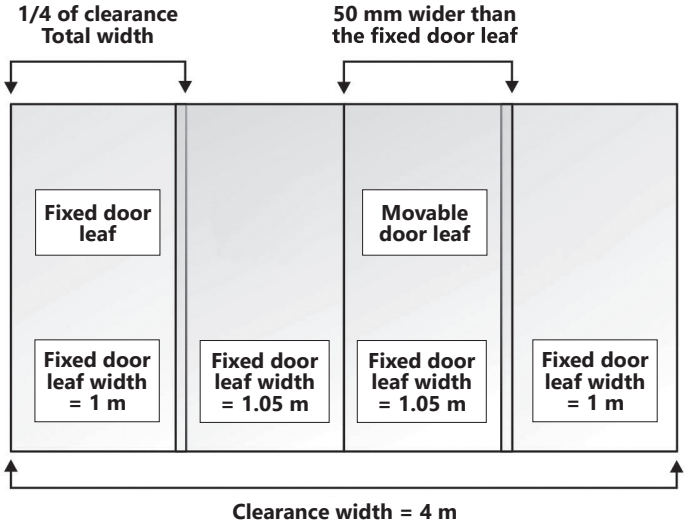


Calculation formula
Movable leaf height:
=PD - 120
Measurements in mm



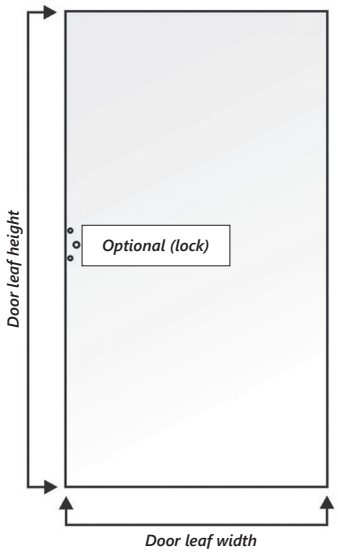
Calculation formula
Fixed leaf height:
=PD - 120
Measurements in mm

NOTE: The length calculation and door leaves crossing formulas remain the same.



2nd step: To calculate the weight of the door leaves, follow the procedure below::

Ex.: Find the door leaf square area and multiply height x width; multiply the result by 25, which is the weight of the m^2 10-mm glass. The result will be the leaf weight; multiplying it by 2 will give you the total weight of the two leaves.

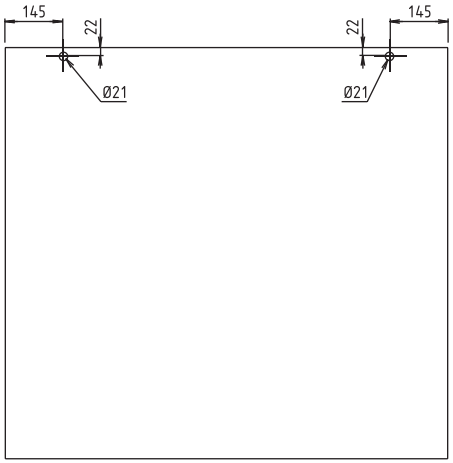


Ex.: P= h (meters) x W (meters) x 25

*DATA: h = height L = width

DRILLING THE GLASS

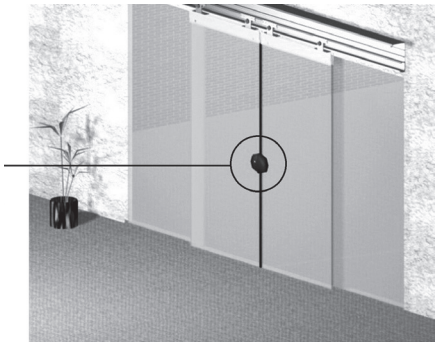
*All measurements below are in millimeters.



LOCK INSTALLATION

When there is a need for a lock on the door, which is not automatic, the finishing profile must be cut out for fitting and/or drilling (depending on the type of lock).

We recommend the electromagnetic lock (optional), sold separately, as an automatic lock in cases of access control.



When the door does not have an electronic lock, provide glass cutting and drilling for manual locks, when necessary.

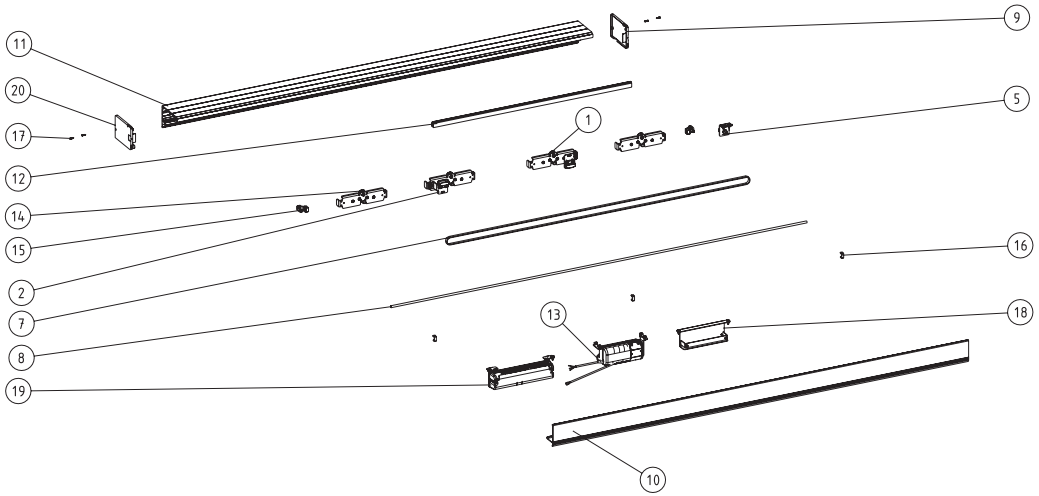
TRACK INSTALLATION

The location where the track will be installed must follow the recommendations at the beginning of the technical manual (procedure before installation).

1. TRACK AND COVER PREPARATION

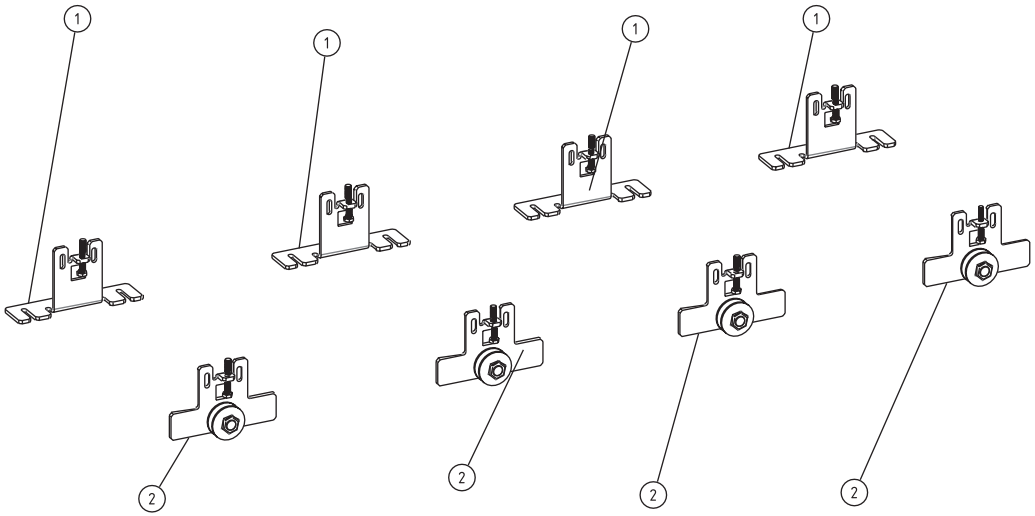
1.1 If necessary, move or remove internal parts and components to drill and fix the track to the masonry structure.

COMPONENTS FOR FIXING WIND 200 ON GLASS



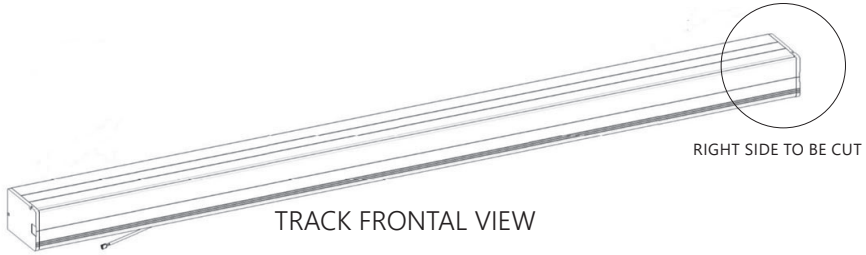
No.	Qty.	Code	Description
20	1	P33044	WIND – 200 SIDE COVER ASSEMBLY WITH ACCESSORIES
19	1	P33040	WIND –200 FIXING ASSEMBLY WITH CONTROL BOARD
18	1	P33038	WIND – 200 BATTERY BRACKET ASSEMBLY
17	4	C10893	SCREW – PPP P 3.5 X 16 MM (ZB)
16	3	P06854	FRONT DOOR WIND STAINLESS STEEL TUBE CLAMP
15	2	P33022	WIND – 200 MECHANICAL STOP
14	2	P33029	WIND – 200 CORNER DOOR ROLLER
13	1	P33035	WIND – 200 REDUCER ASSEMBLY
12	1	P14830	FIXED GLASS PROFILE
11	1	P06872	CORE STAINLESS STEEL TRACK – 2.00 MTS NATURAL-(29392-D)
10	1	P06871	FRONT DOOR WIND TRACK COVER – 2.00 MTS NATURAL-(29391-C)
9	1	P06852	FRONT DOOR WIND RIGHT SIDE COVER
8	1	M11459	STAINLESS STEEL TUBE - EXT. 9.530 MM - WALL 1.00 MM (P09744 - SOLD BY METER)
7	1	M10650	DOSO TOOTHED BELT (SOLD BY METER)
5	1	P33020	WIND – 200 TENSIONER
2	1	P33032	WIND – 200 LEFT CENTER DOOR ROLLER
1	1	P33031	WIND – 200 RIGHT CENTER DOOR ROLLER

COMPONENTS FOR FIXING WIND TO THE FRAME / GLASS



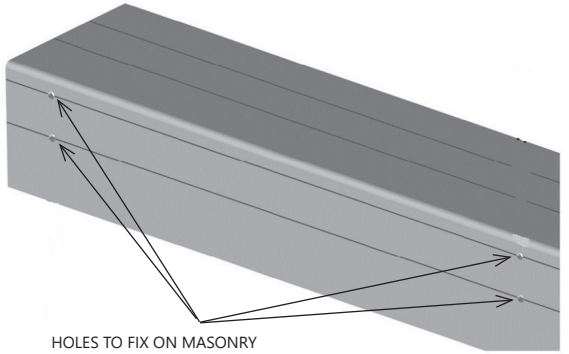
1.2 If the track and cover need to be cut to fit the desired space, we recommend always cutting the right side of the track. Always consider the track's right side, looking at the track from the front. Thus, looking at the track from the front (front view), consider the right side, as shown in the image below.

NOTE: If necessary, cut on the opposite side of the motor.



TRACK FRONTAL VIEW

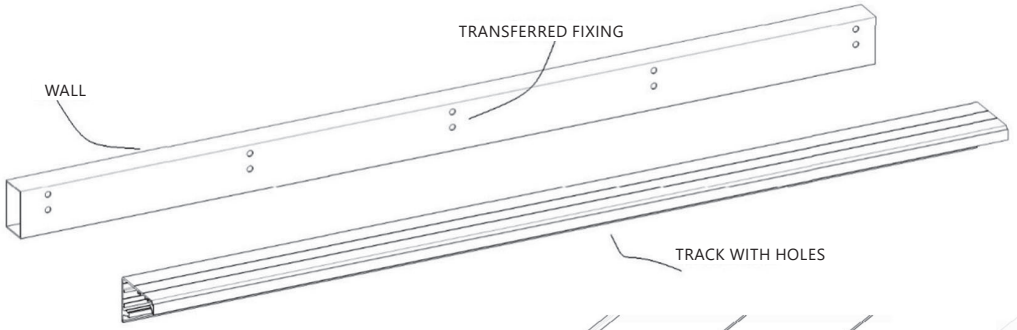
1st step: to install the track on a masonry structure, drill holes with the diameter of the screw used, spaced between >500 and <800, using the external guides. Below is an example of a wall installation. For a ceiling installation, use the upper external guides.



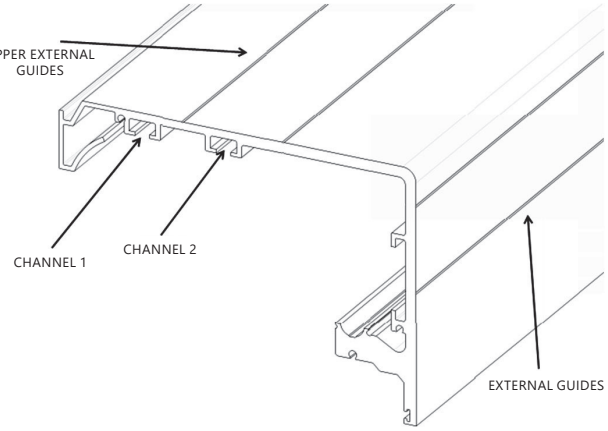
2nd step: to find the height of the track base, measure the height of the movable leaf minus 35 mm on the glass model.

3rd step: to fix the track to the masonry structure, use a laser or standard level to level it and ensure it works properly.

4th step: after leveling the track on the masonry structure, mark the holes where the track will be fixed.

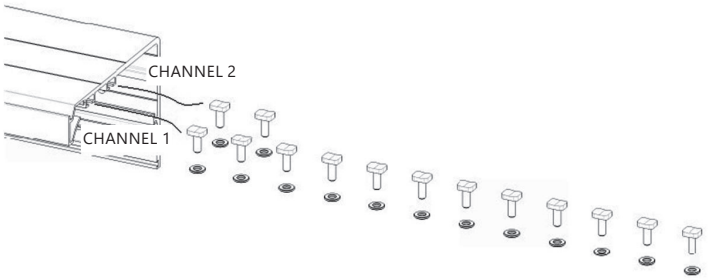


5th step: after marking the holes, insert the rectangular screws into the track in channel 1 and channel 2, totaling 14 screws and 14 washers.

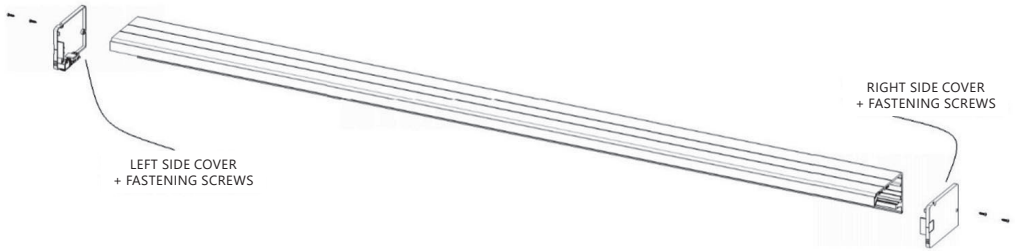


Where:

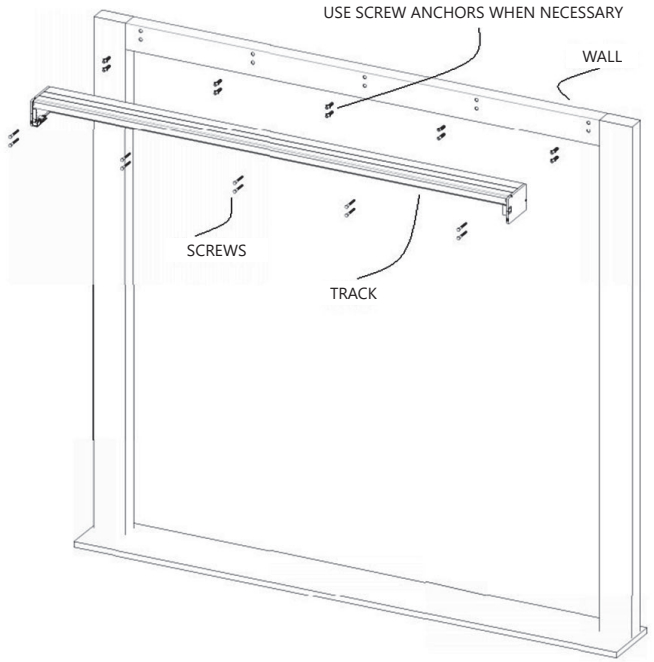
QTY.	PLACE	DESCRIPTION
12	CHANNEL 1	SCREW
12	CHANNEL 1	WASHERS
2	CHANNEL 2	SCREW
2	CHANNEL 2	WASHERS
4	CLAMPS	SCREW
4	CLAMPS	WASHERS
4	MOTOR	SCREW
4	MOTOR	WASHERS
2	CONTROL BOARD	SCREW
2	CONTROL BOARD	WASHERS
2	BATTERY	SCREW
2	BATTERY	WASHERS
2	TENSIONER	SCREW
2	TENSIONER	WASHERS



6th step: after inserting the rectangular screws in channels one and two, as shown in the images above, the next step is to place the side covers of the track according to the image below.



7th step: After inserting the rectangular screws, washers and side covers into the track, the next step is to fix the track to the structure. Remember that to secure the track to the structure, it must be completely leveled and aligned for the product to work correctly.
Below is an example of a wall model installation using the external guides. The upper external guides must be used for the ceiling (slab) installation model.



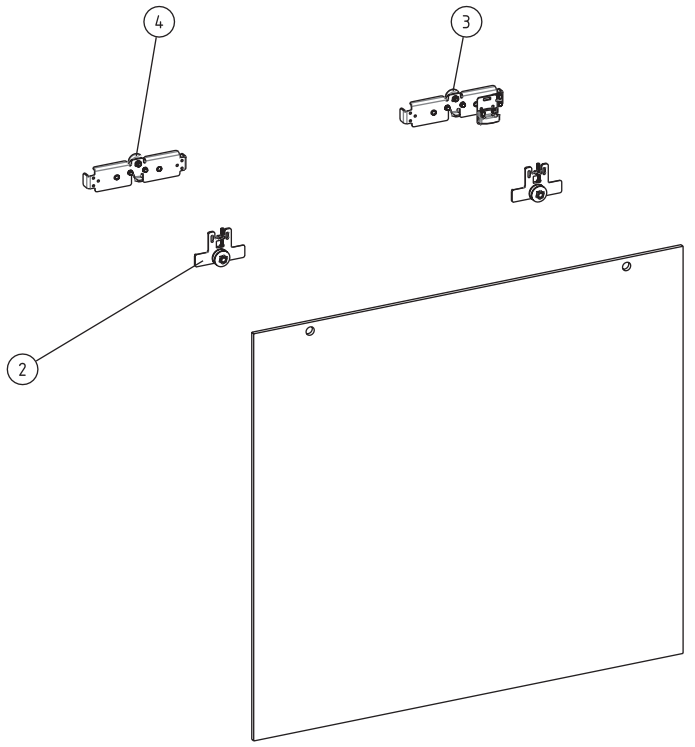
8th step: After marking the locations of the holes on the wall, drill according to the size of the screw anchor to be used.

Note: When securing the track to a metal base, use self-tapping or screws 7/8 x 1/4. Observe the lateral access of the track before fixing it.

MOVABLE DOOR LEAF ASSEMBLY

MOVABLE DOOR LEAF ASSEMBLY (GLASS)

Below is an illustration of how the movable leaves (glass) should be assembled.

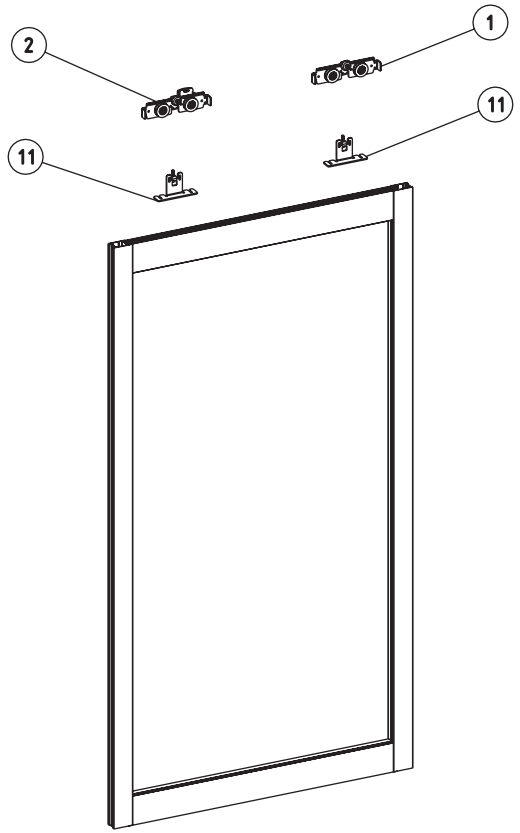


No.	Qty.	Code	Description
4	1	P33029	WIND - 200 CORNER DOOR ROLLER
3	1	P33031	WIND - 200 RIGHT CENTER DOOR ROLLER
2	2	P33026	WIND- 200 GLASS FASTENING ASSEMBLY

FRAME LEAF ASSEMBLY

1st step: below is an illustration of how the framed leaf should be assembled.

NOTE: The construction of the frame profile must be resistant, the upper crossbar must be reinforced, and an iron or aluminum profile must be placed inside, on which the support for securing the door will be fixed. We do not recommend attaching door rollers with self-tapping screws.

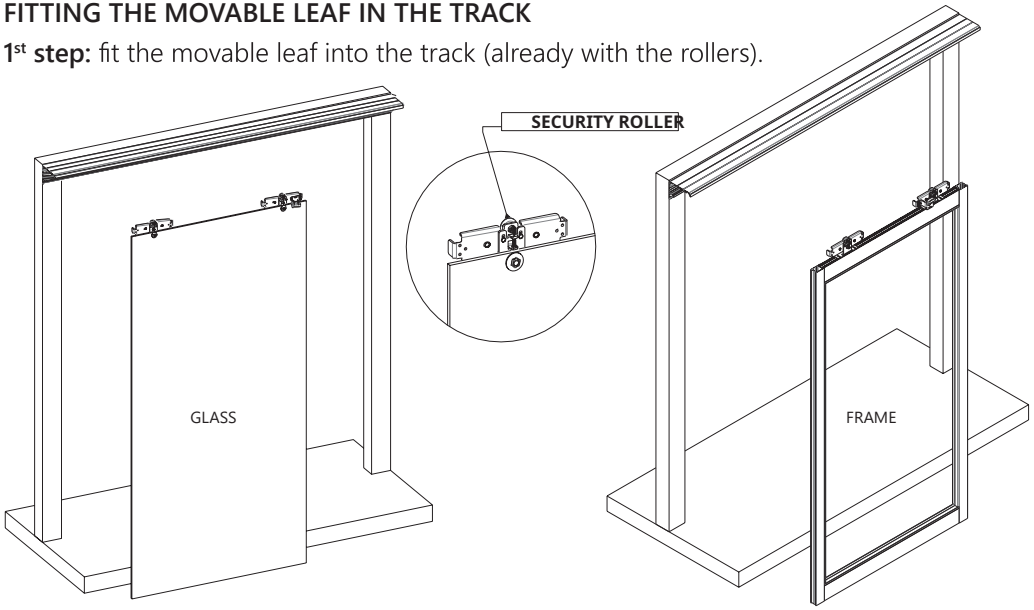


No.	Qty.	Code	Description
11	2	P33028	WIND- 200 FRAME FASTENER
2	1	P33032	WIND - 200 LEFT CENTER DOOR ROLL
1	1	P33029	WIND - 200 CORNER DOOR ROLLER

ⓘ ATTENTION
Remember that to fix the door roller to the profile, the profile must have an excellent physical structure and must be drilled with at least a 5.1 mm drill and a 6 mm or ¼ tap and then insert the screw.

FITTING THE MOVABLE LEAF IN THE TRACK

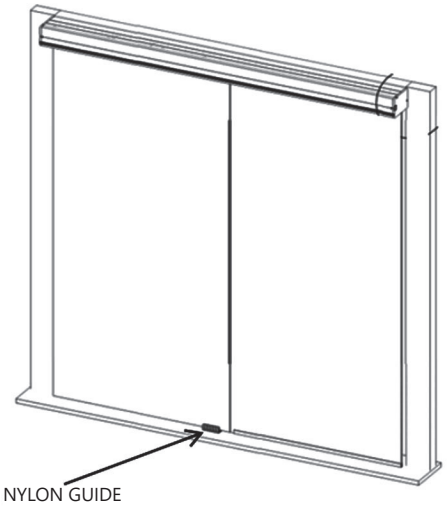
1st step: fit the movable leaf into the track (already with the rollers).



ⓘ ATTENTION
Always adjust the lock/security roller to ensure the door leaf remains on the sliding track.

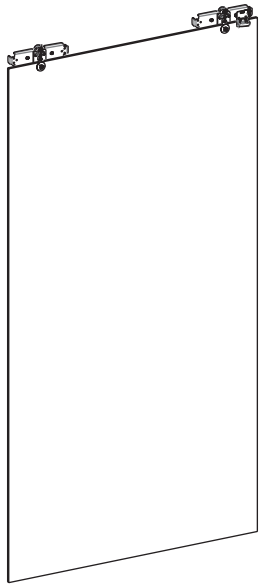
2nd step: insert the nylon guide onto the movable glass, leaving it aligned with the fixed glass. Straighten the movable glass and secure the nylon guide by screwing it to the ground.

NOTE: In this process, it is essential to manually move the door leaf(s) to check whether it is accessible throughout the entire track. Align the movable level with a laser level or plumb line.



ⓘ ATTENTION
Remember to always use a laser level or plumb line to align the glass..

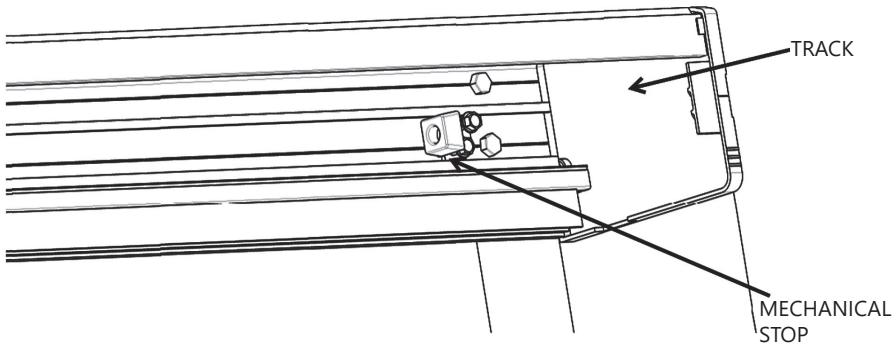
3rd step: With the glass fixed to the track, see the image below for details of the security ROLLER and the clearance between the ROLLER and the internal face of the track (0.50 to 1.00 mm). The roller does not need to touch the track.



4th step: Glue the glass stop rubber to the sides along its entire length where the movable leaves touch.
NOTE: To place the rubber profile, clean it with alcohol or thinner in the location indicated for gluing.

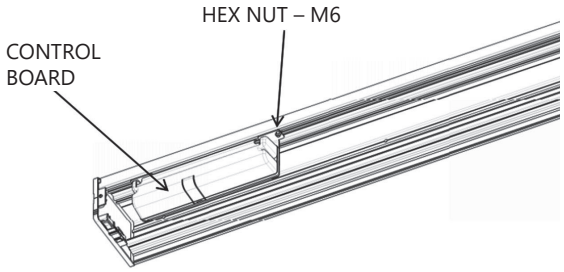
5th step: insert the mechanical stop(s) into the track where it limits the door's path and avoids damage to the equipment. For movable double-leaf doors, there will be two opening stops. For single doors, only one opening stop will be required.

6th step: open the door to the maximum, observe the point where it should stop, and place one of the stops to mark the end of the opening at that point.
NOTE: There will be no stop at closing. The stop rubbers will cushion closing.



7th step: insert and secure the control board on the track with a sext nut. M6.

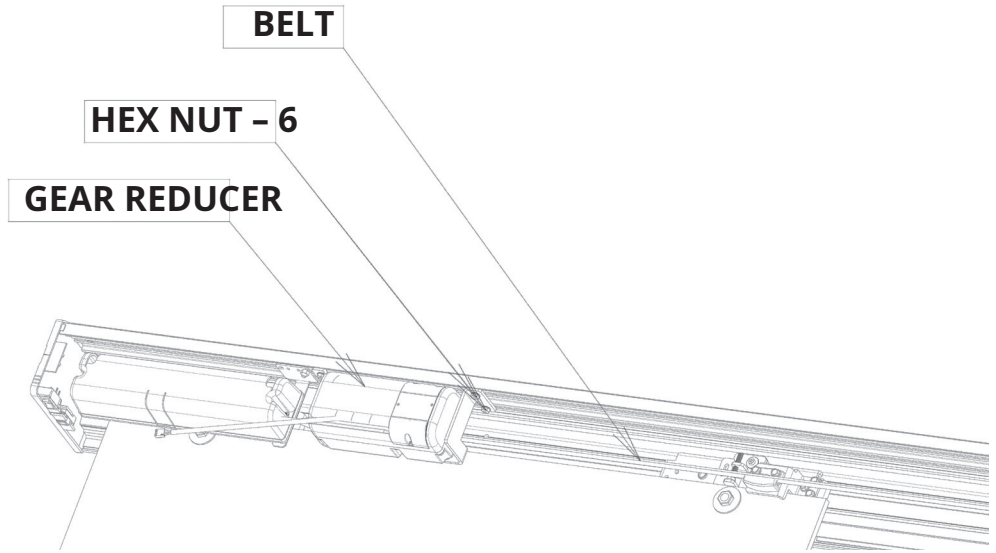
NOTE: When installing a control board, an energy point representing a socket, based on the official standard for sockets (Standard NBR 14136) being 127 V or 220 V with an earth conductor, is mandatory.



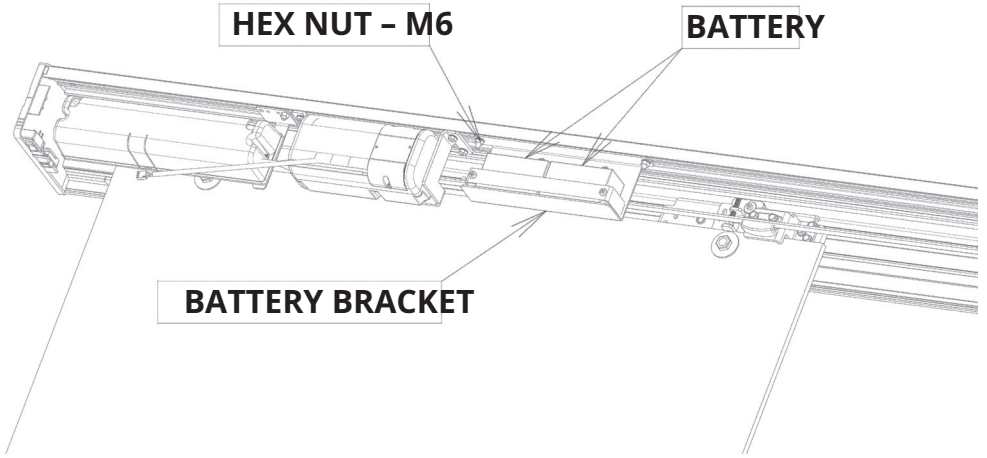
GEAR REDUCER AND BELT

INSTALLING WIND GEAR REDUCER AND BELT

1st step: run the belt over the toothed pulley before fixing the gear reducer bracket to the track. This fixation must be made on the reverse side of the tensioner and close to the electrical network input, which must be on the left side of the track, leaving enough space for the control board.



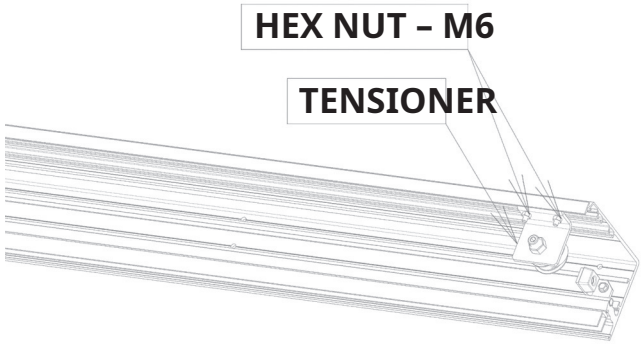
2nd step: after inserting the gear reducer and control board, the next step is to fix the battery base on the track as shown in the image below.



TENSIONER

1st step: insert and secure the belt tensioner on the track with screws and hex nuts. M6 at the top of the track.

2nd step: leave the adjustment screws loose to tension the belt after installing the WIND gear reducer.



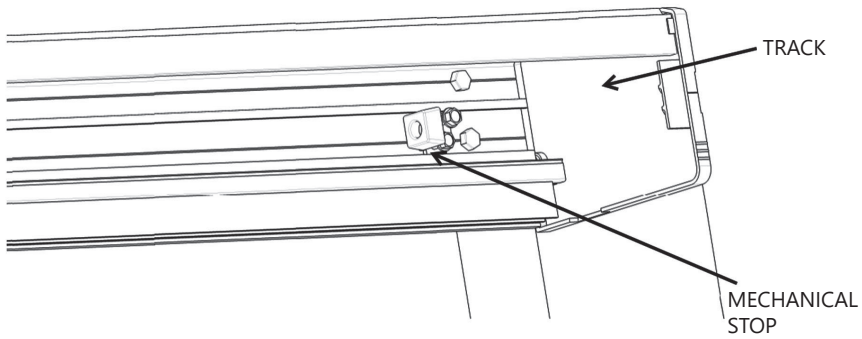
3rd step: using a 6-mm Allen wrench and a 22-mm fixed wrench, turn the eccentric shaft to the desired position and secure it with the M14 hex nut.

NOTE: Belt tensioning is necessary for the door to work. The belt must neither be too tight nor too loose. After tensioning the belt, move the door manually to check if the belt has a certain tension pressure and it will not skip the gear reducer toothed gear. If this happens, tension the belt again.

4th step: close the door so the two door leaves are in the center of the clearance, and the 5 cm of each leaf are equal on both sides. After centralizing the leaves, attach the belt to the second leaf.

5th step: manually test the doors' opening and closing and readjust the stops' position if necessary.

6th step: Also check the condition of the ROLLERS that hold the glass. When manually pulling to open and close the door, it is crucial to ensure they are new and in perfect alignment and functioning.



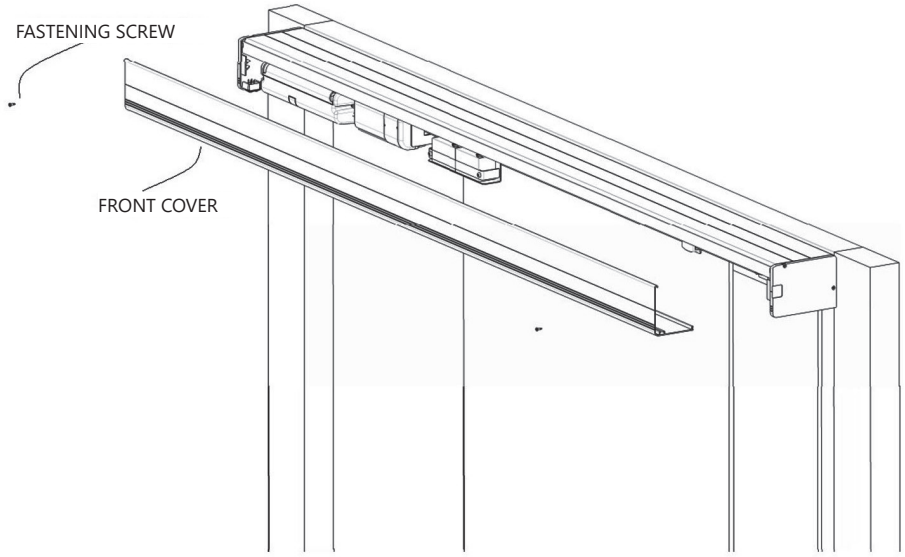
ⓘ ATTENTION

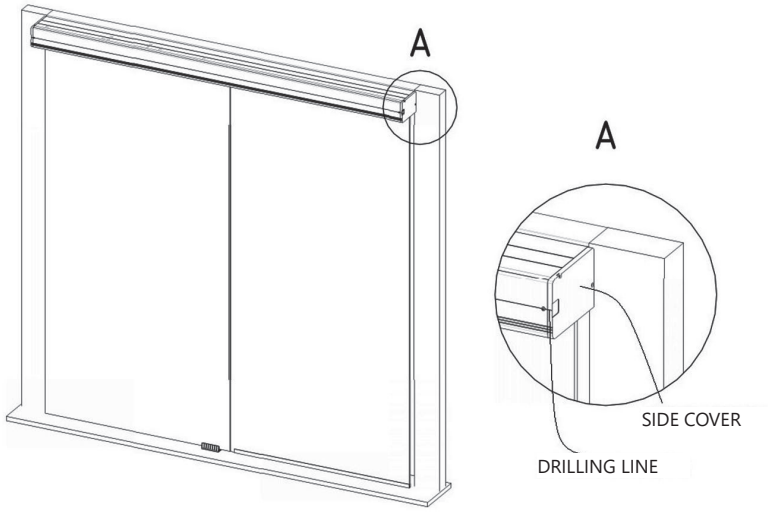
After some time, the belt may give a little, so it will require a new adjustment to the tensioner to make it firm for the door to work correctly.

INSERTING THE FRONT AND SIDE COVERS OF THE TRACK

1st step: screw the cover bracket, which will keep the profile (front cover) open for maintenance, cleaning, etc.

NOTE: If you have cut/reduced the front cover, drill a hole again to insert the screw and fix it using the alignment indication on the side cover.





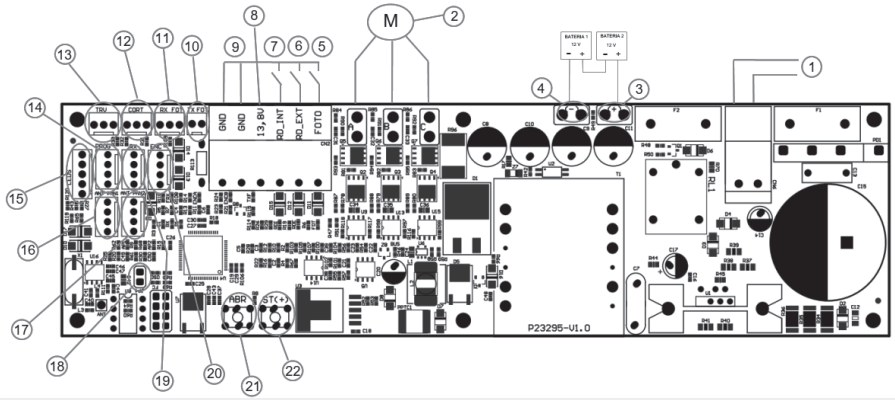
CONNECTING ELECTRICAL POWER AND COMMUNICATION CABLES

1st step: connect the cables: external prog, operating status (LED), on/off button, battery, and power cable.

IMAGE

2nd step: to power the equipment, follow the necessary recommendations of the NBR 14136 standard, which describes an electrical point represented by a socket with an earth conductor, the power input voltage being 127 V or 220 V.

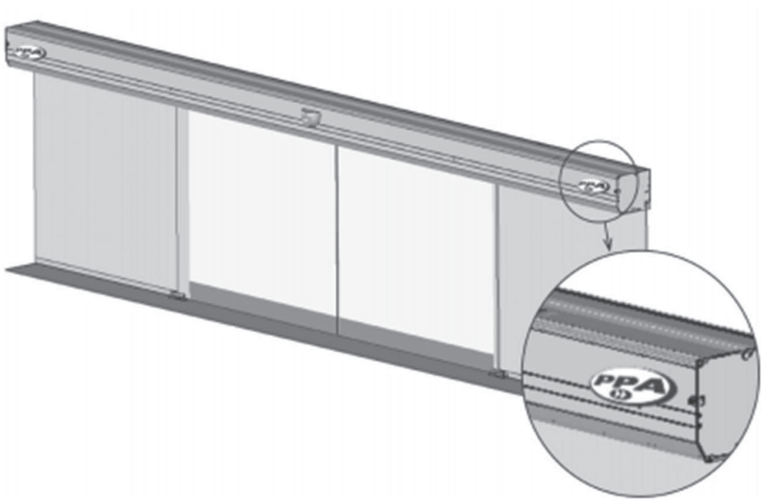
4. 24 V FRONT DOOR ELECTRONIC CONTROL PANEL



1 - Mains power supply (full range) 90 - 240 VAC; 2 - 24 V BRUSHLESS motor
3 - Positive battery terminal (+).
4 - Negative battery terminal (-).
5 - Photocell connector (PHOTO).
6 - External radar connector (RD_EXT).
7 - Internal radar connector (RD_INT).
8 - Electrical voltage 13.8 V.
9 - GND connector.
10 - TX_FOT connector (built-in photocell).
11 - RX_FOT connector (built-in photocell).
12 - AIR curtain connector.
13 - LOCK connector.
14 - FUNCTION SELECTOR / PROG connector.
15 - LED signaling connector.
16 - ANTI PANIC 1 connector.
17 - ANTI PANIC 2 connector.
18 - Jumper HRF.
19 - RX connector (external receiver).
20 - Encoder connector.
21 - ABR button.
22 - ST button (+).

5. CLOSING THE OPERATOR COVER

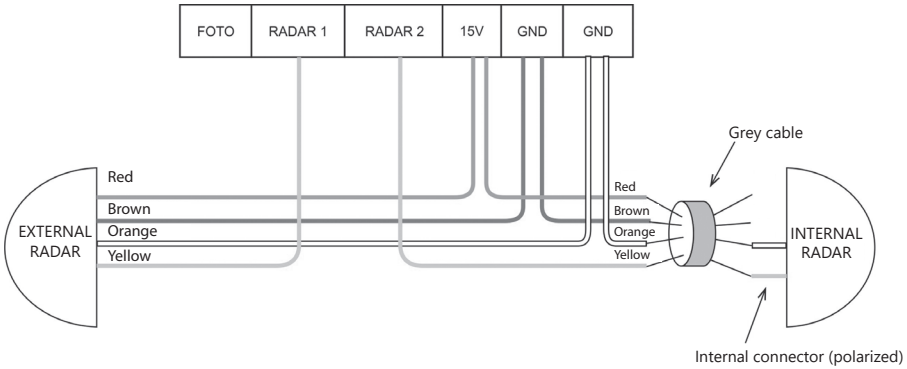
After making all connections and adjustments, place the control board cover, close the operator cover, and secure it with two screws.



6. ACCESSORIES

RADAR

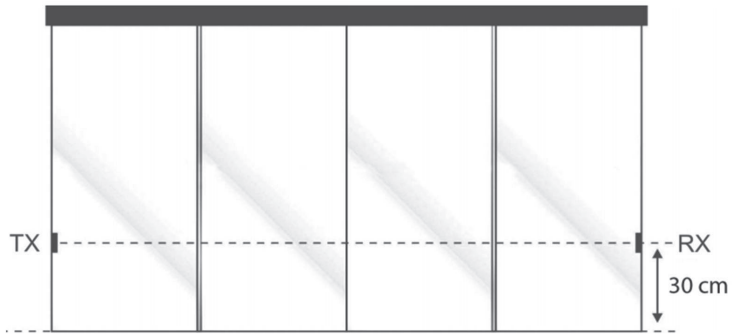
ELECTRONIC CONTROL BOARD CONNECTION DIAGRAM



PHOTOCELL

FASTENING AND CONNECTING THE PHOTOCELL

1. Run one 4-way cable from the TX to the control board, passing inside the track.
2. Run one 4-way cable from RX to the control board, passing inside the track.
The command to activate the photocell must be made from an NC contact (Normally closed).



DOOR GLASS (PHOTOCELL INSTALLED ON THE WALL

PRECAUTIONS

-Do not install the receiver unit facing directly toward the Sun.
-Make sure that the side with the wire exit is positioned downwards.

7. MAINTENANCE

ⓘ ATTENTION
Before any maintenance, remove the equipment from the electrical power supply.

PROBLEMS: DEFECTS, PROBABLE CAUSES, AND CORRECTIONS

The table below describes defects, probable causes, and corrections that may occur in your operator if it requires maintenance.

DEFECTS	PROBABLE CAUSES	CORRECTIONS
The door opens and closes by itself.	- Dirt on the track. - Dirt on the door guides. - Unregulated radar, interfering with the leaf movement.	- Clean the track. - Clean the door guides. - Adjust radar sensitivity.
The opens slowly.	- Lack of power supply.	- Activate the radar and wait for the door to open and close slowly.
The door opened and did not close.	- Photocell is obstructed.	- Clear the photocell.