

# Installation & Connection manual

N°1410

10/19

**Murax P110 shutters/Dentel grille  
equipped with anti-fall guard**

**Tubular motor  
with emergency maneuver**



**(Document reserved for installers)**

# Contents

Material needed .....	p.2
Installation instructions.....	p.3
Installing the guiding rails and the axle .....	p.4
Motor connection .....	p.6
Limit switches pre-setting .....	p.8
Shutter installation principle .....	p.9
Assembling the Murax shutter.....	p.10
Assembling the Dentel shutter .....	p.13
Final limit switches setting.....	p.14
Finishes.....	p.15
In case of problems maneuvering the shutter .....	p.15
Emergency maneuver .....	p.17

# Material needed

- |                     |                                       |
|---------------------|---------------------------------------|
| - Lifting equipment | - Flat wrenches : 8, 10, 15 and 17 mm |
| - Clamps            | - Hexagon keys : 5 mm                 |
| - Spirit level      | - Socket wrenches : 10, 15 and 17 mm  |
| - Plumb bob         | - Screwdriver                         |
| - Tape measure (5m) | - Grease and brush                    |
| - Hammer drill      | - Multi-grip pliers                   |

# Installation instructions



## **CAUTION !**

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 properly trained, 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**
- Guiding rails : **40 daN**

**Please note** : If installing on an iron structure, the guiding rails and plates can be welded to the building. In this case, a cord of approximately 50 mm must be attached to each side, roughly 800 mm apart.

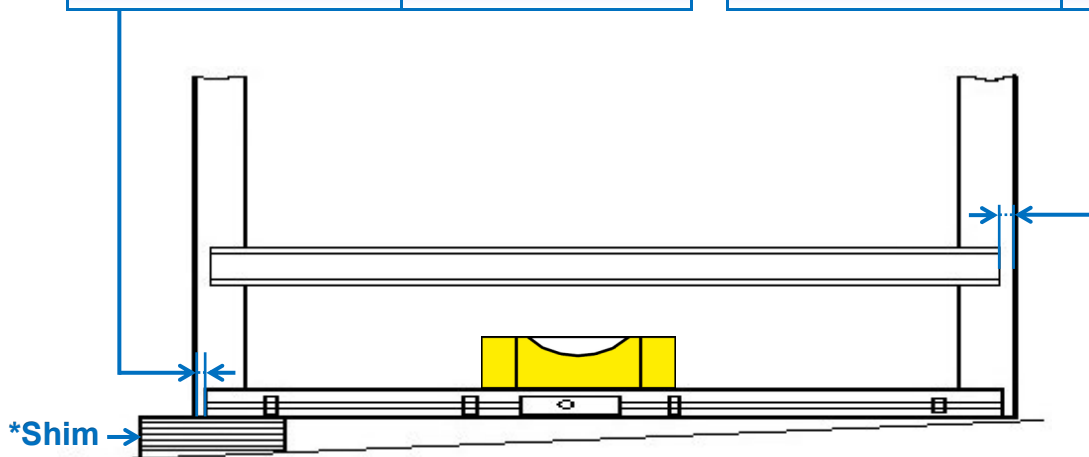
# Installing the guiding rails and the axle



For the hurricane slides and the noise reduction clips :  
Different clearances (refer to the corresponding enclosed manual).

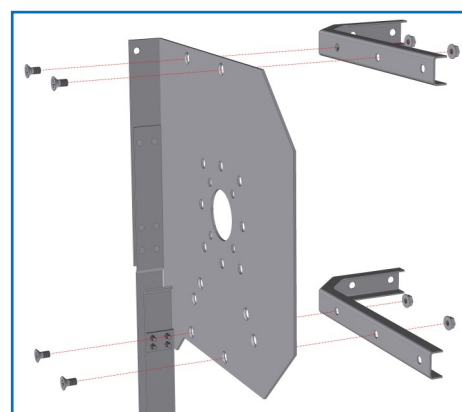
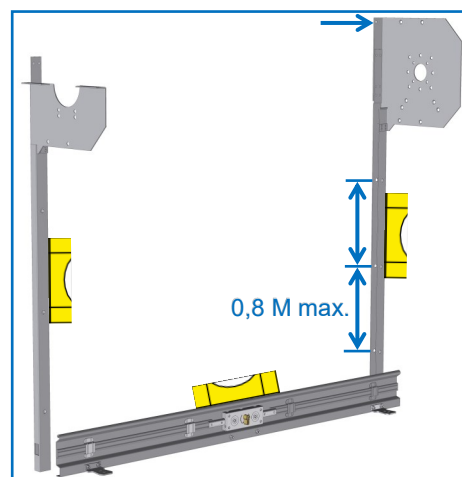
End-slat	
The inner clearance on each side of the end-slat must be observed in accordance with the depth of the guiding rail	
Bottom clearance of guiding rail	Depth of guiding rail
8 mm	40 / 60 mm
8 mm	80 / 100 mm

intermediate slats or Corrugated tubes	
The inner clearance on each side of the intermediate slats and the corrugated tubes 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 anti-fall guard.

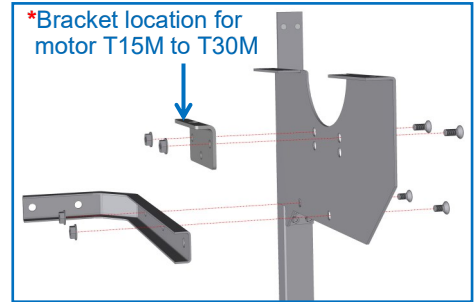
- 1 - Provisionally attach the guiding rails using the clamps.
  - Position the end-slat horizontally (a shim may potentially be needed at the bottom of the guiding rail\*) ensuring that the clearance is respected.
  - Check that the guiding rails are plumb.
  - Permanently attach the guiding rails and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

- 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 bracket (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 shutter 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 cheek mounting holes and possible consoles before mounting the axle.  
(See the installation manual of Box 3K).

**4 - Opposite side to the Motor (OM) :**

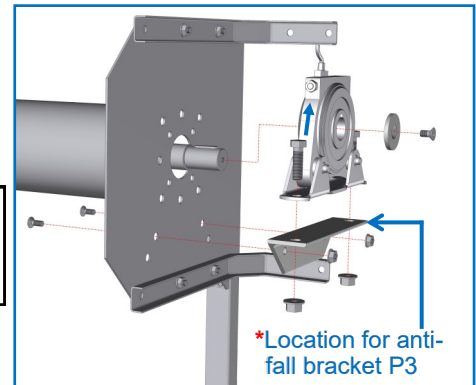
- Fix the anti-fall guard support on the winding plate with the screws FZ M8x20 ZN and the nuts HE M8 ZN.

**\*Note :** For the P5 anti-fall guard, position the support of the anti-fall guard on the 2 below holes.



Position anti-fall guard in the closing direction, following the arrows on the anti-fall guard (→).

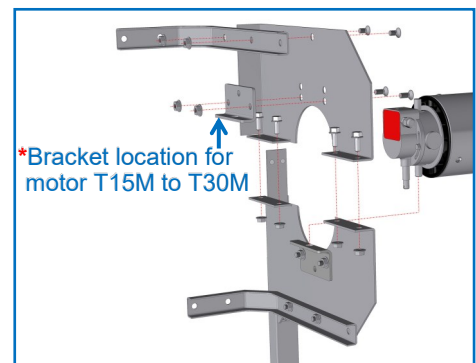
- Fix the anti-fall guard on its support with the screws H M12x40 ZN and the nuts HE M12 ZN.
- Insert the pinned shaft, through the plate, into the anti-fall. Screw the clamping washer at the end of the shaft with the screw FHC M8x16 with threadlock.


**4**
**5 - Motor Side (MS) :**

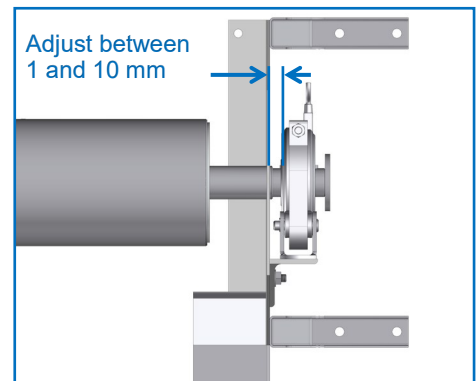
- Position the motor ear on the lower bracket.
- Screw the upper half-plate with the screws HE M8x16 ZN and the nuts HE M8 ZN.
- Fix the motor support on the upper half-plate with the screws FHC M8x20 ZN and the nuts H M8 ZN by inserting it into the upper ear of the motor.

**\*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 bracket (pegs and screws not supplied).

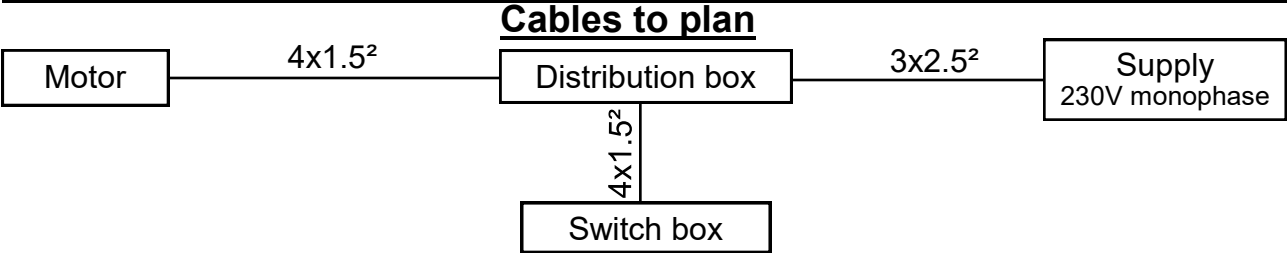

**5**
**6 - When the structure is mounted, Opposite side to the Motor (OM) :**

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


**6**

# Motor connection

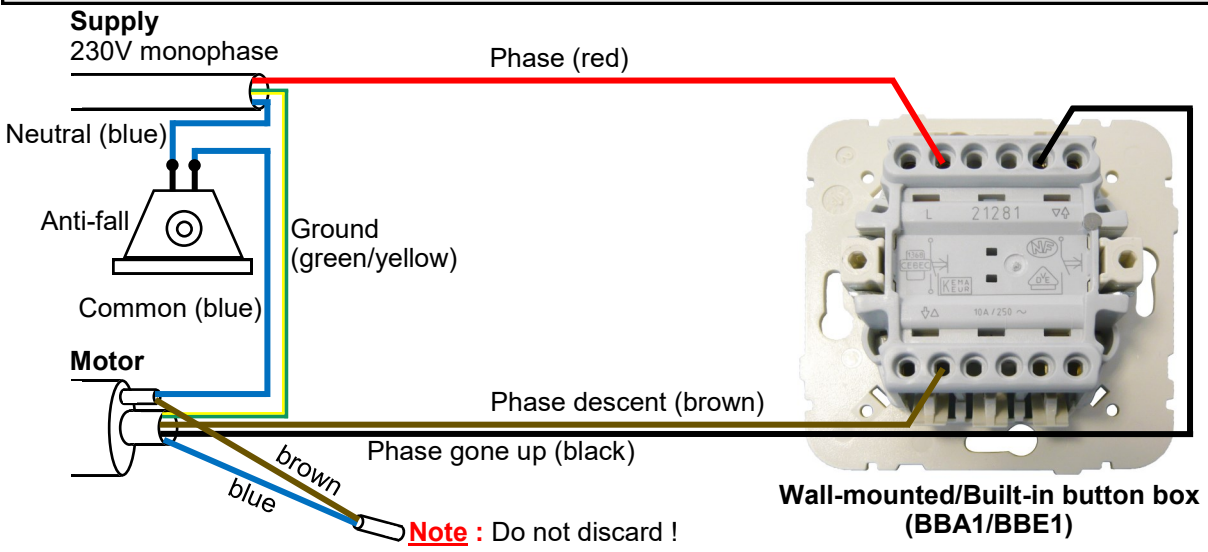
- The fixed controls must be installed within sight of the door but away from any moving parts and at a height of at least 1,5 m from the floor.
- Use one switch for a single motor. It is completely prohibited to order several motors with a single monopolar switch.
  - In "sustained pressure" mode, only the control requiring sustained action should be installed and used.



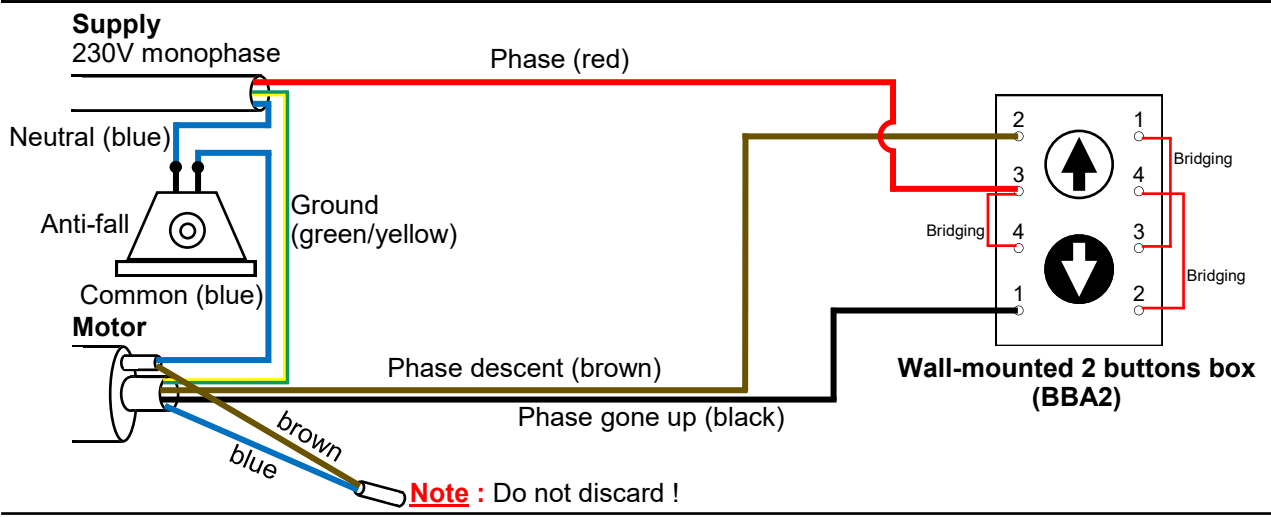
Provide protection of the supply line by a differential circuit breaker located upstream.  
 Also plan in the immediate vicinity of the motor :

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

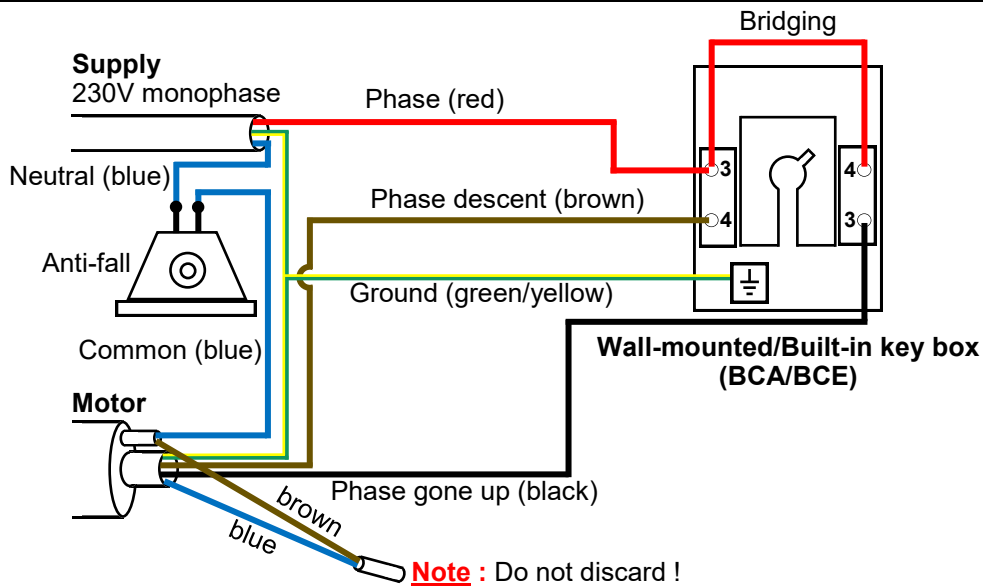
## Button box



## 2 buttons box



## Key box



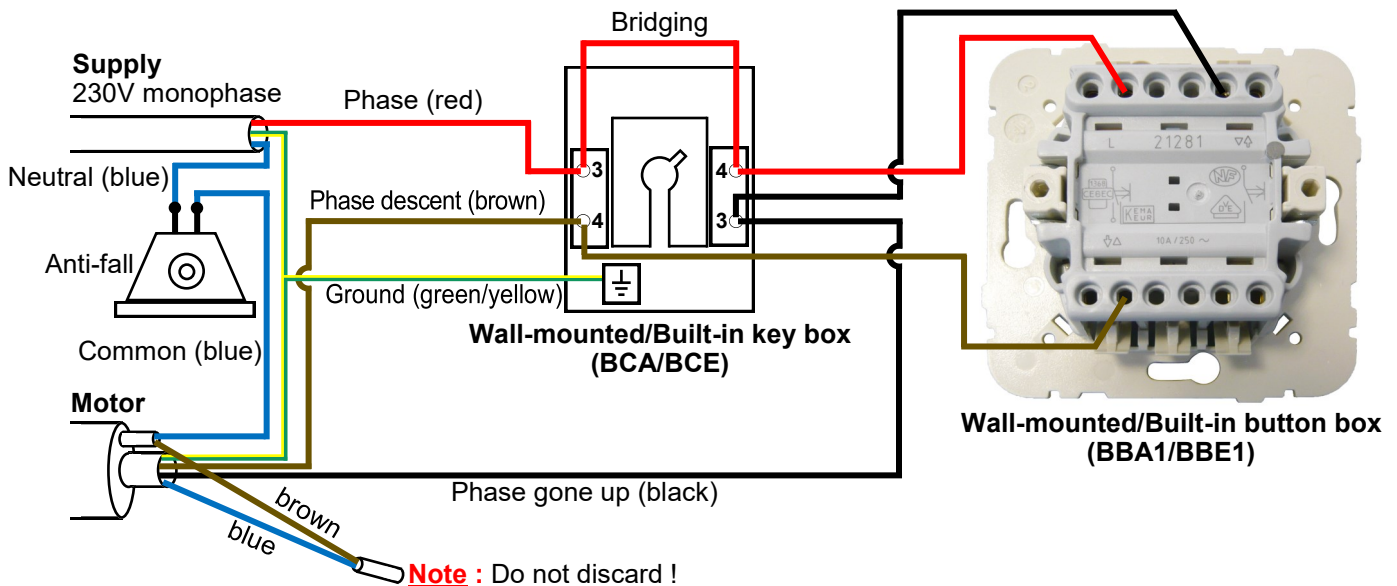
**Note :** Do not discard !

**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 box using a screw.
- Completely seal the housing with a soft sealant to the wall bracket.

## Key box with button 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.

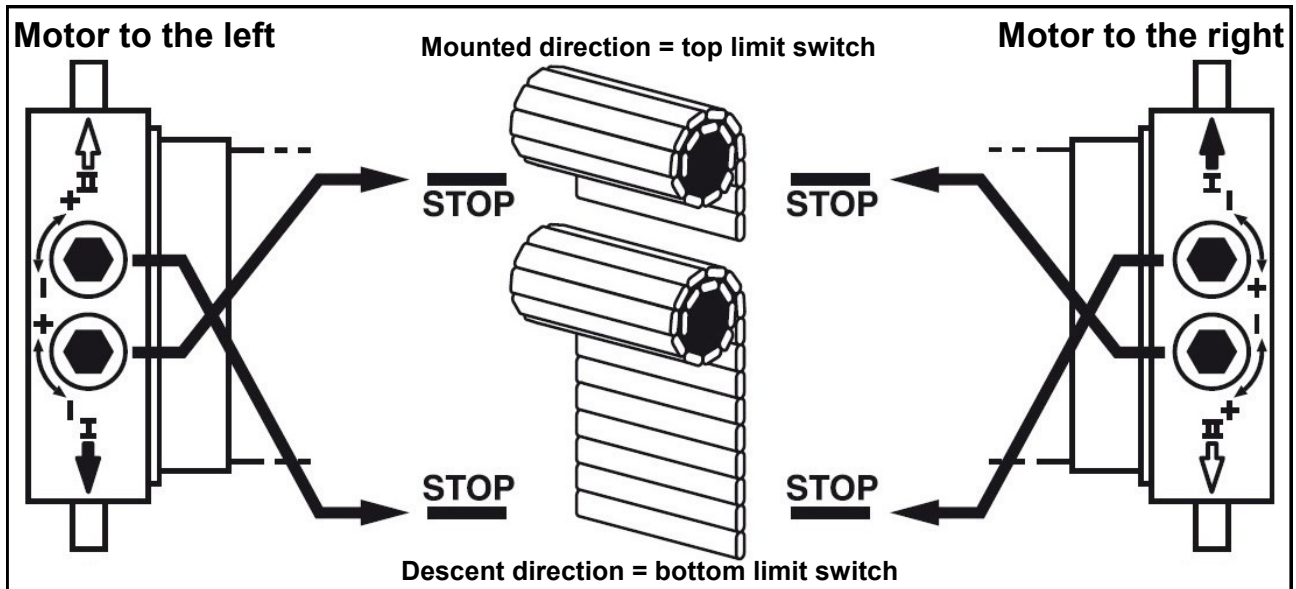
**Important :**

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

# Limit switches pre-setting (facing the shutter winding)



Identify bottom and top limit switches



Hexagonal head screwdriver



Limit switches pre-setting 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 :**

- Rotate the motor in the "**descent direction**" while holding the button until bottom limit switch.
- Rotate the motor in the "**mounted direction**" until top limit switch, 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.

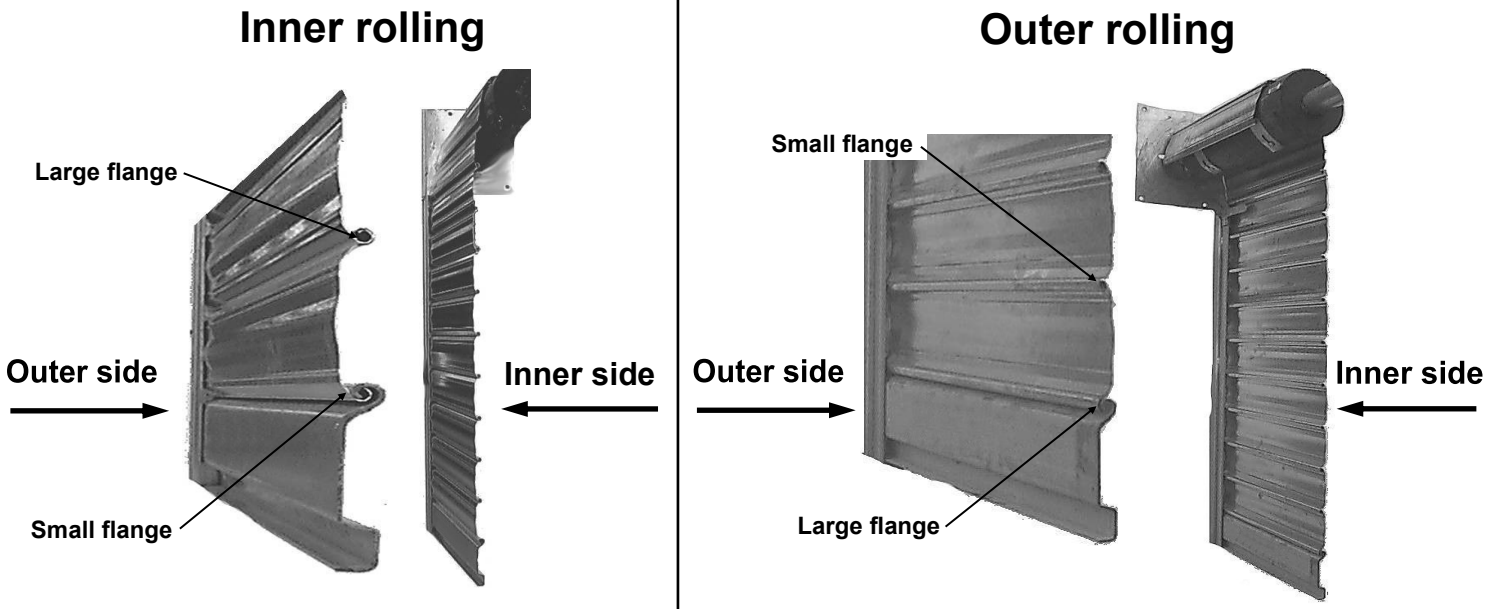


# Shutter installation principle

## Rolling direction

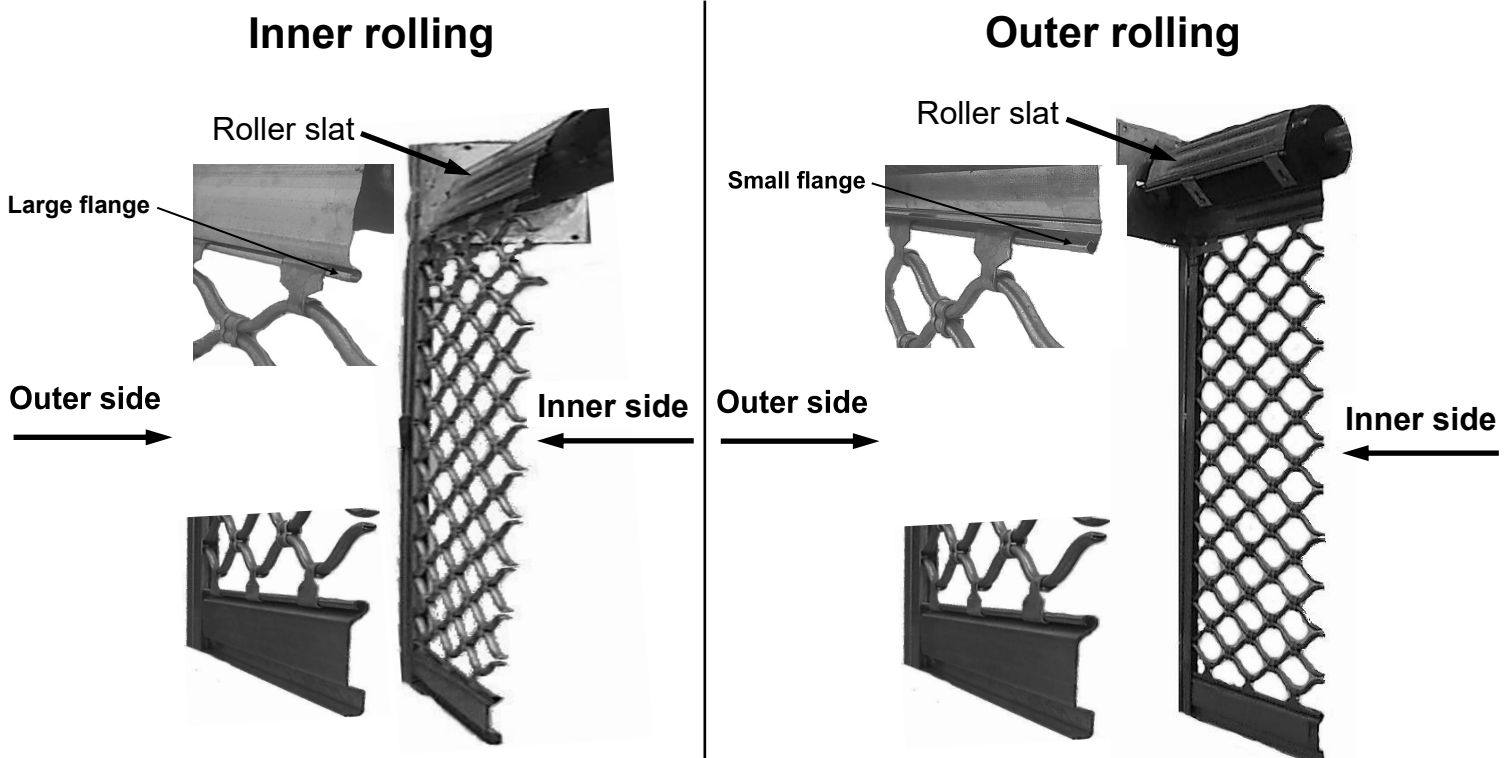
### SOLID or MICROPERFORATED MURAX SHUTTER

A Microperforated shutter always requires 3 full roller slats in the upper section



### DENTEL SHUTTER

A Dentel shutter always requires 3 full roller slats in the upper section



# Assembling the Murax shutter



The height and the rolling of the shutter are calculated with a precise number of slats. All the slats provided must be installed.

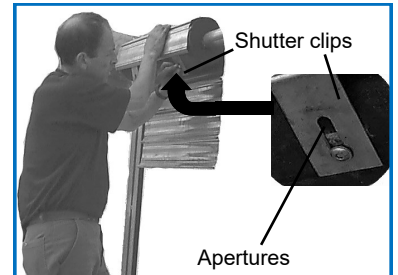
How the shutter is assembled depends on the space available on the assembly site at the back of the guiding rails.

## Case N°1 : You have plenty of space

You have, on one side at least, a length longer than the length of the slats (for example : Installation on the facade of a building)

- 1- Assemble (roughly) a meter's length of the shutter on the floor using the shutter clips.

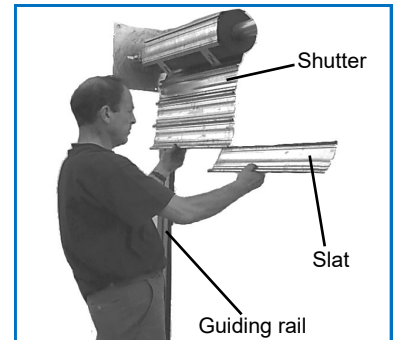
**CAUTION, the rolling direction.**



- 2- Attach the shutter to the axle, letting the slats hang outside of the guiding rails.



Before fully tightening the clamp screws, ensure that the screw heads are not touching the slat flanges during rolling. If so, adjust all the clips so that they are at the same distance using the apertures.



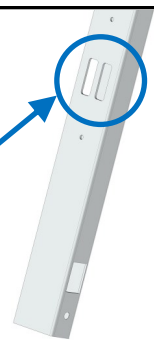
- 3- Then, insert slat by slat on the side, until the end-slat.

**Note :** Align the ends of the slats.



**New and obligatory :**

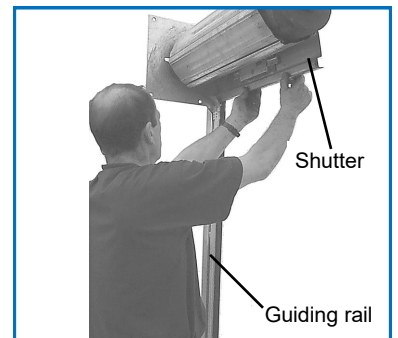
If straight guiding rail machined interior view, mount the magnet holder HOMIRIS "kit AGR-039", on the 3<sup>rd</sup> slat from the bottom (right side). The kit and the manual are provided in the package of accessories.



If using hurricane end-pieces, see the corresponding manual, for the order of slats with end-pieces.

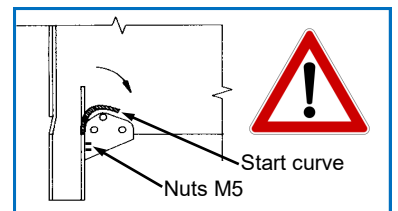
- 4- Roll the shutter electrically above the start curves.

**Note :** If the shutter does not rise enough, increase the stroke of the top limit switch.



- 5- Insert the end-slat into the guiding rails and unroll the shutter.

**Note :** Check slat alignment and clearances on each side.

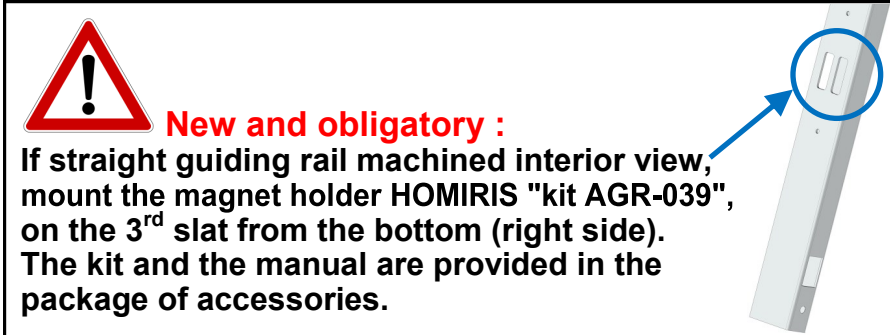
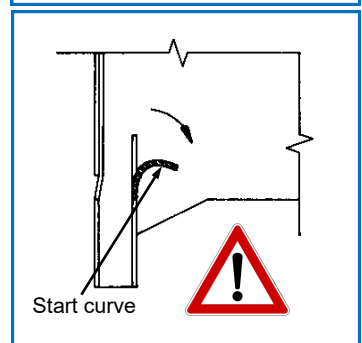
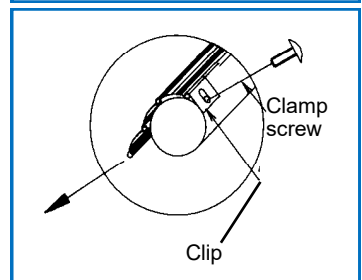
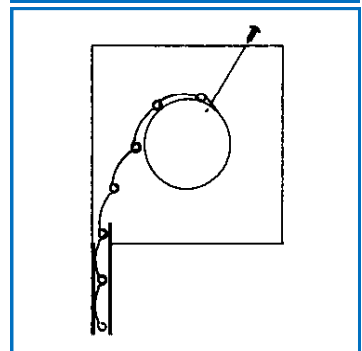
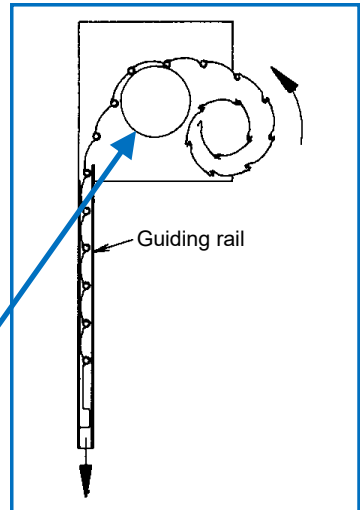
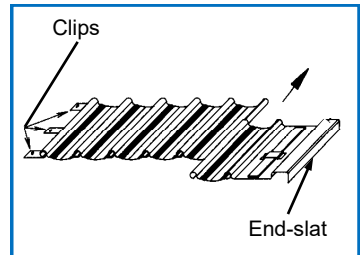


- 6- Adjust the starting curves and screw the 8 nuts M5.

## Case N°2 : You do not have any space

You do not have any space at the back of the guiding rails  
(for example : Installation in a corridor)

- 1- Create the shutter by threading the slats together, without forgetting the clips.  
**CAUTION, the rolling direction.**



**New and obligatory :**

If straight guiding rail machined interior view, mount the magnet holder HOMIRIS "kit AGR-039", on the 3<sup>rd</sup> slat from the bottom (right side). The kit and the manual are provided in the package of accessories.

- 2- Roll the assembled shutter starting from the clips and moving towards the end-slat.
- 3- Lift the shutter up to the tube using a hoist or an alternative lifting system.



To avoid scratching the slats while unrolling them, ensure that the axle is protected (e.g. with a box, etc.).

- 4- Unroll the shutter in the guiding rails starting from the end-slat.
- 5- Slide each clip into place until it is opposite its corresponding hole.

- 6- Attach the shutter to the tube using the clips.



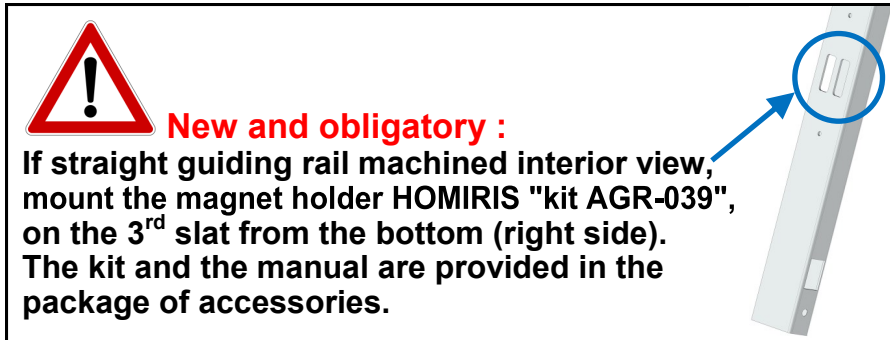
Before fully tightening the clamp screws, ensure that the screw heads are not touching the slat flanges during rolling. If so, adjust all the clips so that they are at the same distance using the apertures.

- 7- Remember to adjust the start curves.

## Case N°3 : You do not have enough space

You do not have enough space inside and the board is not very thick  
(for example : Installation inside a building with small reservations)

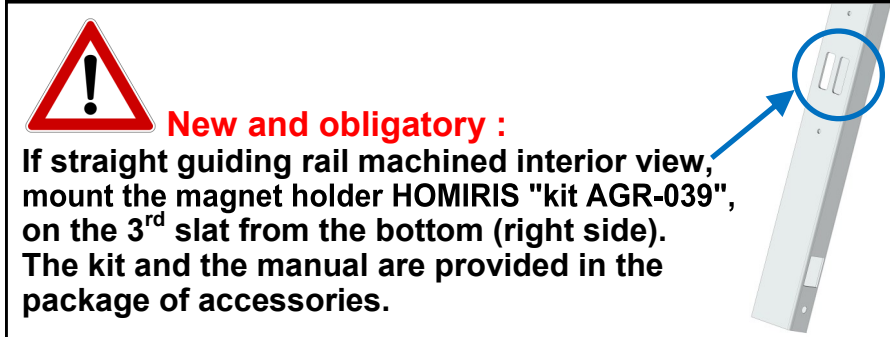
- 1- Assemble 12 to 15 slats on the axle outside of the guiding rails.  
**CAUTION, the rolling direction.**
- 2- Position them to the side of the assembled part of the shutter.
- 3- Slide on the slats one by one from the outside until the end-slat.



- 4- Reposition the shutter behind the guiding rails.
- 5- Align the ends of the slats.
- 6- Roll the shutter electrically above the start curves.  
**Note :** If the shutter does not rise enough, increase the stroke of the top limit switch.
- 7- Insert the end-slat into the guiding rails and unroll the shutter.  
**Note :** Check slat alignment and clearances on each side.
- 8- Adjust the starting curves and screw the 8 nuts M5.

# Assembling the Dentel shutter

- 1- Insert the end-slat into the bottom clips.  
By default, over the end-slat, insert 2 full slats.  
**CAUTION, the rolling direction.**

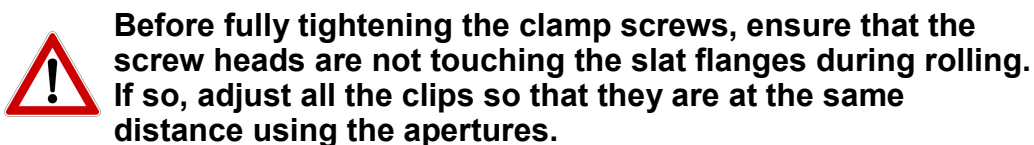


- 2- Insert the 3 full slats into the top clips.  
**CAUTION, the rolling direction.**

- 3- Insert the shutter clips into the top slat.

- 4- Attach at least 2 hoists to the wall, above the axle.  
- Attach the hoists to the grille, 1 m above the shutter.  
- Install the grille using the hoists and position the slats around the axle.

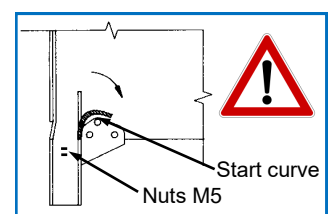
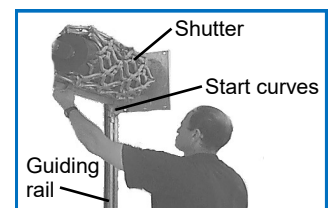
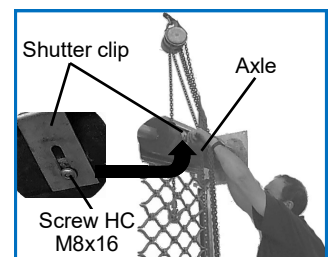
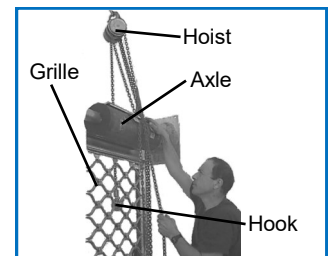
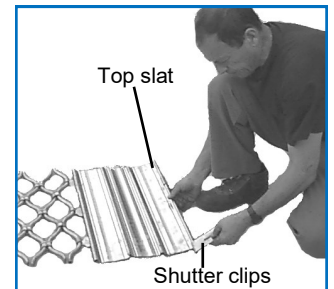
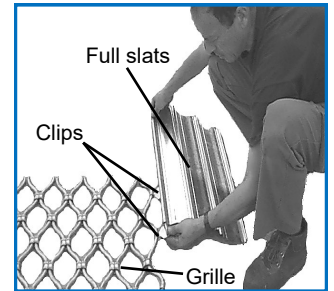
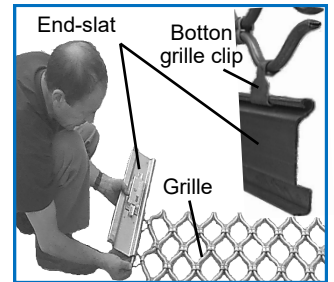
- 5- Slide each clip into place until it is opposite its corresponding hole.  
- Screw the clips to the shutter on the axle using the screws HC M8x16.



- 6- Roll the shutter electrically above the start curves.  
**Note :** If the shutter does not rise enough, increase the stroke of the top limit switch.

- 7- Insert the end-slat into the guiding rails and unroll the shutter.

- 8- Adjust the starting curves and screw the 8 nuts M5.



# Final limit switches setting (facing the shutter winding)



Hexagonal head screwdriver



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

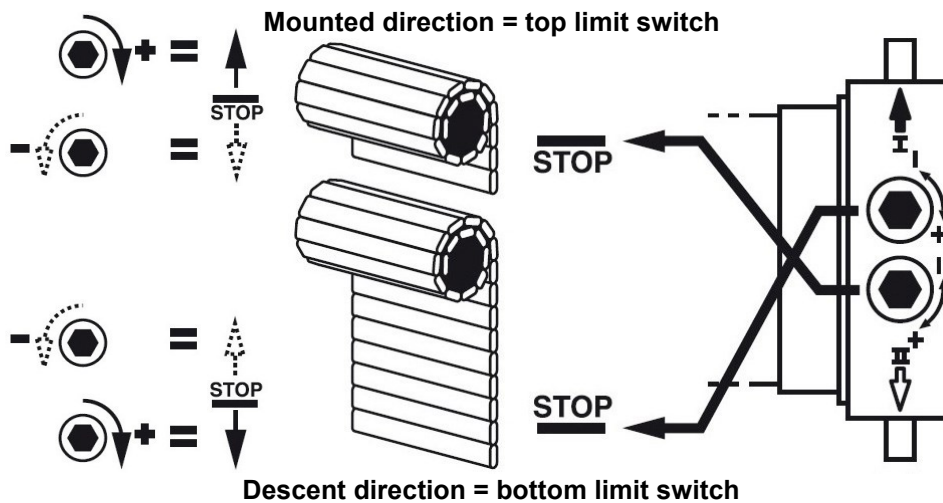
## Top limit switch :

- Rotate the motor in the "**mounted direction**" by actuating the control member.
- Adjust the position of the shutter by turning the top limit switch adjustment screw :
  - + increases the stroke (*higher*)
  - reduces the stroke (*less high*)

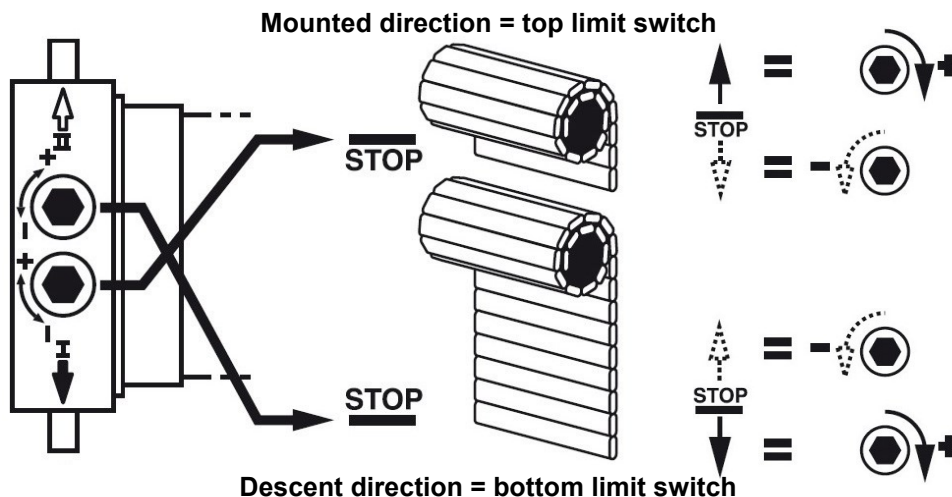
## Bottom limit switch :

- Rotate the motor in the "**descent direction**" by actuating the control member.
- Adjust the position of the shutter by turning the bottom limit switch adjustment screw :
  - + increases the stroke (*lower*)
  - reduces the stroke (*less low*)

## Motor to the right

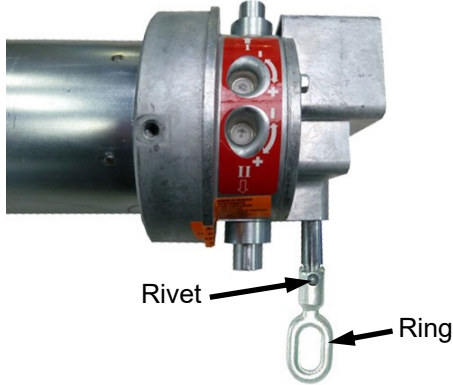


## Motor to the left

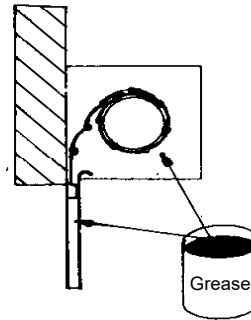


# Finishes

Add ring to emergency maneuver



Rivet → Ring



**IMPORTANT !** Carefully grease the inside of the guiding rails and the winding plates

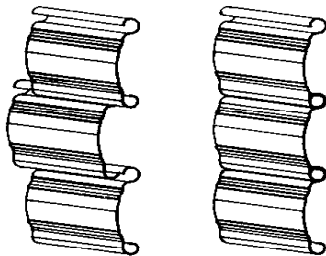
# In case of problems maneuvering the shutter



**For security reasons, after the anti-fall guard is engaged, only the opening of the shutter is possible. The descent can be made after loosening of the stop screw. This repair work must be performed only by trained installers.**

If the shutter is crooked when moving up and down

(Gap larger than 4 cm on the end-slat)

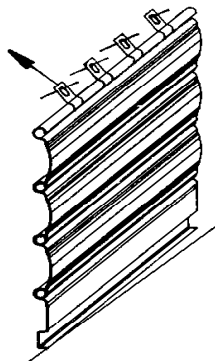


**NO**                      **YES**

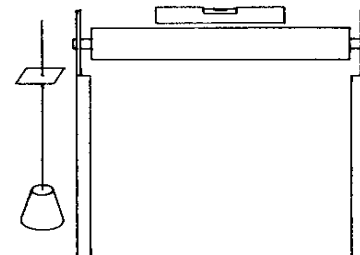
Check that the slats are correctly aligned



**NO**                      **YES**  
Remove any blockages from inside the guiding rails



Raise the shutter from the lowest side using the clip apertures provided for this purpose



Check that the guiding rails are correctly aligned and that the axle is perfectly horizontal





Tear-off section to be  
displayed next to the closure

# Emergency maneuver

