

Installation & Connection manual N°1410

06/19

**Murax P110 shutters/Dentel grille
equipped with stop fall**

**Tubular motor
with emergency manoeuvre**



(Document reserved for installers)

Summary

Material needed	p.2
Installation instructions	p.3
Installation the guiding rails and axis.....	p.4
Motor connection.....	p.6
Limit switches pre-settings	p.8
Apron installation principle	p.9
Mounting the Murax apron	p.10
Mounting the Dentel apron.....	p.13
Final limit switches setting.....	p.14
Finishing.....	p.15
In case of problems on the maneuver	p.15
Emergency maneuver	p.17

Material needed

- | | |
|---------------------|---------------------------------------|
| - Lifting equipment | - Flat keys of 8, 10, 15 and 17 mm |
| - Clamps | - Allen key of 5 |
| - Spirit level | - Socket wrenches of 10, 15 and 17 mm |
| - Plumb line | - Screwdriver |
| - Tape measure (5m) | - Grease with brush |
| - Hammer drill | - Universal pliers |

Installation instructions



WARNING !

To ensure that this product is assembled, used and maintained in complete safety, it is important to follow the instructions provided in this document.

For everyone's safety, please observe the precautionary measures below.



- * Before beginning the assembly, read this manual carefully.
- * This closure must be installed by a professional technician.
- * All the parts delivered are specifically sized for this product. Adding and/or using other parts may be detrimental to safety and may affect the product's warranty.
- * Any modification or improvement of this closure must be compliant with the standard EN 13241 + A2. In this case, a "modification/transformation" file must be created by the installer as per the standard EN 12635 annex C.
- * Considerable force is exerted in the case of a shutter or a grille. This work must therefore be carried out in accordance with the safety instructions. Use the appropriate tools to install these products. Ensure that the work is carried out on a stable floor.
- * Ensure that the assembly area is adequately lit, clear, clean and clearly marked out.
- * Ensure that no other people are present at the assembly site apart from the installers. Non-authorized persons (children for example !) who are present at the site risk injury during assembly.
- * All the components of this closure must be installed in compliance with the installation instructions provided in this manual.
- * All the requirements of the standards EN 13241 + A2 must be met and verified if necessary.

Max. locking torque :

- Assembly screw : **10 Nm**
- Apron clip screw : **12 Nm**

Min. working load per attachment point :

- Plates : **300 daN**
- Rails : **40 daN**

Note : In the case of an installation on a metallic frame, it is possible to weld the rails and the plates to the structure of the building. In this case, it is necessary to make a welding bead of about 50 mm on each side of the rails, spaced about 800 mm.

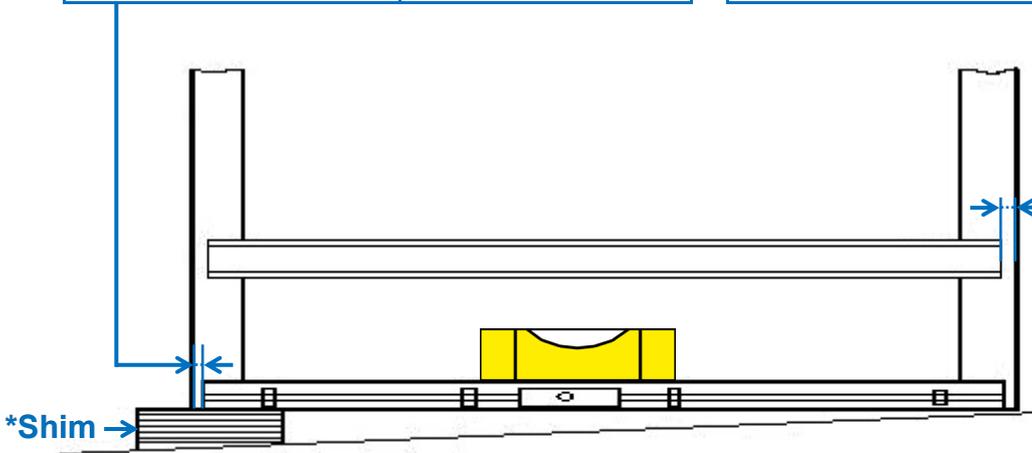
Installation the guiding rails and axis



The clearances for the hurricane slides and the noise reduction clips vary, refer to the corresponding manual which is included in the accessory pack.

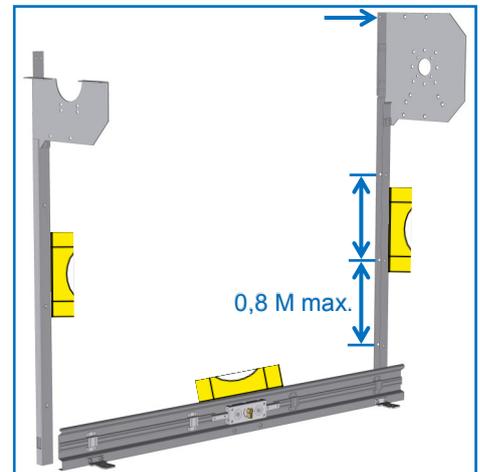
End-slat	
The inner clearance on each side must be observed in accordance with the depth of the guiding rail	
Bottom clearance of guiding rail	Depth of guiding rail
8 mm	40 / 60 mm
8 mm	80 / 100 mm

Lames intermédiaires ou Tubes ondulés	
The inner clearance on each side must be observed in accordance with the depth of the guiding rail	
Bottom clearance of guiding rail	Depth of guiding rail
8 mm	40 / 60 mm
12 mm	80 / 100 mm

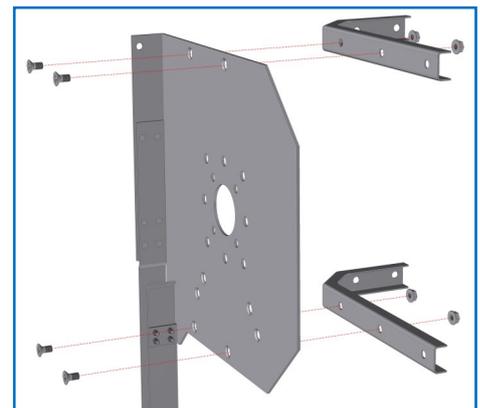


Motor side : 100 mm space at the back of the slide is imperative to accommodate the motor.
Motor opposite side : 70 mm space at the back of the slide is imperative to accommodate the stop fall.

- 1** - Provisionally attach the guiding rails using the clamps.
- Position the end-slat horizontally (a shim may potentially be needed at the bottom of the guiding rail*) ensuring that the clearance is respected.
 - Check that the guiding rails are plumb.
 - Permanently attach the guiding rails and the upper section of the winding plate.



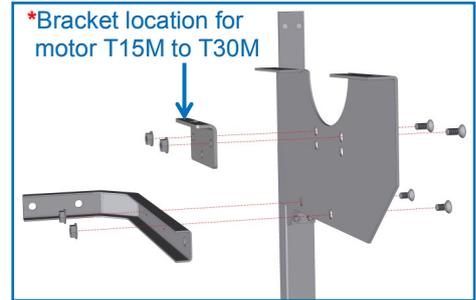
- 2** - Opposite side to the motor (CO) :
- Attach the reinforcement brackets to the winding plate with the screws FZ M8x20 ZN and the nuts HE M8 ZN.
 - Attach the assembly to the wall using the brackets (pins and screws not provided).



3 - Motor side (CM) :

- Fix the reinforcement bracket on the lower half-plate with the screws FZ M8x20 ZN and the nuts HE M8 ZN.
- Fix the assembly against the wall using the square (pegs and screws not supplied).
- Fix the motor support on the half-plate with the screws FHC M8x20 ZN and the nuts H M8 ZN.

***Note :** For T35M and T45M motors, position the motor bracket on the 2 below holes.


3


The weight of the apron is born mainly by the winding plates, it is therefore necessary to treat the work of fixing on the wall well. The winding plates must remain parallel during the operation, if necessary, add additional reinforcements (not supplied).


Tip : If installation of a box.

Draw and drill holes of fixation of the cheeks and any consoles before mounting the axis.
(See the installation instruction for Caisson 3K).

4 - Opposite side to the motor (CO) :

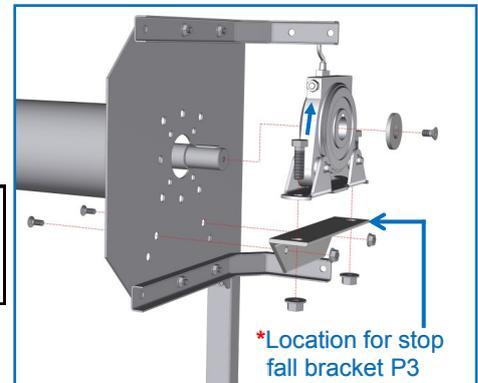
- Fix the stop fall support on the winding plate with the screws FZ M8x20 ZN and the nuts HE M8 ZN.

***Note :** For the P5 stop fall, position the support of the stop fall on the 2 below holes.



Position stop fall in the closing direction, following the arrows on the stop fall (→).

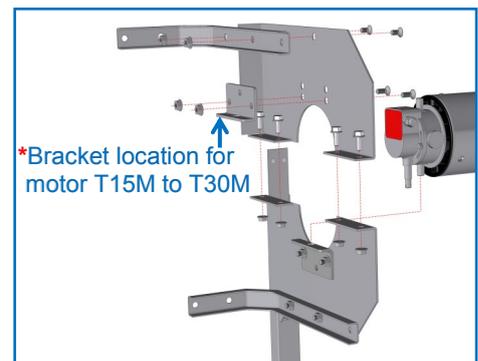
- Fix the stop fall on its support with the screws H M12x40 ZN and the nuts HE M12 ZN.
- Insert the pinned shaft, through the plate, into the stop fall. Screw the clamping washer at the end of the shaft with the screws FHC M8x16 with threadlock.


4
5 - Motor side (CM) :

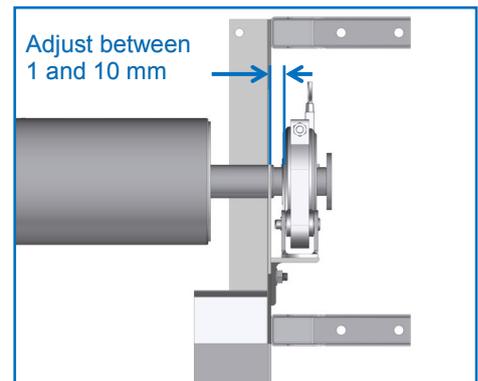
- Position the motor ear on the lower bracket.
- Screw the upper half-plate with the screws HE M8x16 ZN and the nuts HE M8 ZN.
- Fix the motor support on the upper half-plate with the screws FHC M8x20 ZN and the nuts H M8 ZN by inserting it into the upper ear of the motor.

***Note :** For T35M and T45M motors, position the upper motor mount on the 2 holes above.

- Fix the reinforcement bracket on the upper half-plate with the screws FZ M8x20 ZN and the nuts HE M8 ZN.
- Fix the assembly against the wall using the square (pegs and screws not supplied).

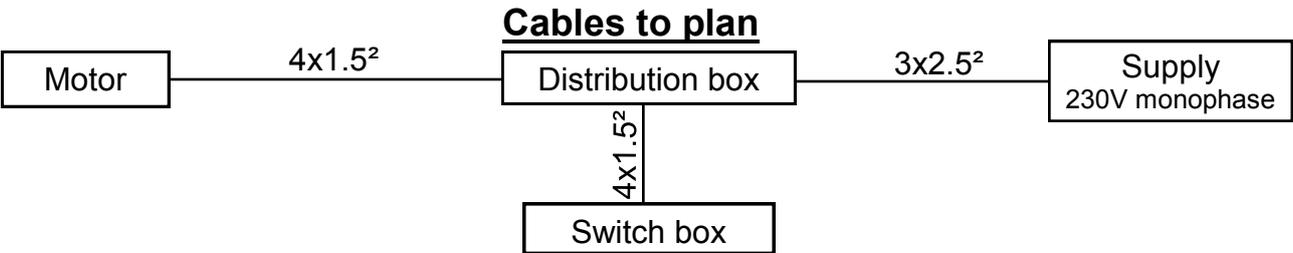

5
6 - When the structure is mounted, opposite side to the motor (CO) :

- Check the adjusting dimensions between the shoulder and the stop fall, it must be between 1 and 10 mm.


6

Motor connection

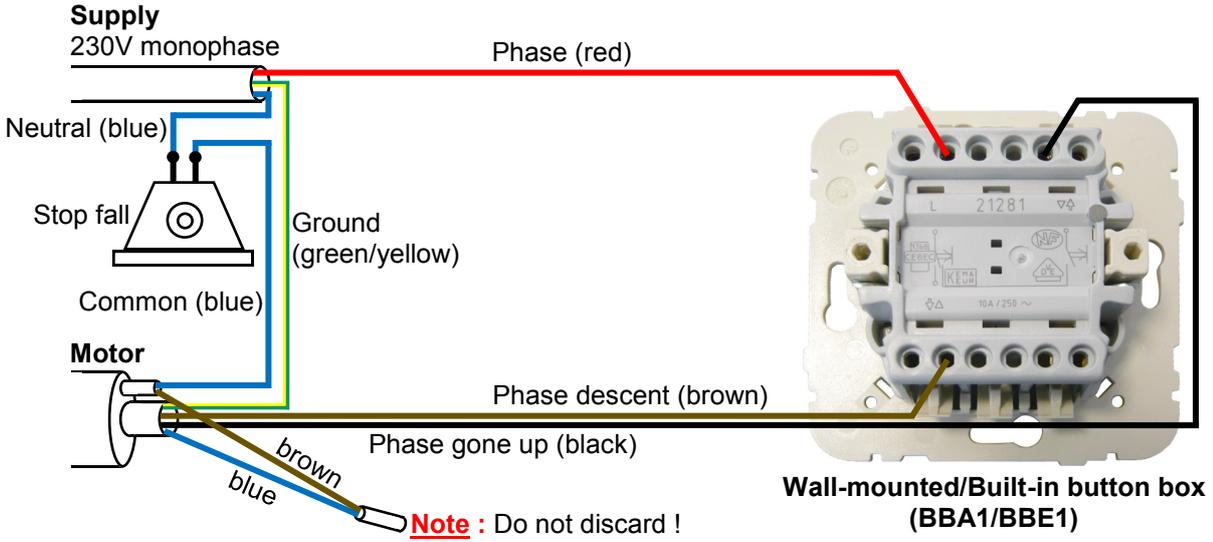
- Fixed controls must be installed always at sight from the user but away from moving parts and at a height of at least 1,5 m from the floor.
- Each motor must be controlled independently. It is forbidden to connect motors in parallel on a single control unit of monopolar type.
- In hold to run operation, only the control panel requiring a hold to run must be installed and/or used.



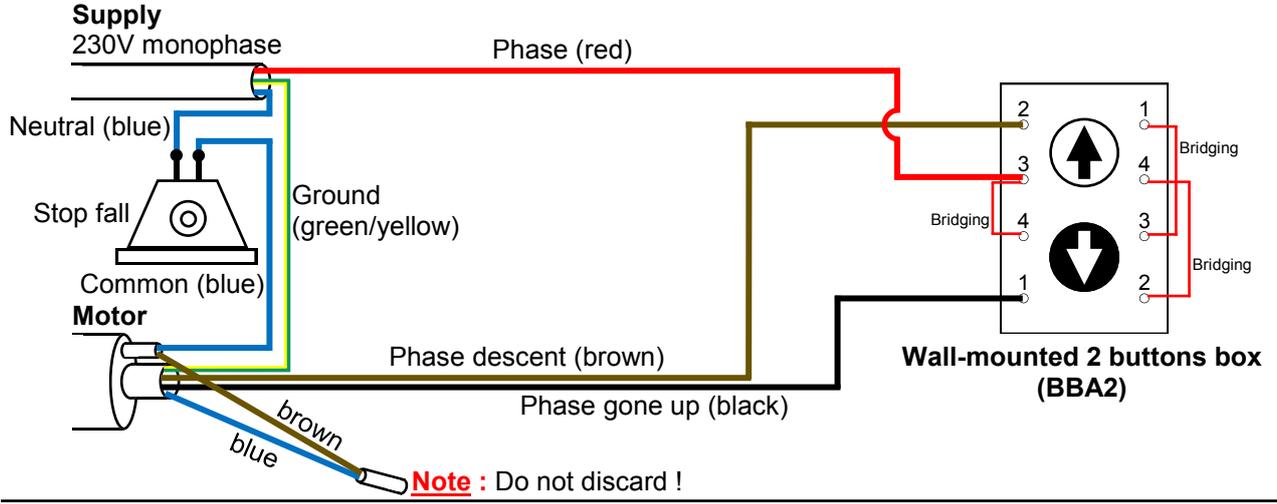
Provide protection of the supply line by a differential circuit breaker located upstream.
 Also plan in the immediate vicinity of the motor :

- A thermal protection of the motor.
- A breaker, accessible to the user.

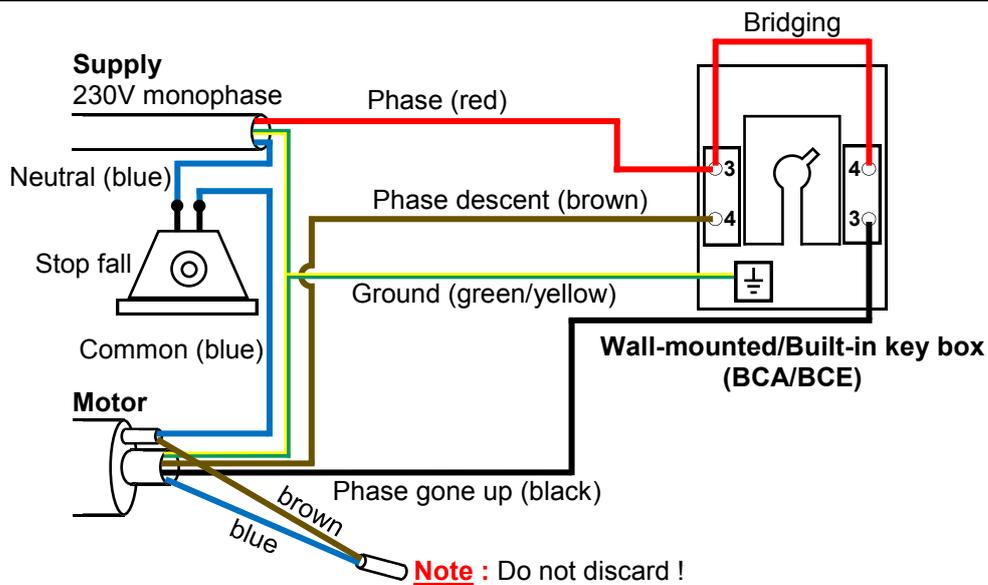
Switch box



2 switches box



Key box



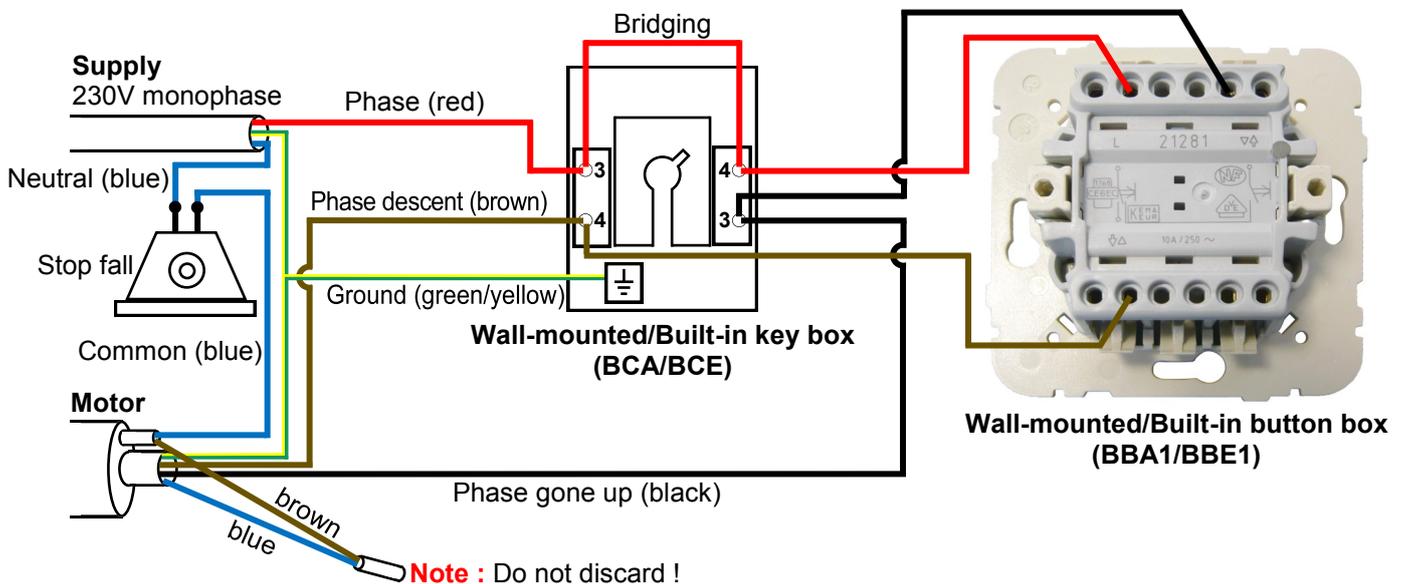
Note : Do not discard !

Note : To install the lid of the key box, it is necessary to present the lug of the cylinder in front of the lid of the box.

Important :

- The ground wire must be connected to the ground connector of the key switch box using a screw.
- Completely seal the housing with a soft sealant to the wall bracket.

Key box with switch box



Note : Do not discard !

Note : To install the lid of the key box, it is necessary to present the lug of the cylinder in front of the lid of the box.

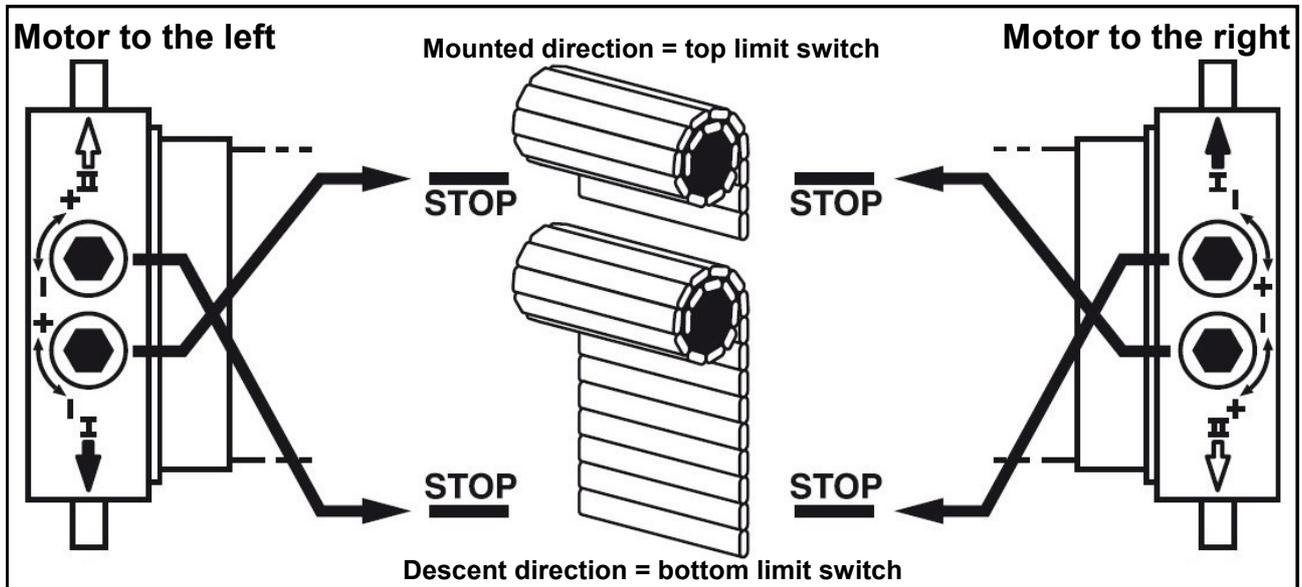
Important :

- The ground wire must be connected to the ground connector of the key switch box using a screw.
- Completely seal the housing with a soft sealant to the wall bracket.

Limit switches pre-settings (facing the shutter winding)



Identify bottom and top limit switches



Hexagonal head screwdriver



Limit switches pre-settings must be realized with supplied hexagonal head screwdriver.

In order to test assembly and to prepare the adjustment of the limit switches, realize the following test sequence :

- Run the motor in the "**descent direction**" while holding the button until bottom limit switch.
- Run the motor in the "**mounted direction**" until top limit switch top, accounting the turns.
- Check that the number of revolutions between the 2 stops is about 3 turns.

If more than 3 turns, put the motor between the 2 end positions (number of total revolutions/2).

- "**Lift**" the lower limit switch (**direction -**).
- "**Descend**" the top limit switch (**direction -**).
- Repeat until you have 3 laps between the 2 limit switches.

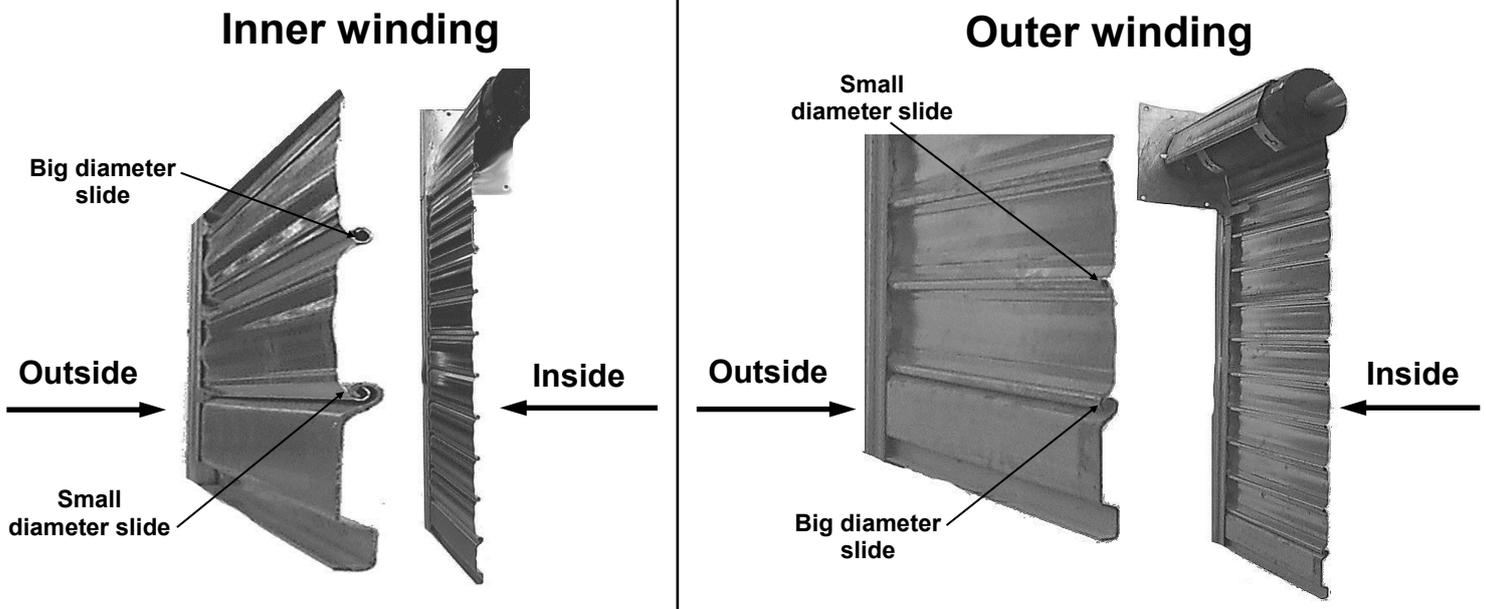
- Put the motor in the bottom limit switch position.

Apron installation principle

Winding direction

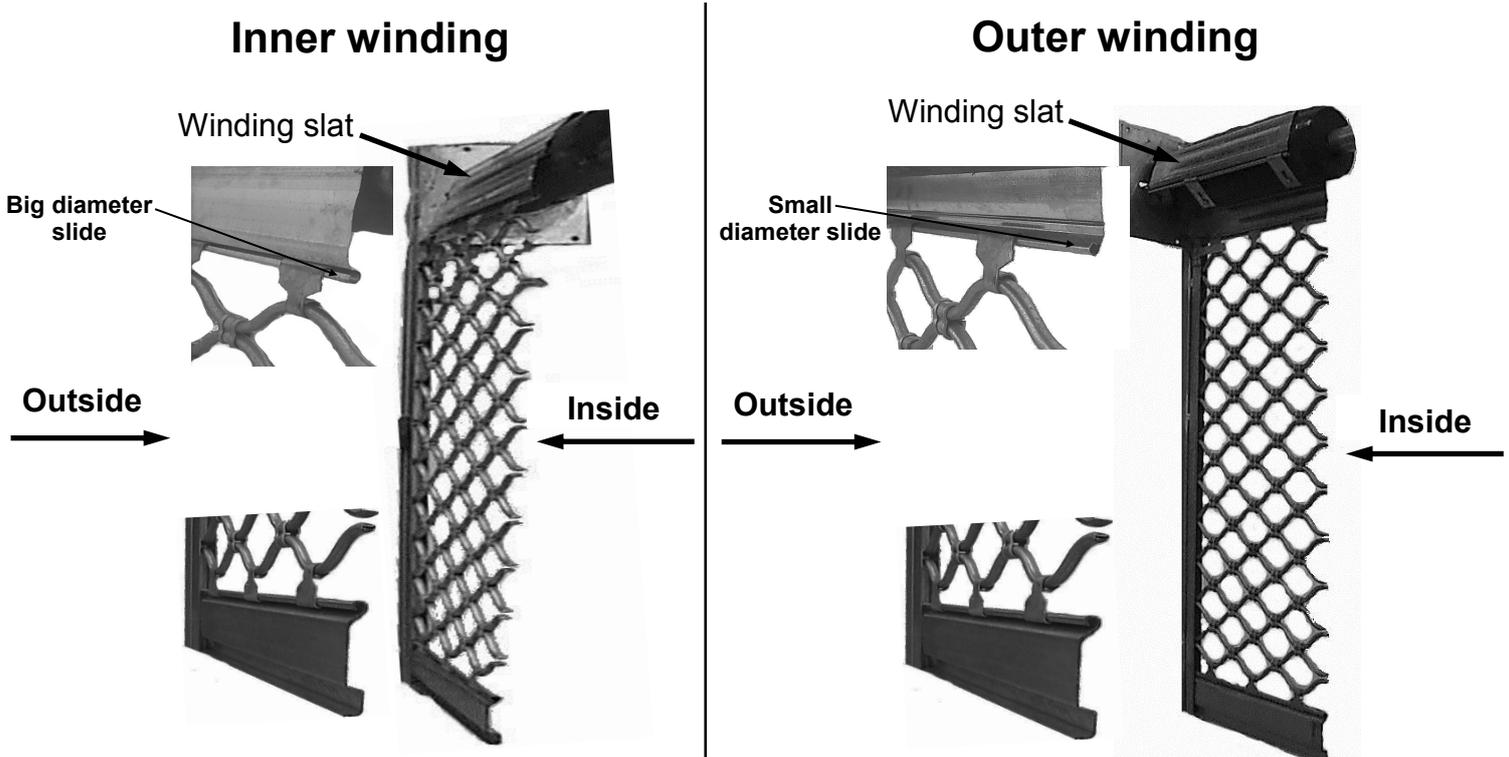
FULL or MICROPERFORATED MURAX APRON

For a microperforated apron, it always requires 3 blades full of winding in high part



DENTEL APRON

For a Dentel apron, it always requires 3 blades full of winding in high part



Mounting the Murax apron

⚠ The height and the winding of the apron are calculated with a precise number of blades. All blades delivered must be mounted.

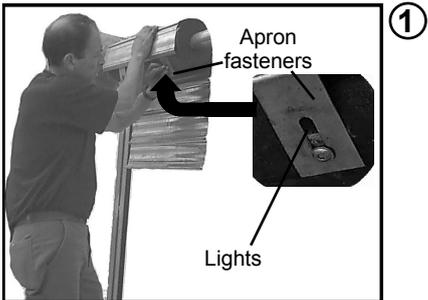
The mounting of the apron depends on the place you have on the site, on the back of the slides.

Case N°1 : You have room

You have, at least on one side, a longer length than the length of the slats
(example : Laying on the front of a shop)

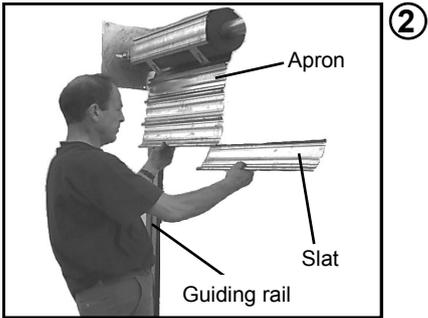
1- Install on the floor, 1 meter (roughly) apron with the apron fasteners.

⚠ Winding direction



2- Hang it on the axis and let the blades hang out of the slides. ①

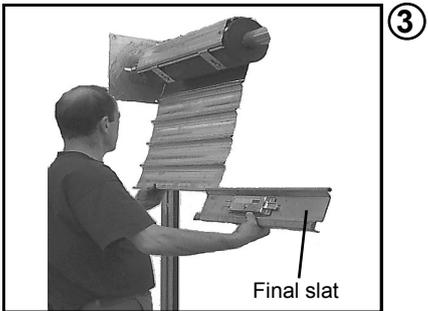
⚠ Before blocking the fastening screws, make sure that the screw heads do not touch a blade flange when winding. If so, adjust all fasteners of the same distance using the lights.



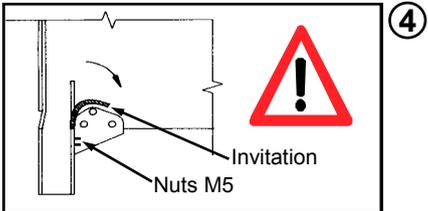
3- Then slip blade by slat on the side until the final slat. ②
③

- Align the ends of the slats.

⚠ If large wind tips see the corresponding instructions for the order of blades with tip.

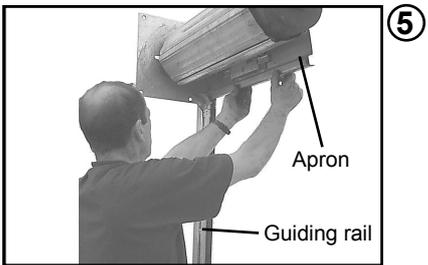


4- Lift the shutter electrically and slide the final slat into the guiding rails. ③



5- Adjust the invitation and screw the 8 nuts M5. ④

6- If shutter doesn't lift enough, increase top limit switch height.



7- Go back down the apron checking slats alignment and adjusting it on each side. ⑤

Case N°2 : You don't have room

You don't have room at the back of the guiding rails
(example : Installation in a corridor)

- 1- Form the apron by threading the blades without forgetting the fasteners. ①



Winding direction

- 2- Wind the shutter starting from the fasteners and going to the final slat. ①

- 3- Hoist the apron level to the tube using hoists or other lifting gears.



To avoid scratching the slats while unwinding, protect the shaft using carboard, etc...

- Unwind the apron into the guiding rails starting from the final slat. ②

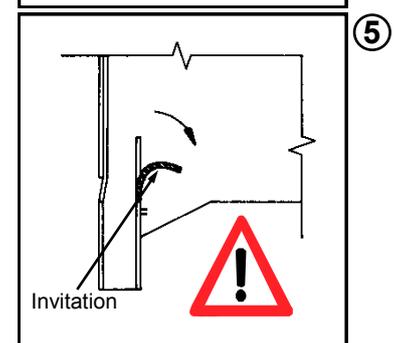
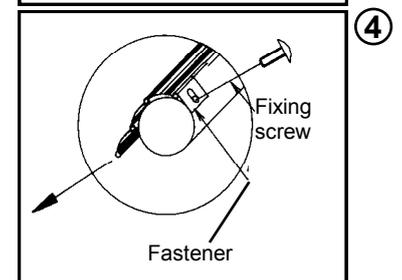
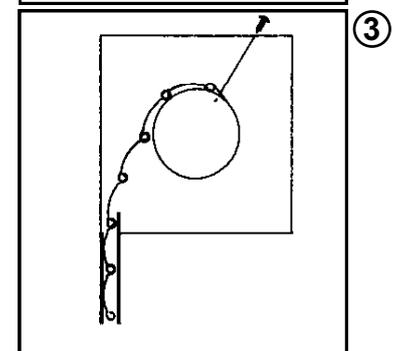
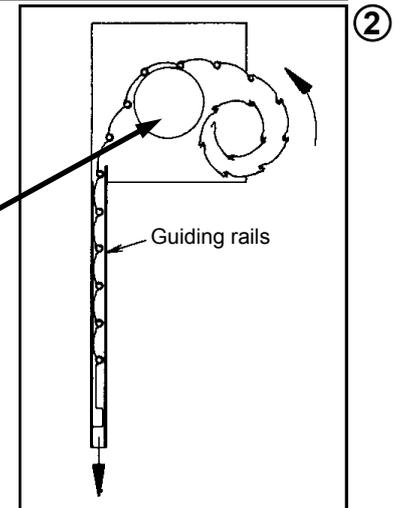
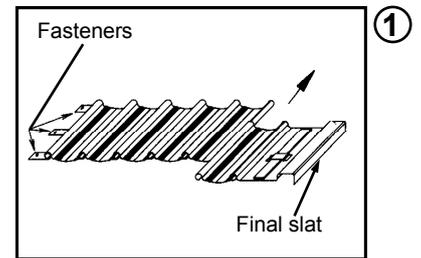
- 4- Slide each fastener in front of the corresponding hole. ③

- 5- Fix the apron on the shaft using the fasteners. ④



**Before blocking the fastening screws, make sure that the screw heads do not touch a blade flange when winding.
If so, adjust all fasteners of the same distance using the lights.**

- 6- Adjust the invitations. ⑤



Case N°3 : You don't have enough room

You don't have room inside and the thickness of table is weak
(example : Installation inside a building with weak spandrels dimension)

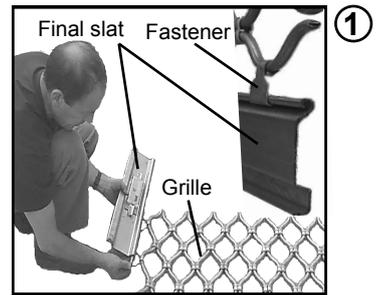


Winding direction

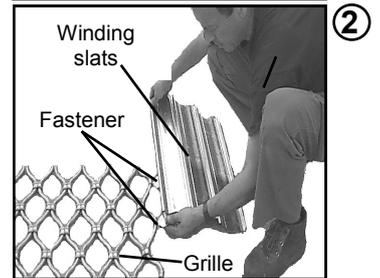
- 1- Mount 12 to 15 blades on axis outside the guiding rails.
- 2- Orient sideways the part of the apron mounted.
- 3- Slide the blades from the exterior one by one to the final slat.
- 4- Place the apron behind the guiding rails.
- 5- Align the ends of the slats.
- 6- Remount the shutter and put the final slat inside the guiding rail.
- 7- If the shutter does not rise enough, increase the run from the top limit switch.
- 8- Adjust the invitation and screw the 8 nuts M5.
- 9- Go back down the apron.

Mounting the Dentel apron

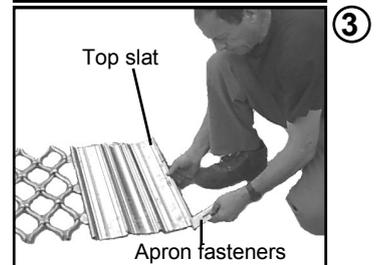
1- Slide the final slat into the bottom fastener. ①



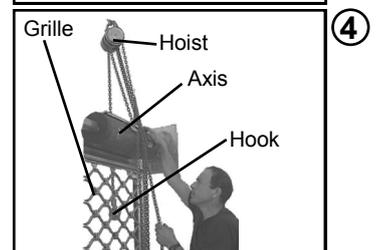
2- Slide the 3 blades full into top fasteners. ②



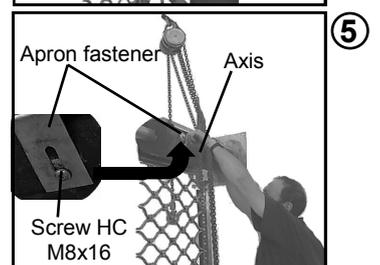
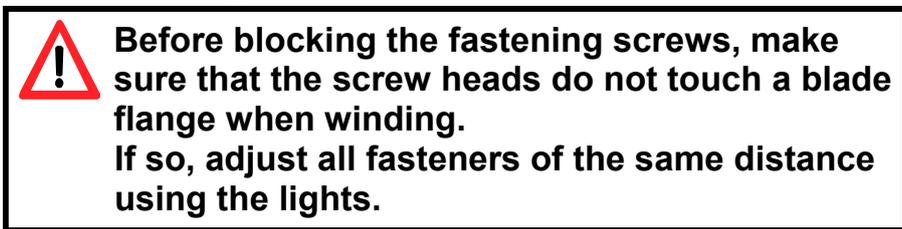
3- Slide the apron fasteners into the top slat. ③



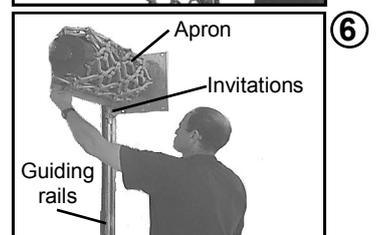
4- Hang minimum 2 hoists to the wall on top of the axis.
 - Hang the hoists to the grille at 1 m from the top of the apron.
 - Mount the grille using the hoists and position the blades around the axis. ④



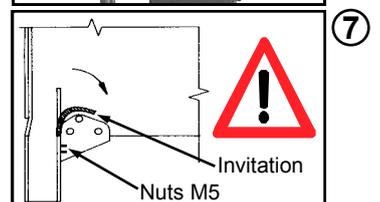
5- Slide each fastener in front of the corresponding hole.
 - Screw the apron fasteners on the axis with screws HC M8x16. ⑤



6- Wind the apron above the invitations.
 - If the shutter does not rise enough, increase the run from the top limit switch. ⑥



7- Adjust the invitation and screw the 8 nuts M5. ⑦



8- Unwind the apron into the guiding rails.

Final limit switches setting (facing the winding)



Hexagonal head screwdriver



Limit switches settings must be realized with supplied hexagonal head screwdriver.

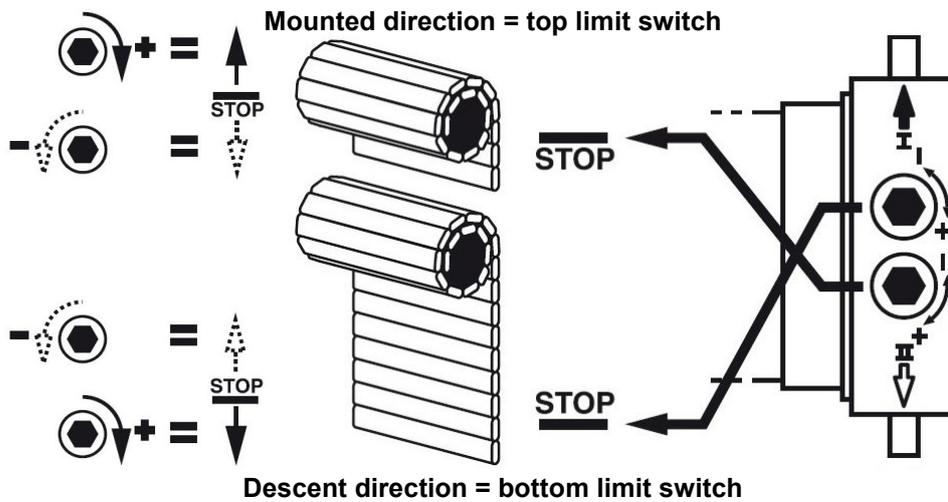
Top limit switch :

- Run the motor in the "**mounted direction**" by actuating the control member.
- Adjust the position of the apron by turning the adjusting screw of the top limit switch :
 - + increases the run (*higher*)
 - reduced the run (*less high*)

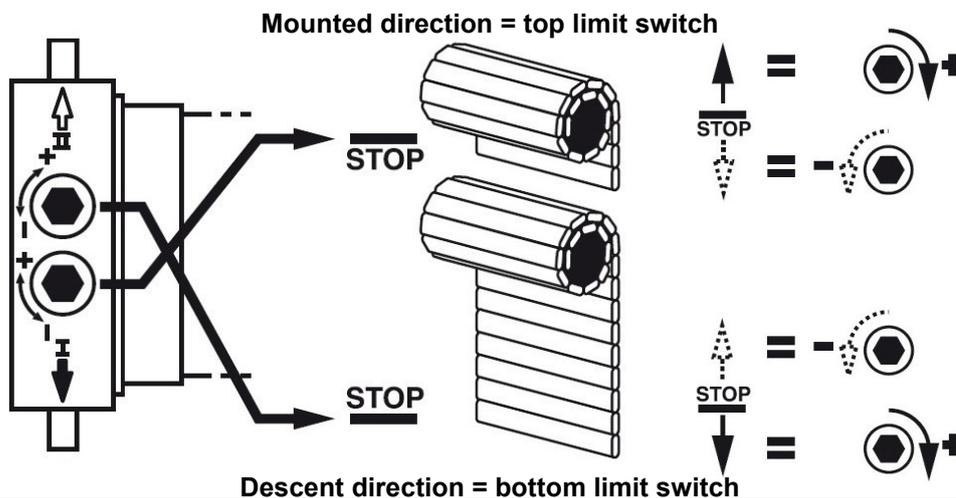
Bottom limit switch :

- Run the motor in the "**descent direction**" by actuating the control member.
- Adjust the position of the apron by turning the adjusting screw of the bottom limit switch :
 - + increases the run (*lower*)
 - réduit la course (*less low*)

Motor to the right

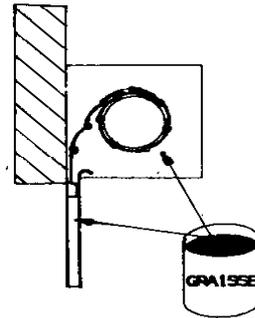
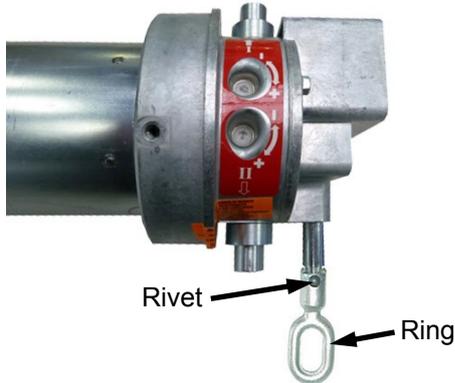


Motor to the left



Finishing

Add the ring on the emergency maneuver



WARNING ! Carefully grease the inside of the rails and winding plates

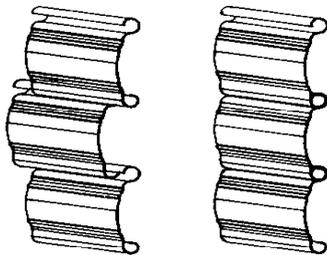
In case of problems on the maneuver



For safety reasons, after the stop fall is engaged, only the opening of the shutter is possible. The descent can be operated after loosening the stop screw. This work must be performed only by trained installers.

If the shutter opens and closes awry

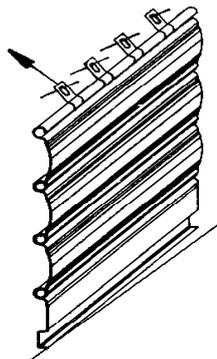
(More than 4 cm room on the final slat)



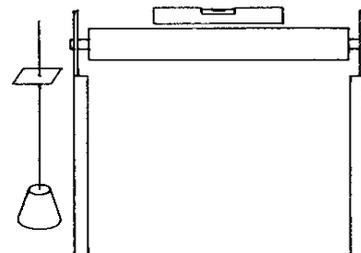
NO **YES**
Verify that slats are well aligned



NO **YES**
Remove asperities inside the rails



Lift the apron from the lowest side using the lights of the clips provided for this purpose



Verify that rails are well aligned and that the shaft is horizontal

Detachable part
to be posted near the shutter



Emergency maneuver

