

**Installation & Connection
manual
N°1030**

06/19

**MURAX P110 SHUTTERS
DENTEL GRILLE**

AXIAL MOTOR 2 and 3



(Document reserved for installers)

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Material needed

- Lifting equipment
- Clamps
- Spirit level
- Plumb line
- Tape measure (5m)
- Hammer drill
- Flat keys of 8, 10, 15 and 17 mm
- Allen key of 5
- Socket wrenches of 10, 15 and 17 mm
- Screwdriver
- Grease with brush
- 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 by the torsions springs or spring boxes, in the case of compensated shutters or grilles. 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**

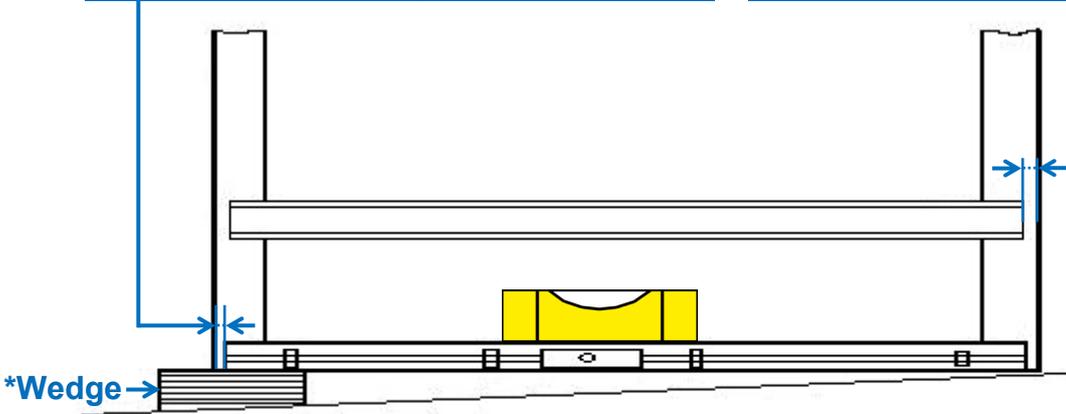
Note : In the case of an installation on a metallic frame, it is possible to weld the rails and the plates to the structure of the building. In this case, it is necessary to make a welding bead of about 50 mm on each side of the rails, spaced about 800 mm.

Installation the guiding rails and axis

 For wind proof rails and noise reduction adaptors, adjustments are different refer to manual of installation enclosed in the accessory box.

Final slat	
Adjust each side according to rail structure	
Adjust to the rail bottom	Rail
8 mm	40 / 60 mm
8 mm	80 / 100 mm

intermediate slats and corrugated tubes	
Adjust each side according to rail/tube structure	
Adjust to the rail bottom	Rail
8 mm	40 / 60 mm
12 mm	80 / 100 mm

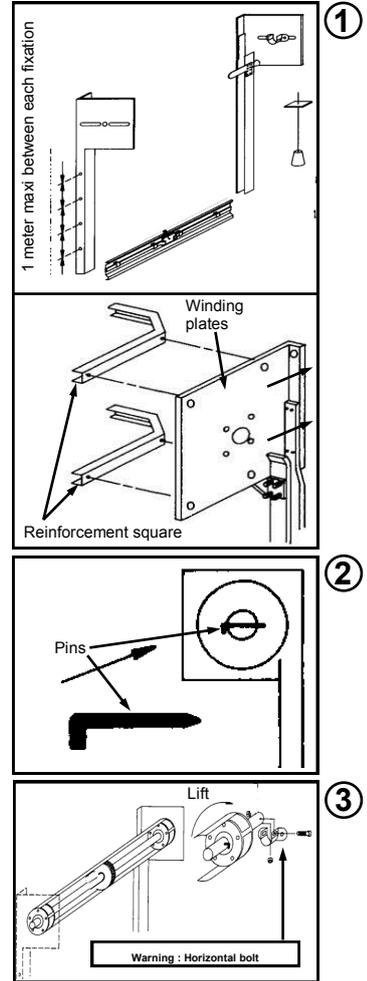


- 1- Fix the rails vertically.
Use the final slat and adjust accordingly*.
 - Well ensure that this slat is horizontal.
 - Tightly fix the winding plates on the wall using reinforcement squares.



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).



- 2- Present the axis in the shells.

Before to install the shaft, check that :

- Pins are horizontal (mandatory).
- Head is well pointing down and towards the tips. ②

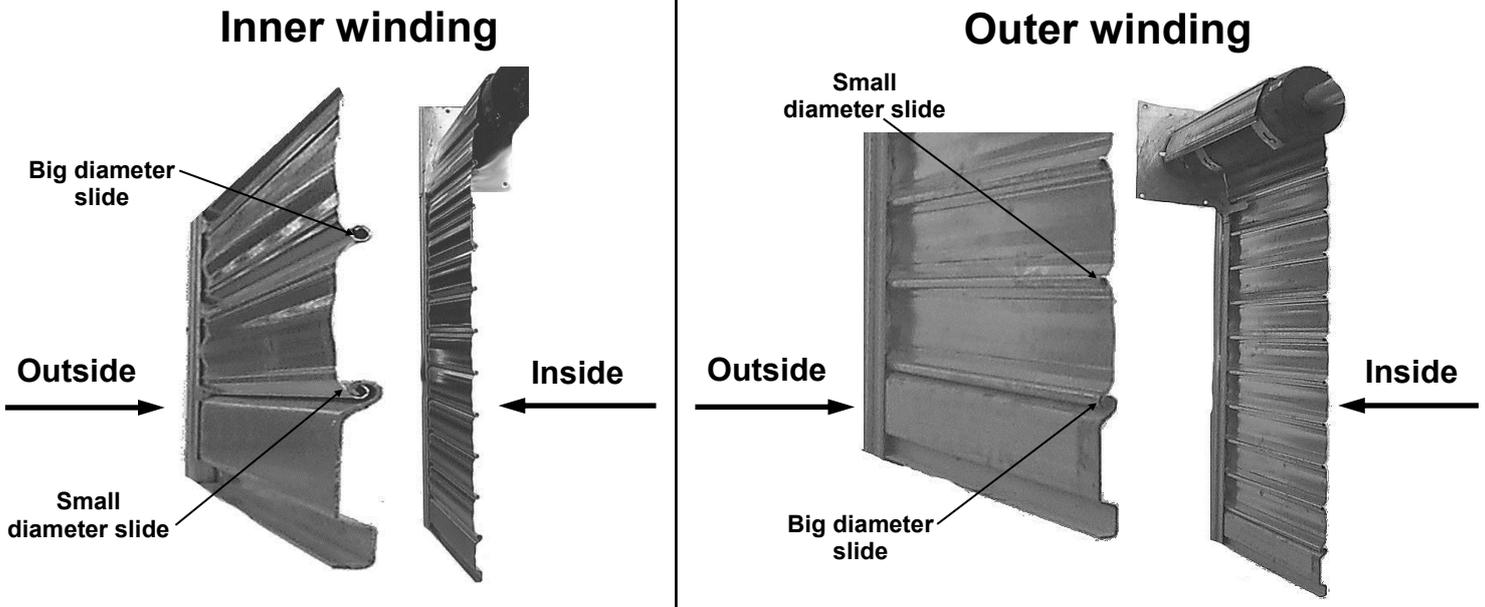
- 3- Tighten strongly the HM10x80 bolts and nuts.

Apron installation principle

Winding direction

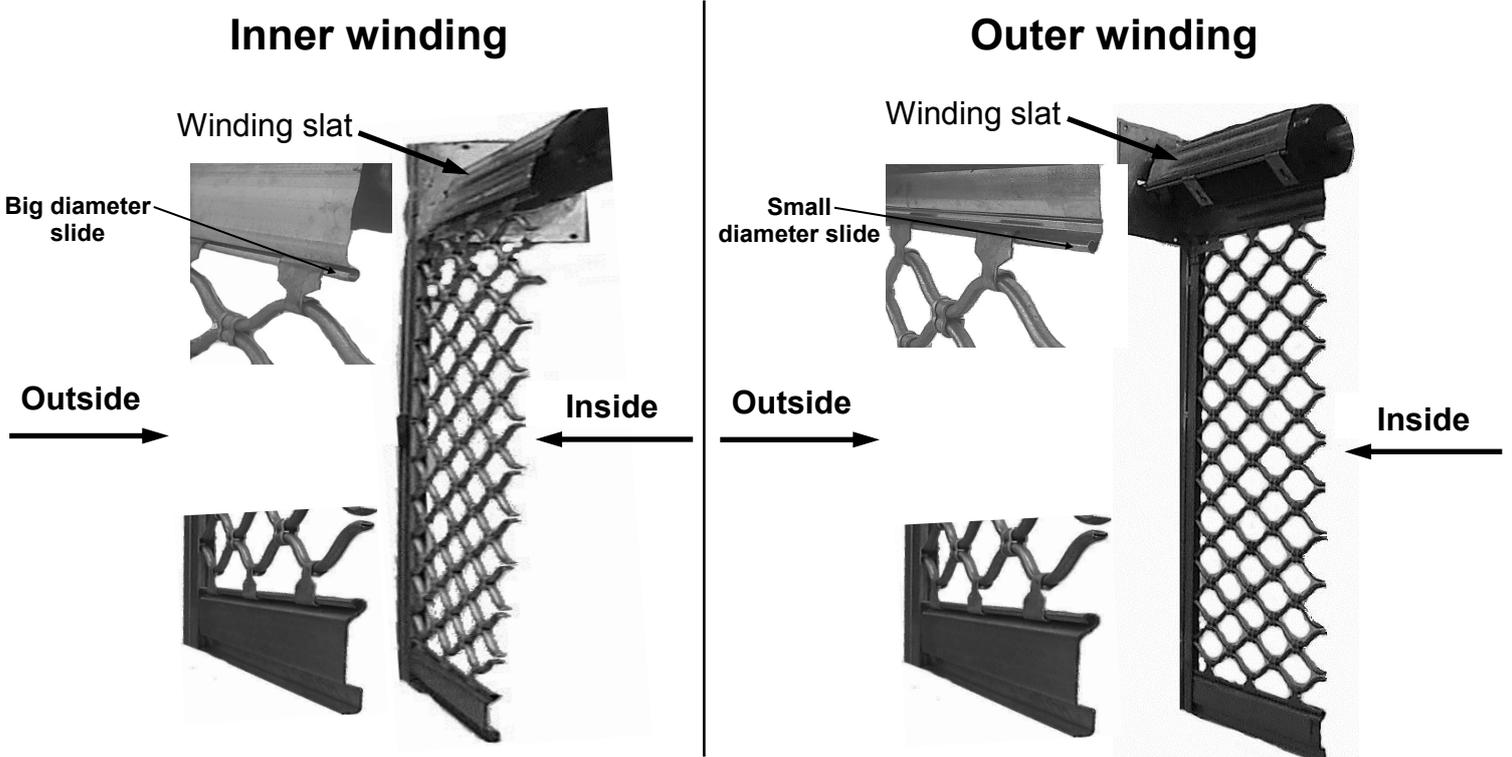
FULL or MICROPERFORATED MURAX APRON

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



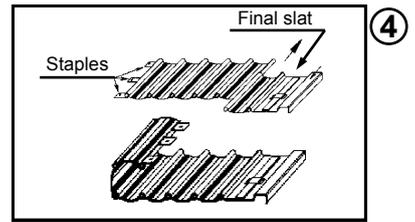
DENTEL APRON

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



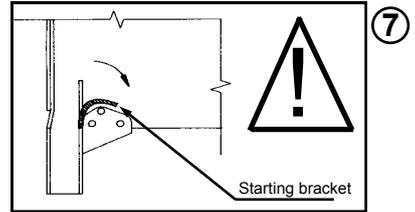
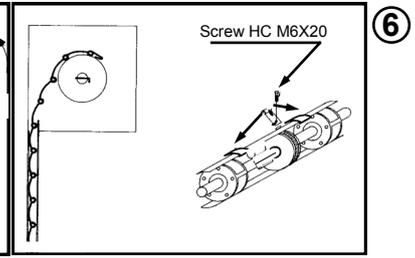
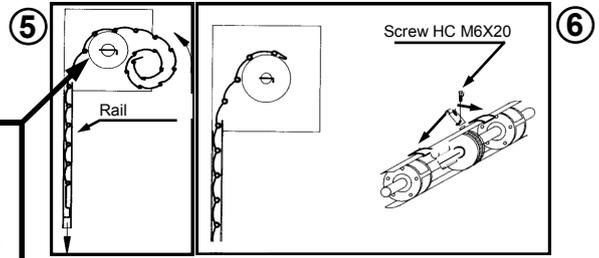
⚠ The height and the winding of the apron are calculated with a precise number of blades. All blades delivered must be mounted.

- 4- Form the apron by threading the slats without forgetting the fasteners.
Start with the final slat.
Roll the assembly starting from the fasteners and going towards the final slat.



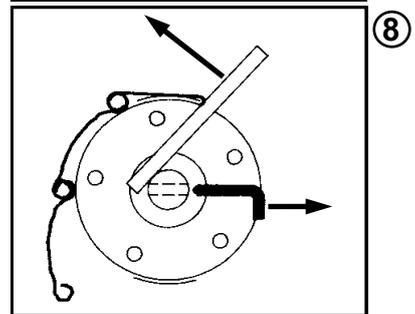
⚠ To avoid scratches on the slats during the process, it is necessary to protect the shaft (ex. : cardboard, etc...).

- 5- Unroll the apron inside the rails starting with the final slat.
6- Fix the fasteners on the flattened plates in the captive nuts using the HC M6x20 head screws.
7- Adjust the shutter start.

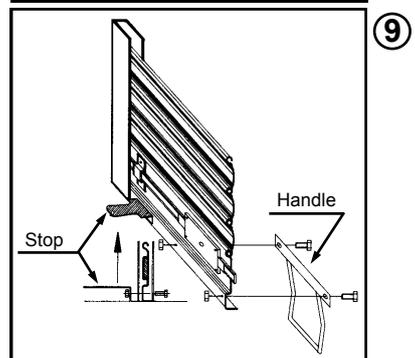


- 8- Remove the pins by pushing the apron forward using a bar and checking that the fasteners of the apron remain well hung on the flattened plates.

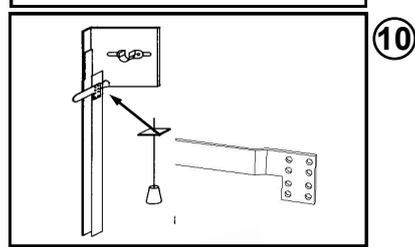
⚠ Never unpin the shaft before that the apron is not hooked.



- 9- Fix the two stops on the ends of the final slat with the handle in the middle (TC M6x16 screws + M6 nuts).
Between walls, drill the passage of the locking rod behind the rails.

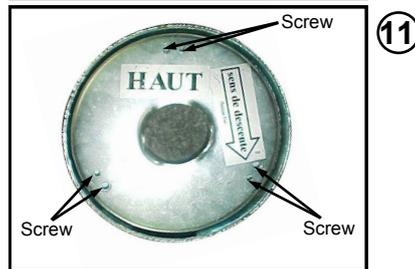


- 10- Fit the stops on slides (M5 nuts).
- Make sure the stops stop the curtain in the high position.



- 11- If a shutter is equipped with a fall stop :

⚠ Ensure that the 6 screws have been removed at the factory.



Note : Shutters weighting less than 120 Kg are not equipped with a stop fall.

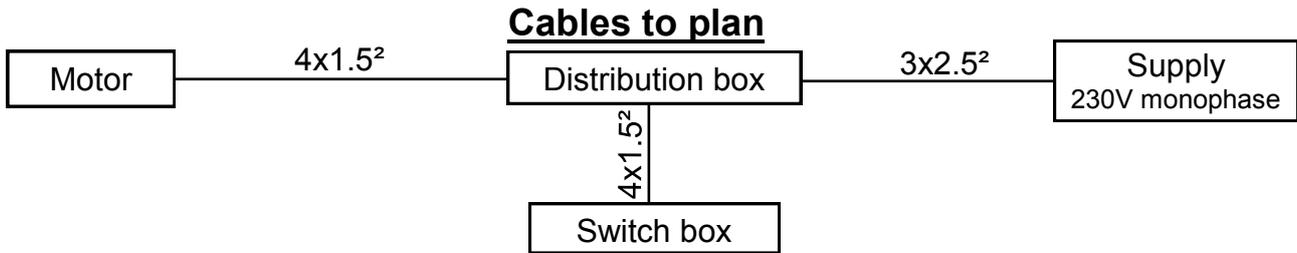
Motor connection

- 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.

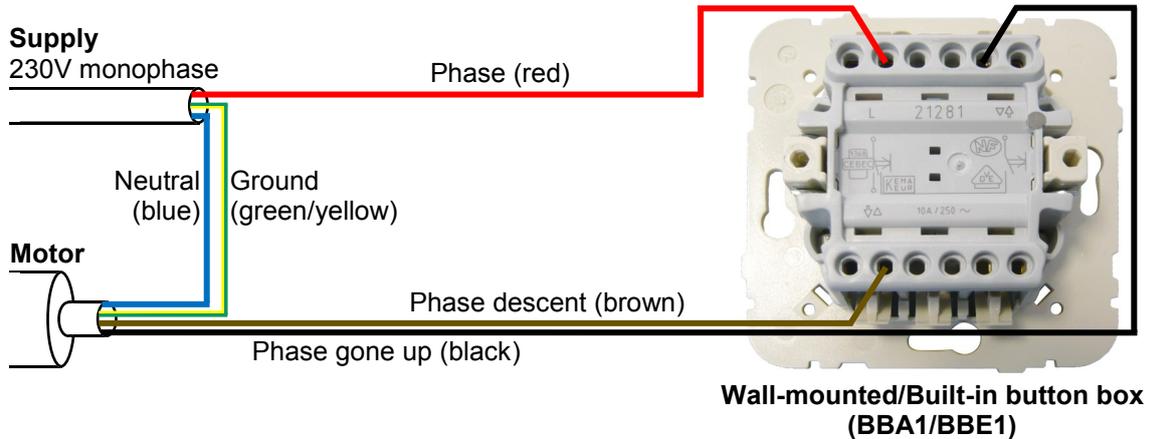


Provide protection of the supply line by a differential circuit breaker located upstream.

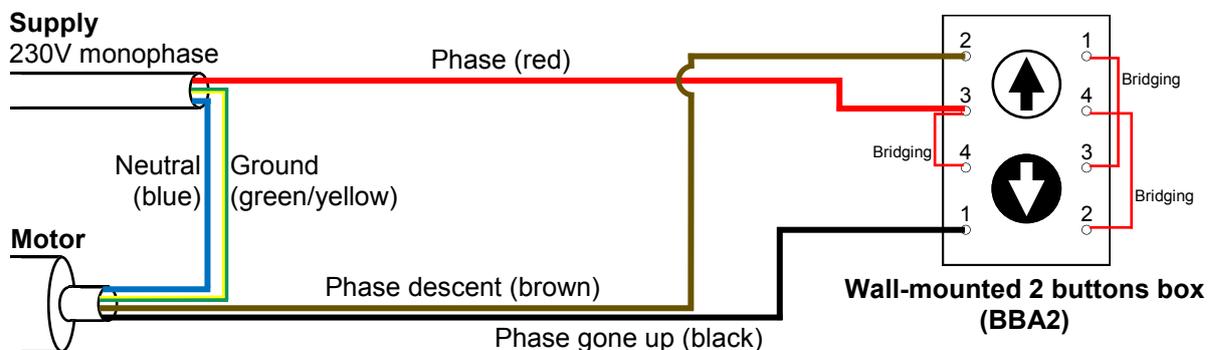
Also plan in the immediate vicinity of the motor :

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

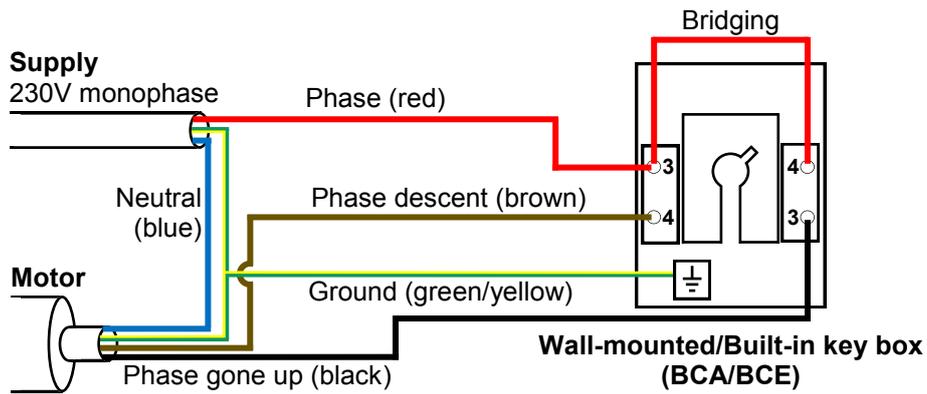
Switch box



2 switches box



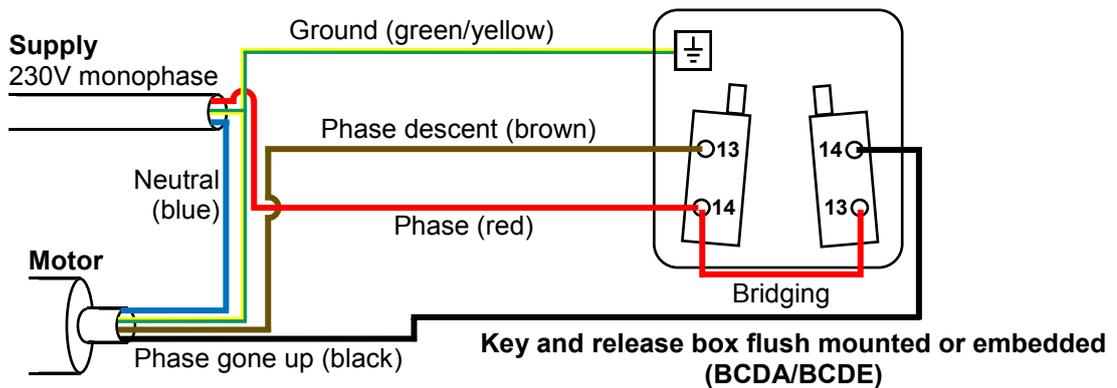
Key box



Note : 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.

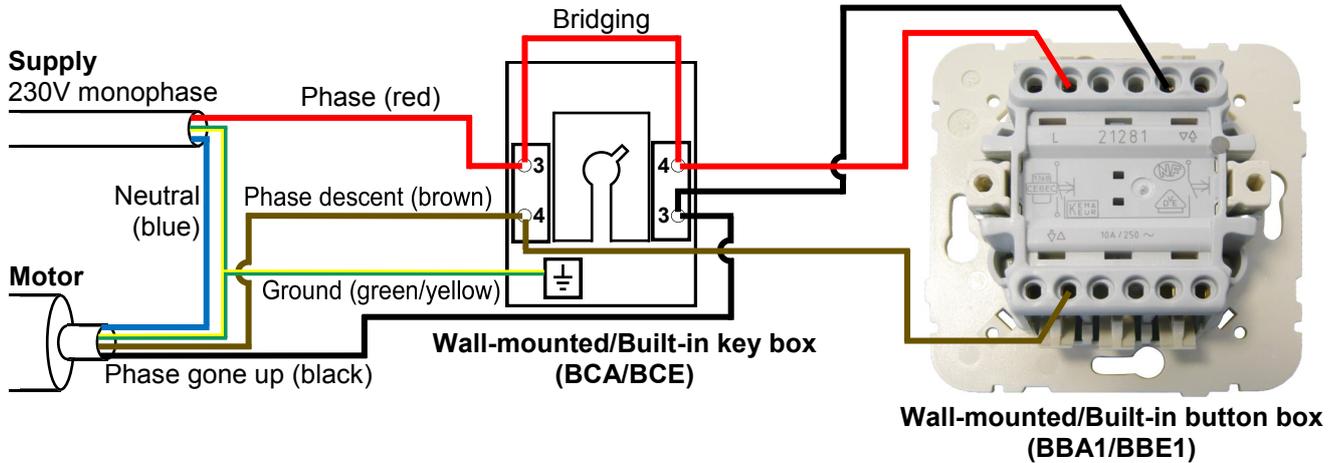
Key and release box



Note : To install the cable of the release system, refer to manual.

- Important :**
- Cable sheath must be free (unclamped, nor stuck).
 - 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

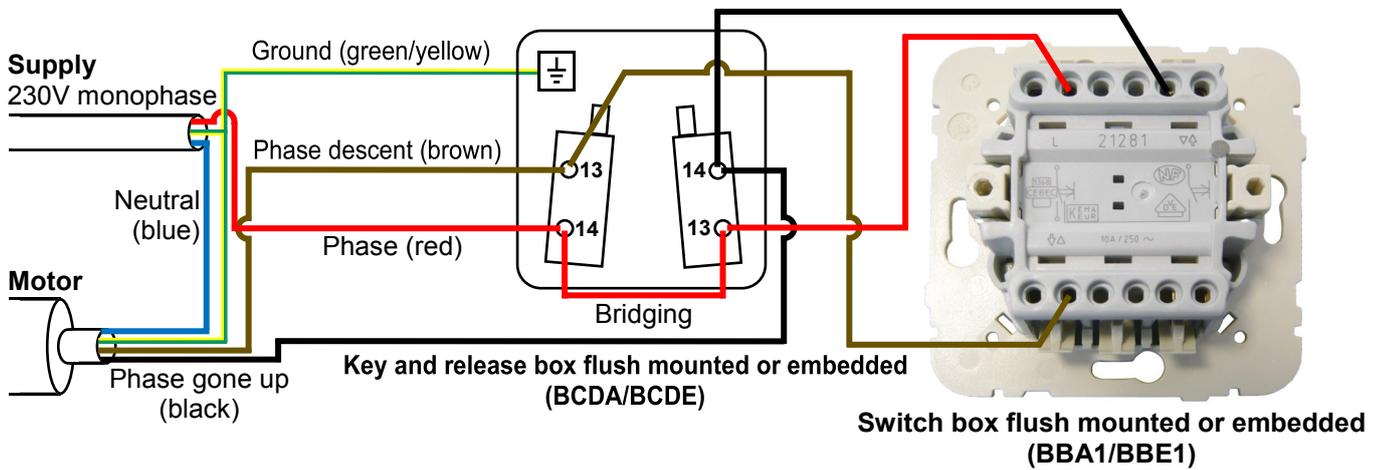


Note : To install the lid of the key box, it is necessary to present the lug of the cylinder in front of the lid of the box.

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 and release box with switch box

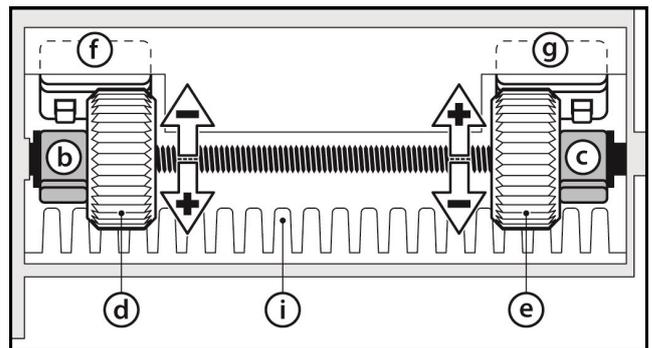
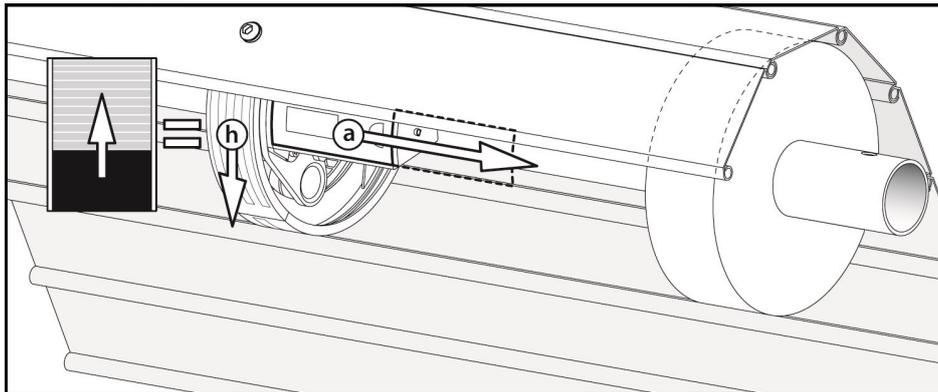
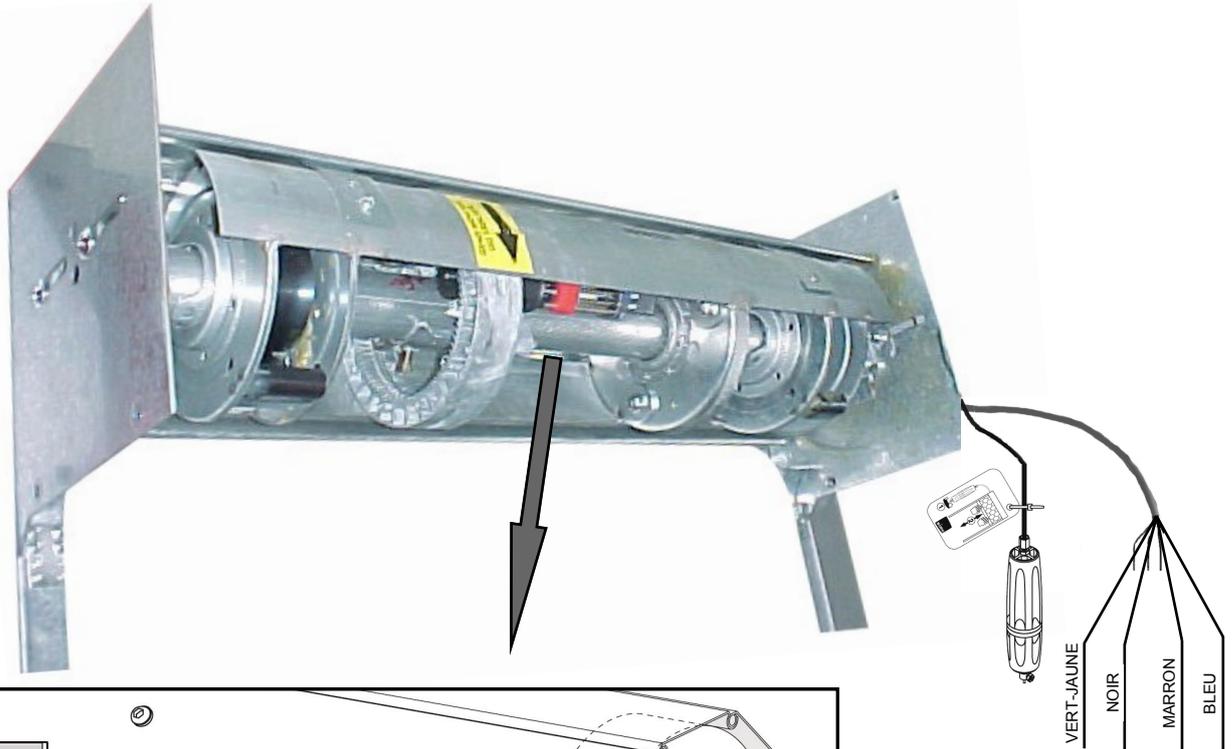


Note : To install the cable of the release system, refer to manual.

Important :

- Cable sheath must be free (unclamped, nor stuck).
- 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 settings



Mark	DESIGNATION
a	Sliding cover
b and c	Removable memories
d and e	Rotating wheel
f and g	Electrical connections
h	Ring gear motor
i	Guiding slips

Top position limit switch

1- Lift the shutter electrically to the desired top position (noise of the slats i).



**The shutter does not stop automatically ;
The limit switches are not yet active.**

2- Lower the shutter electrically and stop in the desired low position (if necessary, tamp down the blades in order to reach the limit switch).



**The shutter does not stop automatically ;
The limit switches are not yet active.**

3- Open the sliding hood (a).

4- Remove the memory ring (b).

IMPORTANT : Make a pencil marker on the rotating wheel (d).

5- Turn the rotating wheel (d) of **2 turns** in the direction marked (-).

6- Carry out a test (**Up**) and refine the settings of the **FDC top**, by turning the wheel (d) in the direction (+) to increase the run or in the direction (-) to decrease the run.

7- The apron must not be in constraint on the stops located on the rails.

Bottom position limit switch

1- Lower the shutter electrically and stop in the desired low position (if necessary, tamp down the blades in order to reach the limit switch).



**The shutter does not stop automatically ;
The limit switches are not yet active.**

2- Remove the memory ring (c).

3- Turn the rotating wheel (e) in the direction marked (-), until the electrical contact (g) is activated.

4- Carry out a test (**Down**) and refine the settings of the **FDC low**, by turning the wheel (e) in the direction (+) to increase the run or in the direction (-) to decrease the run.

5- The apron must not be in constraint on the ground.



Take the red memory rings out in order to activate the limit switches.

6- Close the sliding cover (a).

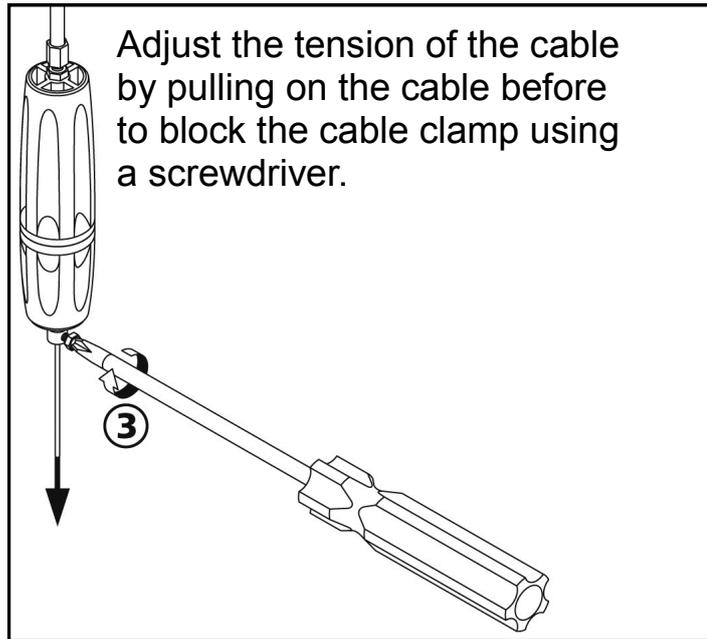
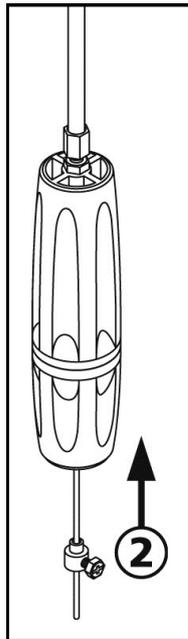
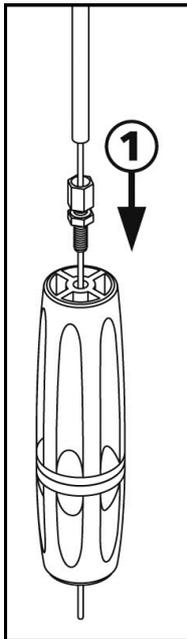
Installation of the handle of the release system



- Do not use the release system, as long as the stops on the final slat and those on the rails are not installed.
- Do not use the release handle, as long as the apron is not fixed on the winding shaft.
- Never operate the release handle when the motor is running.



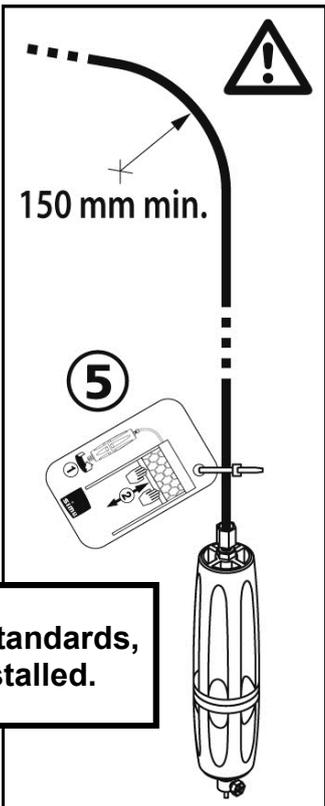
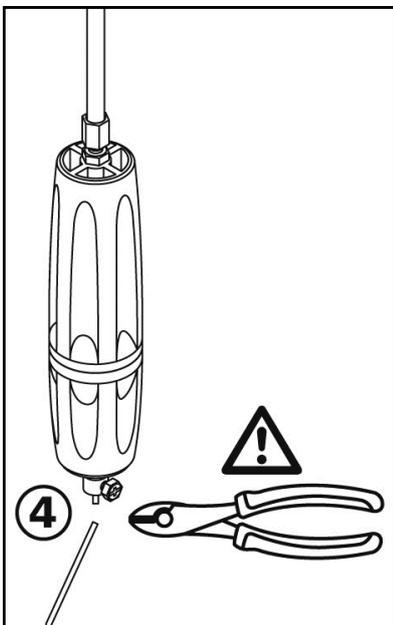
Check that cable and sheath at the exit of the motor are well into their housing.



Adjust the tension of the cable by pulling on the cable before to block the cable clamp using a screwdriver.

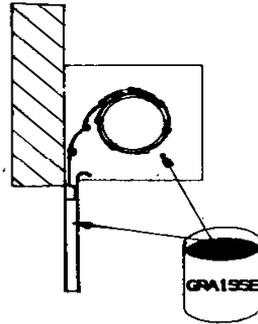


Check the operation of the release system :
Unscrew the handle until the apron is released and manually lift the shutter.
If necessary, resume adjusting the cable tension.



To comply with the standards, this label must be installed.

Finishing

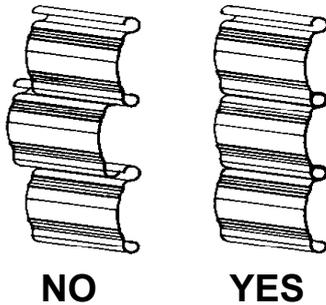


WARNING !
Carefully grease the inside of the rails and winding plates

In case of problems on the maneuver

If the shutter opens and closes awry

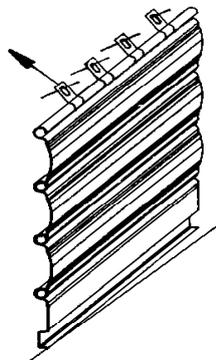
(More than 4 cm room on the final slat)



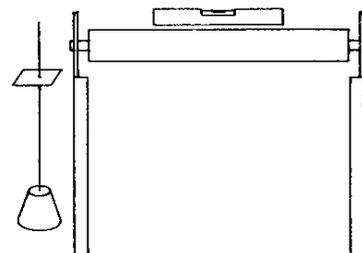
NO **YES**
Verify that slats are well aligned



NO **YES**
Remove asperities inside the rails

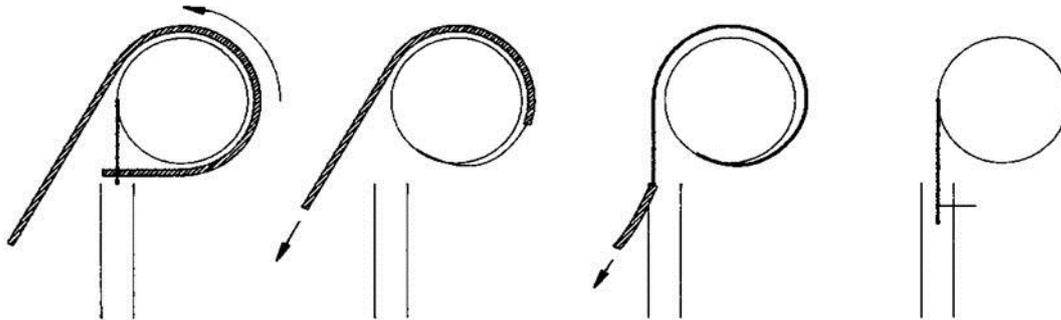


Lift the apron from the lowest side using the lights of the clips provided for this purpose



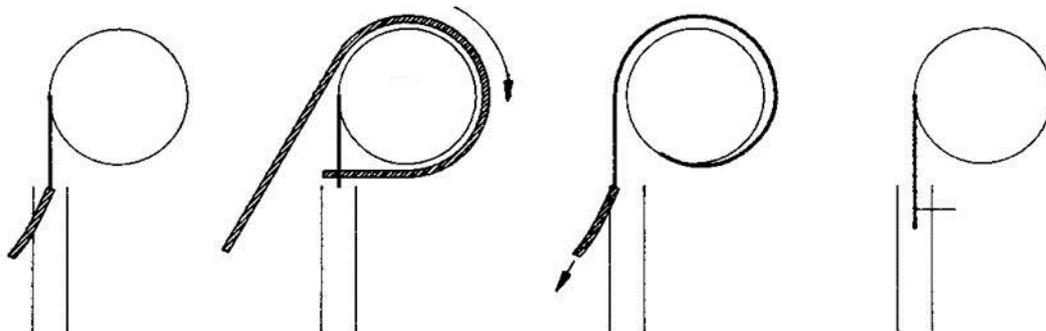
Verify that rails are well aligned and that the shaft is horizontal

If the shutter is hard to go up and goes down too fast,
stretch the springs one turn in the direction of the descent.



- 1 - Deactivate the lower limit switch by increasing the course and put the shutter in the up position.
- 2 - Tie a rope to the apron, pass it around the top shaft and remove the stops.
- 3 - Take the shutter out the rails and make a complete turn in the direction of the descent by pulling on the rope.
- 4 - Put back the apron back into the rails.
- 5 - Replace the stops, remove the rope and adjust the limit switches.

If the shutter is hard to close and/or goes up too quickly,
relax the springs one turn in the direction of the lift.

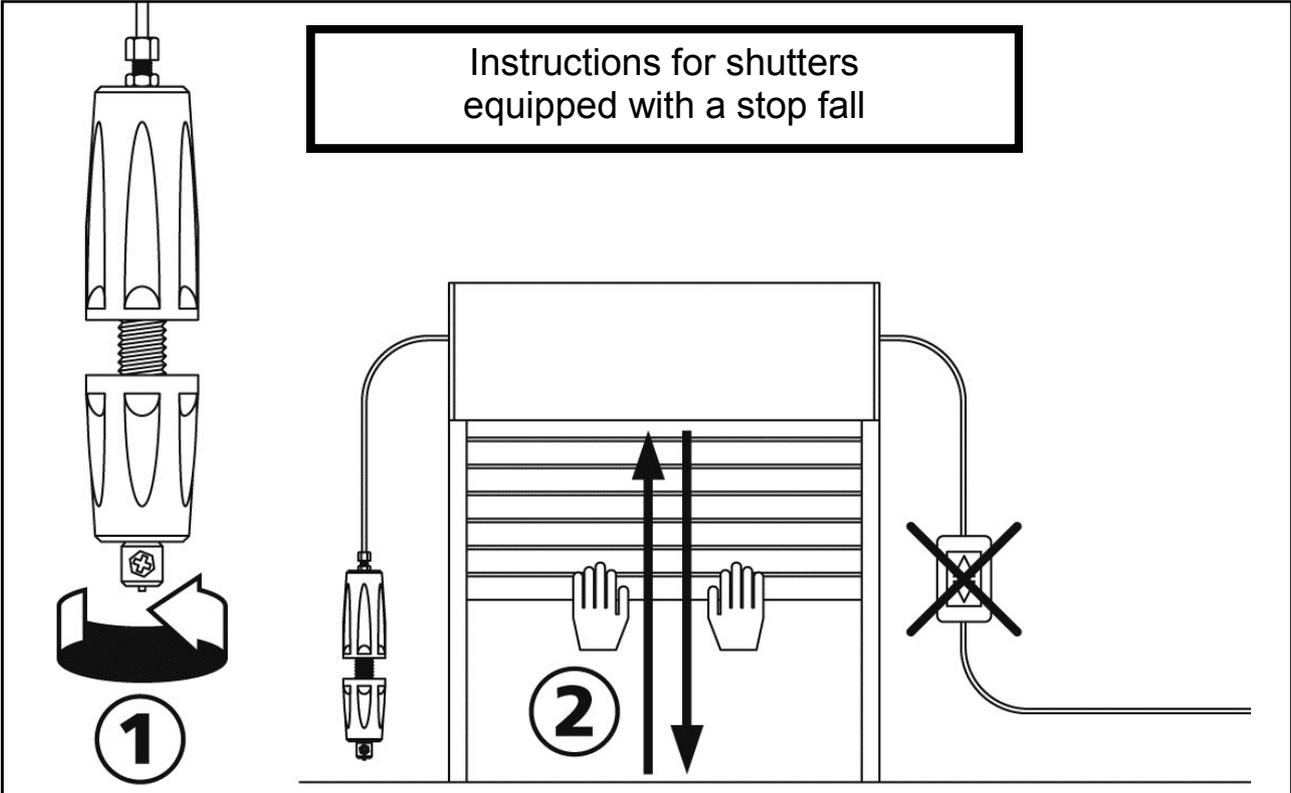


- 1 - Deactivate the up limit switch by increasing the course.
- 2 - Tie a rope to the apron and remove the stops.
- 3 - Let the shutter wind up one turn while firmly controlling the rope.
- 4 - Put back the apron back into the rails.
- 5 - Replace the stops, remove the rope and adjust the limit switches.

Observation : At mid-height the apron must remain balanced and stable.

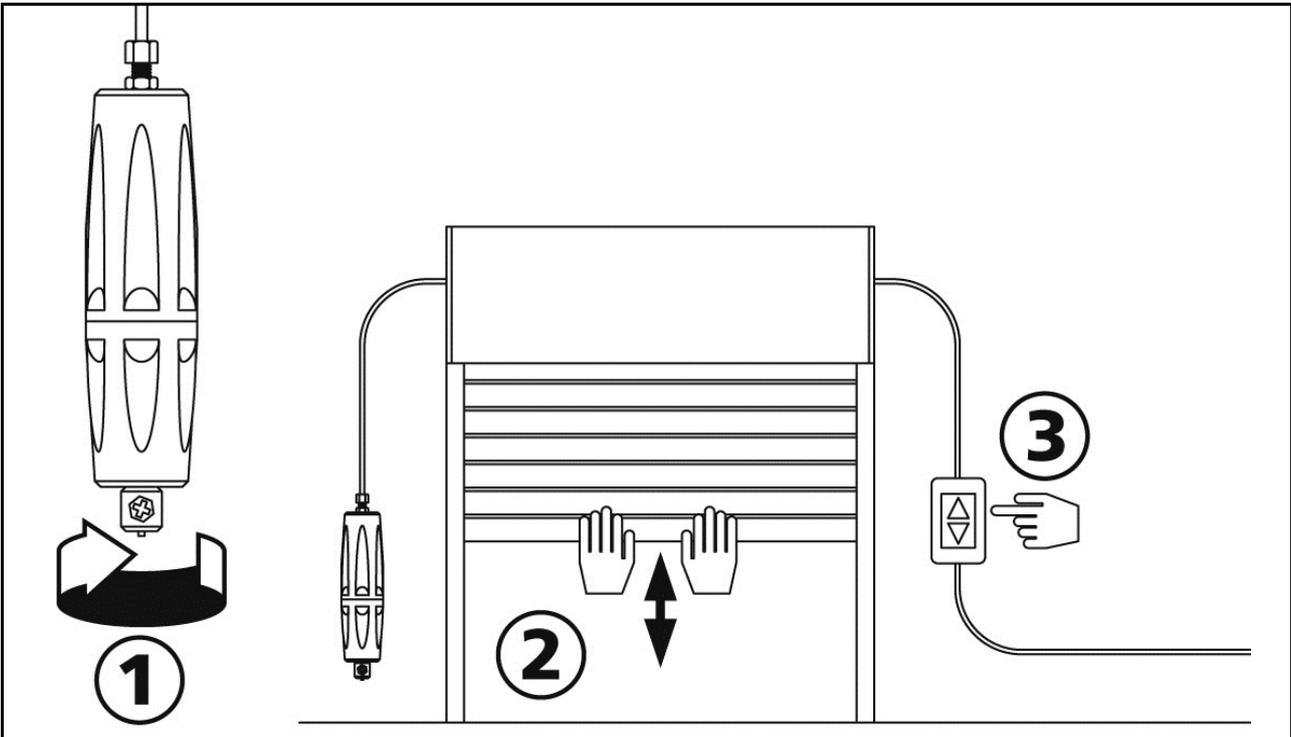
Emergency maneuver

Instructions for shutters
equipped with a stop fall



 **If the stop fall is triggered during the descent :**

- Raise the shutter 10 cm (the stop fall is unlocked).
- Then lower the shutter regularly and at low speed.



(Stamp of the installer)