

## *Fire Rolling Shutter* ***BLOCKSHUTTER EI60 - EI120***



## INDEX

1. PACKAGING AND TRANSPORT	<i>Pag. 5</i>
2. DISPOSAL	
3. PRELIMINARY CHECKS	<i>Pag. 6</i>
4. CONSTRUCTION STANDARD OF FIRE SHUTTER	<i>Pag. 7</i>
5. DIAGRAM OF FIRE SHUTTER COMPONENTS	<i>Pag. 8</i>
6. ASSEMBLY SEQUENCE	<i>Pag. 9</i>
7. ELECTRICAL CONNECTIONS	<i>Pag. 14</i>
8. LIMIT SWITCH ADJUSTMENT	
9. USE	
10. CHECKS	
11. CLEANING AND LUBRICATION	
12. MAINTENANCE	<i>Pag. 15</i>
13. SPARE PARTS	<i>Pag. 16</i>
14. POSSIBLE PROBLEMS	
15. WARRANTY	<i>Pag. 17</i>
16. RISK ANALYSIS	
17. ORDINARY AND EXTRAORD. MAINTENANCE WORK REGISTER	<i>Pag. 20</i>

## IMPORTANT

**All the drawings shown in this manual are purely indicative and not binding. The Client is required to verify (see page 9) the suitability of the support (wall) for the installation of the shutter and the tightness of the anchoring points (fixings are not included).**

At the end of the assembly, the Installer must deliver all the CE documentation to the Client / User, together with the declaration of correct installation, recording in the test report the delivery of the documentation and the training for the safe use of the rolling shutter.

*Dear Customer,* Thank you for choosing our Fire Rolling Shutter with EI resistance performance.

It was designed and built in compliance with:

- ☐ CPR 305/2011 (Construction Products Regulation);
- ☐ Machinery Directive 2006/42 / EC
- ☐ Electromagnetic Compatibility Directive 2014/30 / EU
- ☐ Low Voltage Directive 2014/35 / EU
- ☐ RED Directive (Radio Equipment Directive) 2014/53 / UE
- ☐ Directive 2011/65 / EU RoHS II - Restrictions on the use of hazardous substances

following the indications of the standards:

- ❖ UNI EN 13241: 2016 Industrial, commercial and garage doors and gates - Product standard, performance characteristics;
- ❖ UNI EN 12604: 2017 Industrial, commercial and garage doors and gates - Mechanical aspects - Requirements and test methods;
- ❖ UNI EN 12453: 2017 Industrial, commercial and garage doors and gates - Safety in use of motorized doors - Requirements and test methods;
- ❖ UNI EN 16034: 2014 Pedestrian doors, industrial, commercial, garage doors and opening windows - Product standard, performance characteristics - Fire resistance and / or smoke control characteristics;

and tested according to the standards:

- ❖ UNI EN 1634-1: 2018 Test of fire resistance and control of smoke dispersion for doors and closing systems, opening windows and their construction accessories - Part 1: Fire resistance tests for doors and closing systems and opening windows ;
- ❖ UNI EN 1634-2: 2009 Fire resistance and smoke dispersion control tests for doors, closing systems, opening windows and their construction components - Part 2: Resistance tests for construction components;
- ❖ UNI EN 1363-2: 2001 Fire resistance tests - Alternative and additional procedures;
- ❖ UNI EN 15269-10: 2011 Extended application of the results of fire resistance tests and / or control of smoke dispersion for doors, opening systems and windows and their construction components - Part 10: Fire resistance of steel roller shutters ;

In support, CE documents are issued consisting of:

- Installation, Use, Maintenance and Safety Manual;
- Gearmotor Manual with relative declaration of incorporation issued by the Manufacturer;
- Control Panel Manual with relative declaration of incorporation issued by the Manufacturer;
- Safety device manuals with relative declarations of conformity issued by manufacturers;
- DOP (Declaration of Performance);
- CE label.

They must be kept by the Customer / User and shown to the maintenance / repair staff for the purpose of recording any intervention after installation.

In order to maintain the performance declared in DOP, it is **COMPULSORY** to carry out the scheduled and conservative maintenance, as provided for in this manual, under penalty of forfeiture of any form of guarantee.

This Manual is aimed at trained and qualified installers and users, and has the purpose of:

- Provide indications for correct assembly, safe use and maintenance;
- Highlight the risks and dangers during Assembly, Use, Maintenance.

## IMPORTANT

This Manual must be read in its entirety before installation, use and maintenance of the Fire Rolling Shutter and must be kept near it in a transparent rainproof bag.

This Manual and its contents are the exclusive property of the Manufacturer. Any unauthorized reproduction will be prosecuted in accordance with the law.

The Manufacturer reserves the right to make changes to the product and / or to the technical documentation in order to improve it without prior notice.

The assembly and maintenance personnel must be adequately trained on safety in the workplace. To guarantee the integrity of the shutter components it is necessary to respect the following indications:

1. To avoid corrosion problems, the material must be stored in covered and dry places before installation; in addition, sufficient ventilation must be ensured in the site where the rolling shutter is installed.
2. Do not use solvents or other concentrated chemical compounds that could damage the painted, plasticized or galvanized finishes when cleaning the curtain or the components of the shutter.
3. Do not use high pressure cleaners for cleaning.
4. The compartment where the shutter is to be installed must ensure adequate flow of rainwater so that no water infiltration or stagnation occurs in the vicinity of the same.
5. All the parts that make up the shutter must be assembled according to the indications of this manual and of the specifications produced to order (drawings) or manuals of the manufacturers of the control and safety components.

The Manufacturer will decline any responsibility for shutter malfunctions in the event that assembly, use and maintenance non-conformities are ascertained, with respect to the prescriptions of this manual. All the elements of the shutter have been chosen according to precise design guidelines to ensure perfect operation. The Manufacturer will decline any responsibility for shutter malfunctions in the event that assembly of third party components is ascertained.



## **DANGER**

The shutter is equipped with active and passive safety devices.

In the event of their intervention, do not attempt to release but request the intervention of specialized personnel recognized by the Manufacturer. Irregular maneuvers can cause damage to things or people.

In case of maintenance on the gearmotor, make sure that the rolling shutter is in the closed position.

## **1. PACKAGING AND TRANSPORT**

In loading, unloading and delivery operations, make sure to pair packages with the same Order / Item and Model number.

The EI fire shutter is generally composed of two packages:

- A) Guides (right + left), Traverso, Roll of Invitation; Support brackets (engine and parachute); EI sheet (supplied already wound on the winding shaft) complete with Crown, Bearing and Parachute;
- B) Wired Gearmotor, Control Panel, UPS, Pinion, Transmission Chain, Siren, Gaskets and Small Parts; Technical documentation and CE.

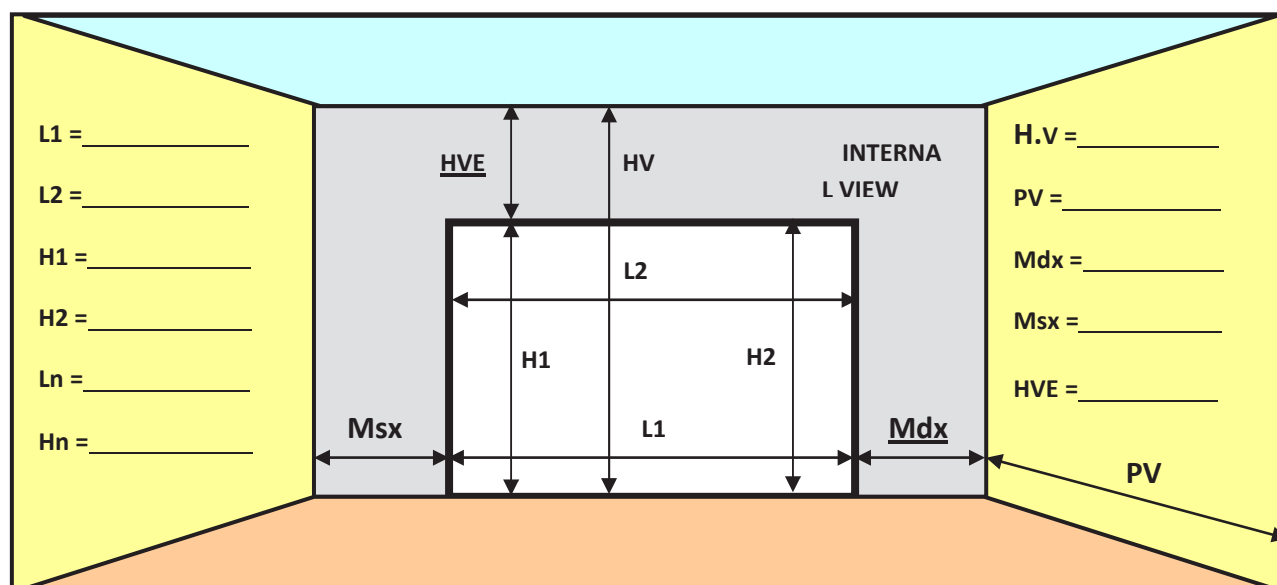
In the case of shipments of several shutters, the pieces can be grouped. The handling of packages must be carried out with the utmost care using suitable forklifts or transpallets. Storage must be carried out in a covered place. At the time of unloading, the customer must verify the consistency with what is indicated in the transport document and within 24 hours can report any shortages or non-conformities. Complaints must be sent by e-mail or fax and be supported by photos documenting the problem encountered. Only in this case the Producer will be able to take charge of the resolution of the detected problem, if attributable to him. Check the presence and integrity of all parts.

## **2. DISPOSAL**

The disposal of the mechanical parts of the shutter must be carried out through authorized metal scrapping companies. Polystyrene, plastic strapping, cardboard making up the packaging, wood making up the stacking frames are similar to municipal solid waste. The mantle, the rubber seals, the motorization and the electrical components are special waste to be disposed of through authorized companies.

## 3. PRELIMINARY CHECKS

Before proceeding with the assembly operations, carry out the following preliminary checks: Carry out the survey of the masonry compartment, reporting the values in the following diagram;



- Define the values of Ln (nominal light width) and Hn (nominal light height) by determining them on the basis of the maximum values measured (L1 and L2) (H1 and H2) net of any false squares and out of plumb. The values of L and H indicated on the label placed on the packages must be equal to Ln and Hn or deviate in excess of 10 mm maximum.
- Check the consistency of the walls on which the fixings will be made in order to identify the correct ones to use.
- Check that there are no obstacles (electrical conduits, water pipes, beams, etc.) in the installation and sliding area of the Fire Rolling Shutter.
- Check the level of the floor and the plumb of the side sticks.

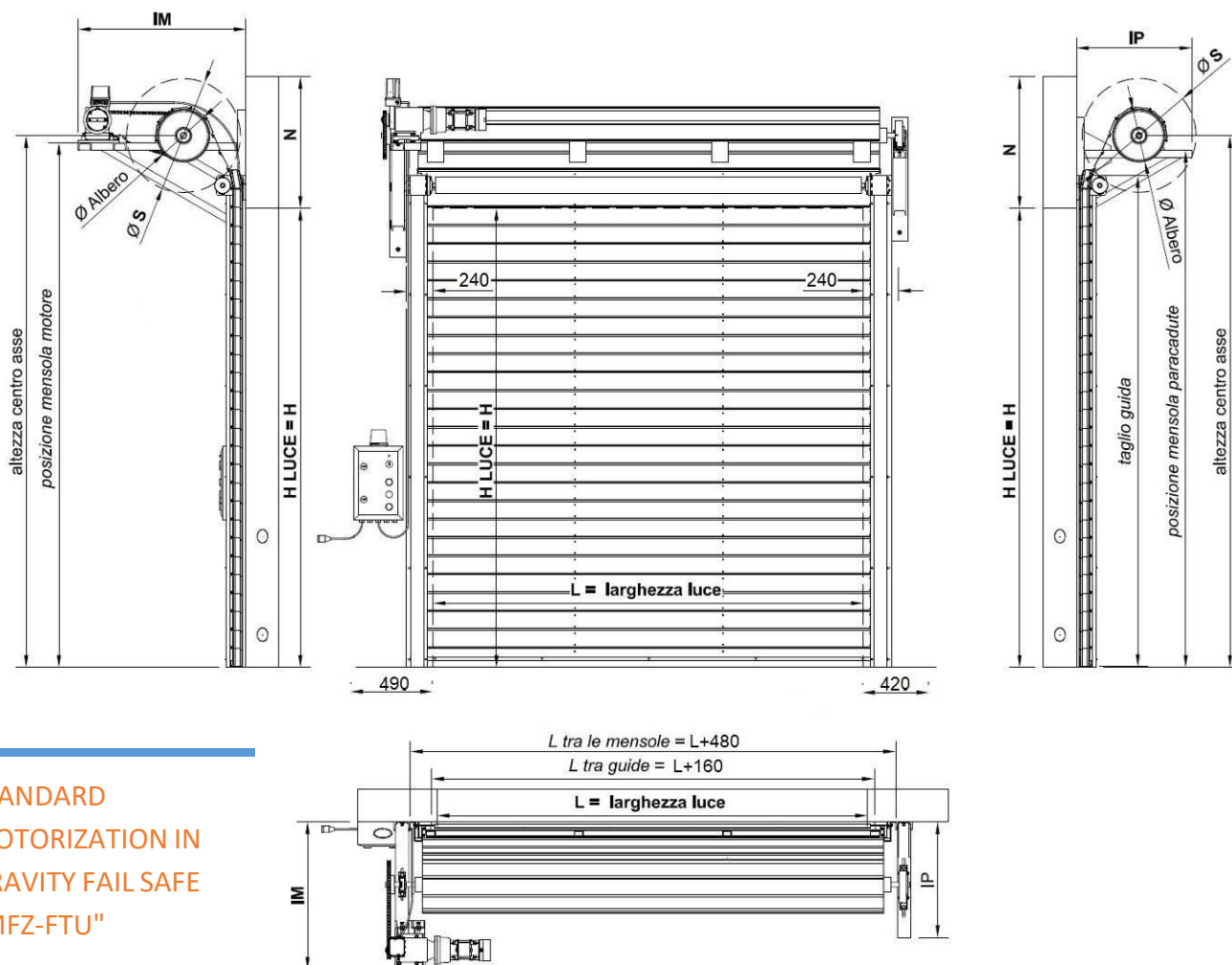


## 4. CONSTRUCTION STANDARD OF FIRE SHUTTER

The EI fire rolling shutter is built for installation beyond the opening, for rooms with dimensions:

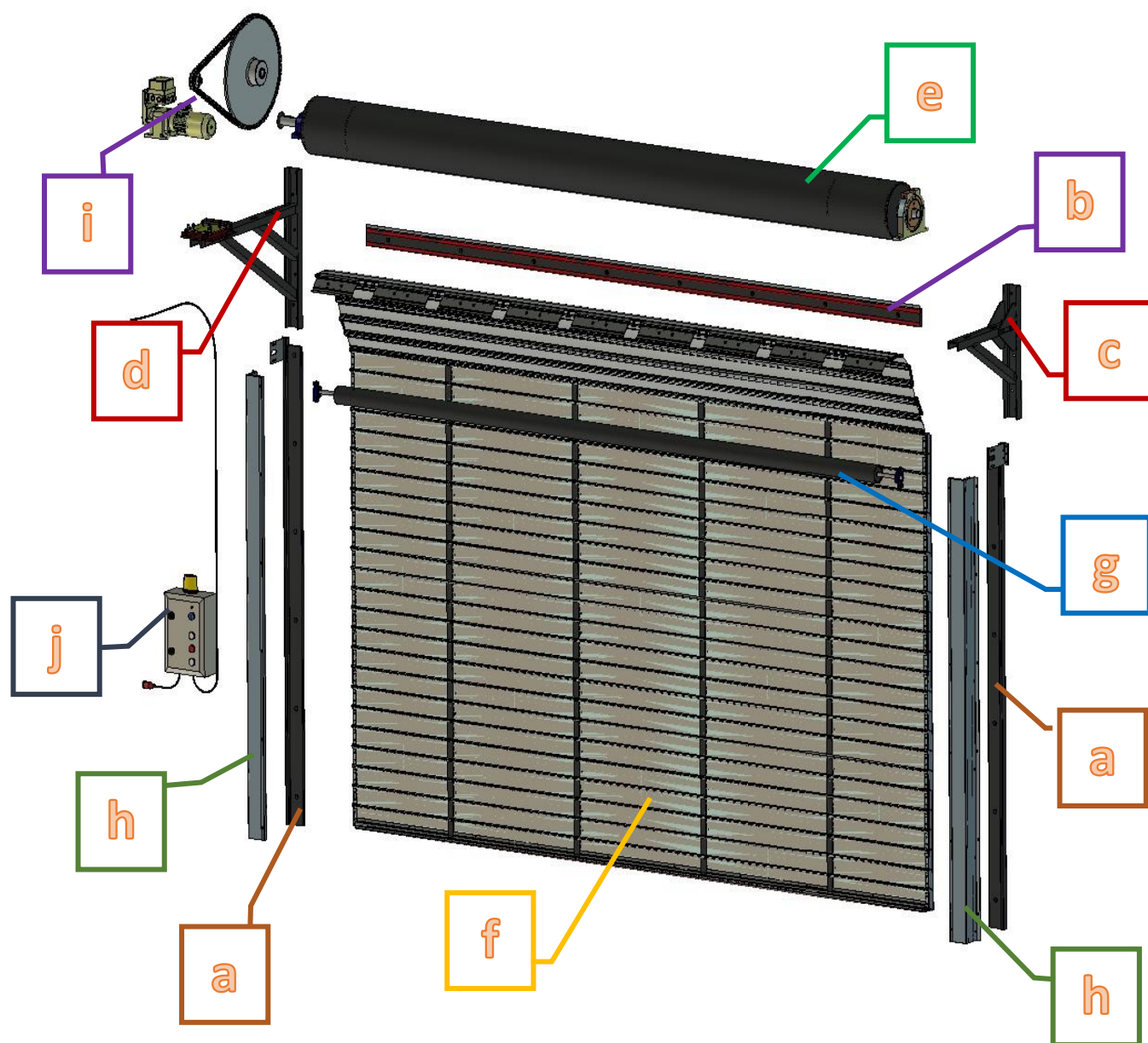
- $L \leq 10 \text{ mt}$        $H \leq 8 \text{ mt}$
- The weight of the cloth is approximately  $42\text{kg} / \text{m}^2$

Attention, for  $L > 7\text{m}$  the depth of the guides will increase by 20mm with a consequent dimensional increase.



STANDARD  
MOTORIZATION IN  
GRAVITY FAIL SAFE  
"MFZ-FTU"

## 5. DIAGRAM OF FIRE ROLLING SHUTTER COMPONENTS



- a) Plates for fixing the guides;
- b) Beam plate;
- c) Shelf for safety-break;
- d) Shelf for motor (different type depending on the motor);
- e) Shaft / Tube;

- f) Mantle (supplied rolled up on tube);
- g) Little shaft (pilot hole);
- h) Guide covers;
- i) Motor (chain drive or direct drive)
- j) Control panel (with audio-visual device);

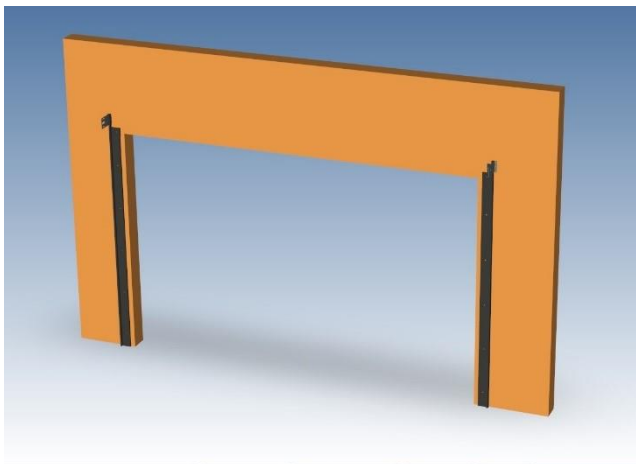
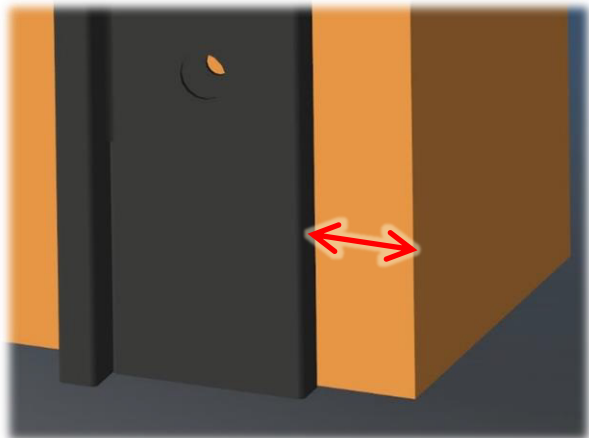
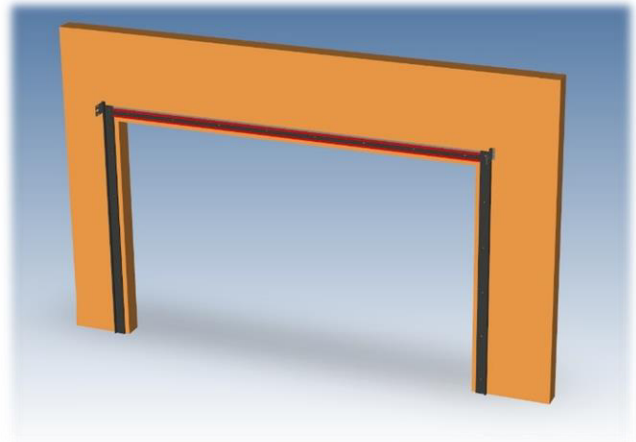
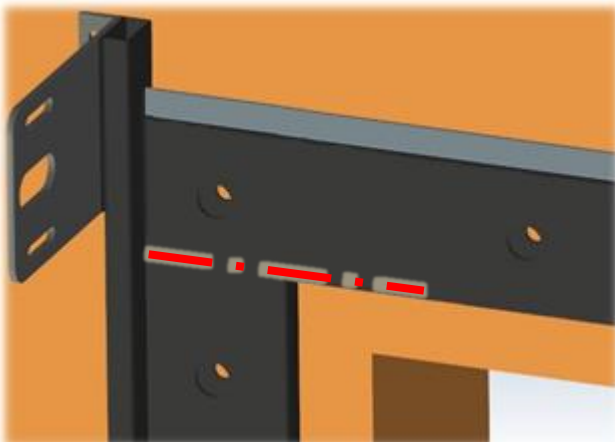



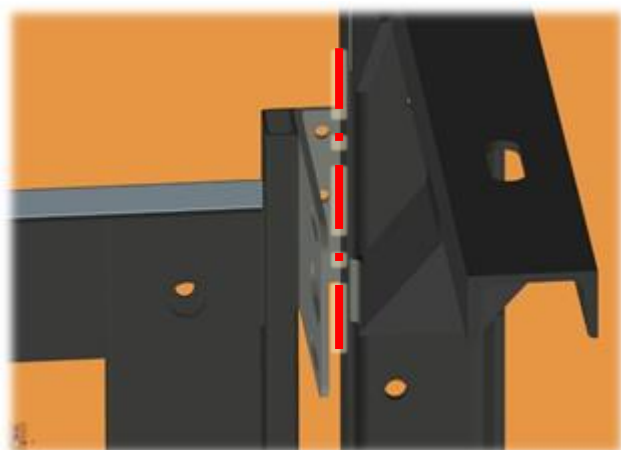
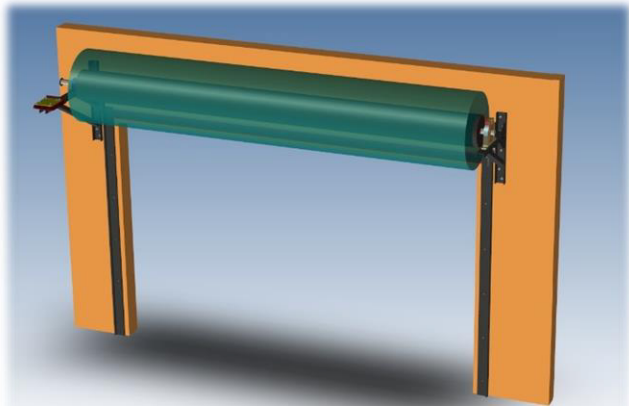
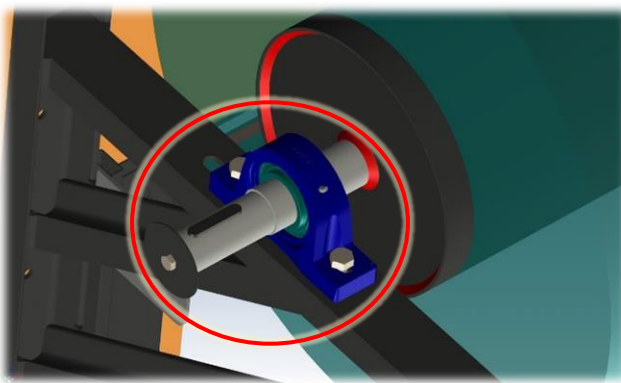
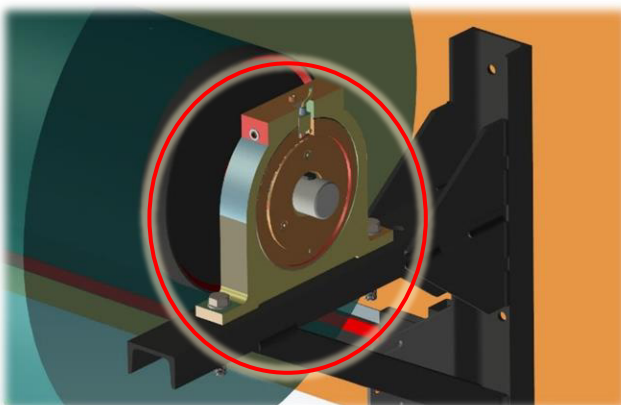
## VI. ASSEMBLY SEQUENCE

### **IMPORTANT**

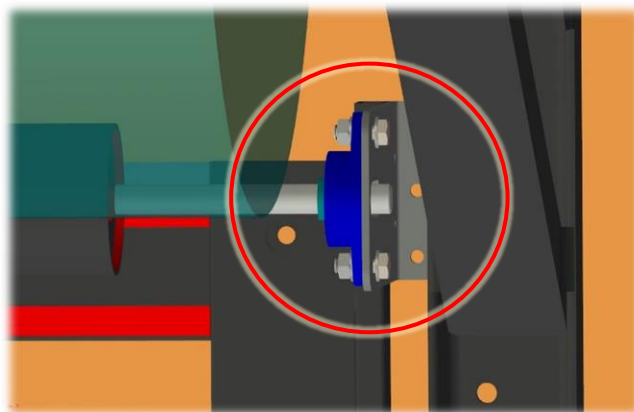
The EI Fire Rolling Shutter is designed to be installed beyond the opening on a rigid support with a thickness of 200mm and a density of 450kg / m<sup>3</sup> (characteristics of fire resistance only). It is possible to fix it on a protected structural steel support as long as it is sized in accordance with the EN15269-10: 2011 standard. Fixing materials are not included. Use only fasteners that are suitable for the intended mechanical strength and fire resistance and that fit the mounting surface.

Proceed in the sequence as indicated by the following figures.

<b>Step.01:</b> Assembly of plates for guides fixing	Position from compartment edge: <b>80mm</b>
	
<b>Step.02:</b> Mounting of beam plate	Beam plate position in line with the guide
	

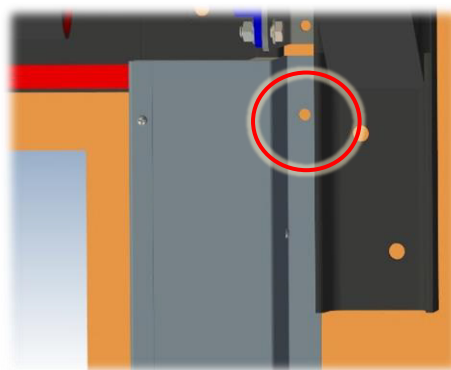
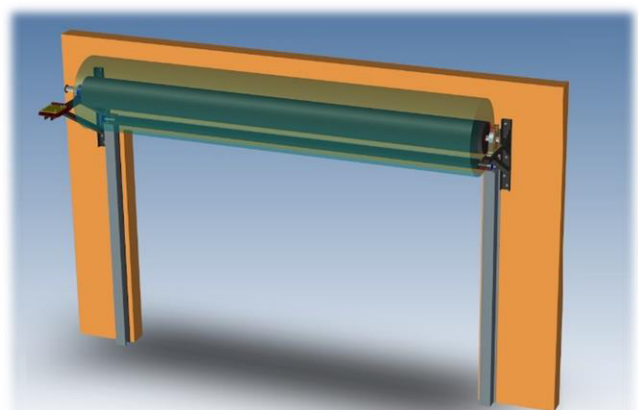
<p><b>Step.03:</b> Shelves assembly</p> 	<p>Shelves position in line with the guide</p>  <p>Fixing with M12 threaded rod and rear plate. Shelf fixing height: variable, see fixing diagram attached to the order.</p>
<p><b>Step.04:</b> Assembly of shaft (mantle rolled on)</p>  <p>The mantle supplied rolled up on shaft is contained in a dedicated packaging. It is necessary to remove the upper part and all sides of the packaging, then insert the bearing into the long axis and the parachute device on the short axis, remembering to screw the dowels so that they cannot slip off the axles. Using a suitable means (ex. fork-lift), lift the bottom of the package together with the mantle/shaft and place it between the shelves. Adjust the distance between the wall and the shaft as per diagram attached to the order. Finally, remove the remaining packaging. Then connect the safety-break to the control panel.</p>	 <p>Bearing fixing on motor shelf</p>  <p>Bearing fixing on safety-break shelf</p>

## Step.05: Assembly of little shaft (pilot hole)

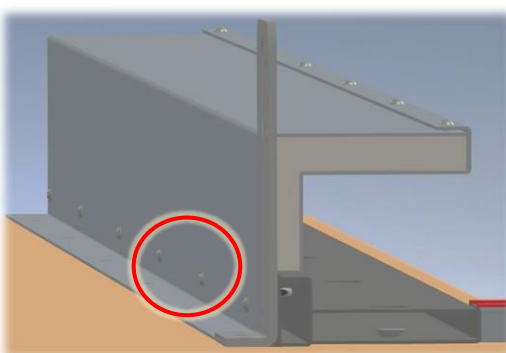
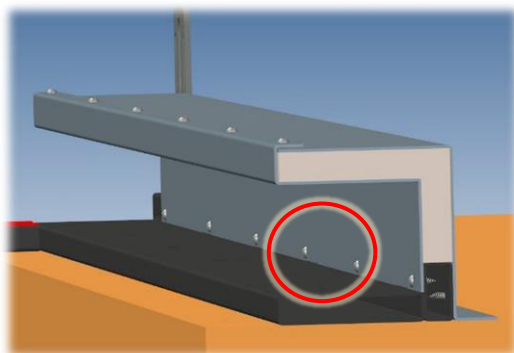


Secure the motor shaft to the shelf using the supplied flange bearings. The distance must be adjusted according to the mantle.

## Step.06: Assembly of the guide covers

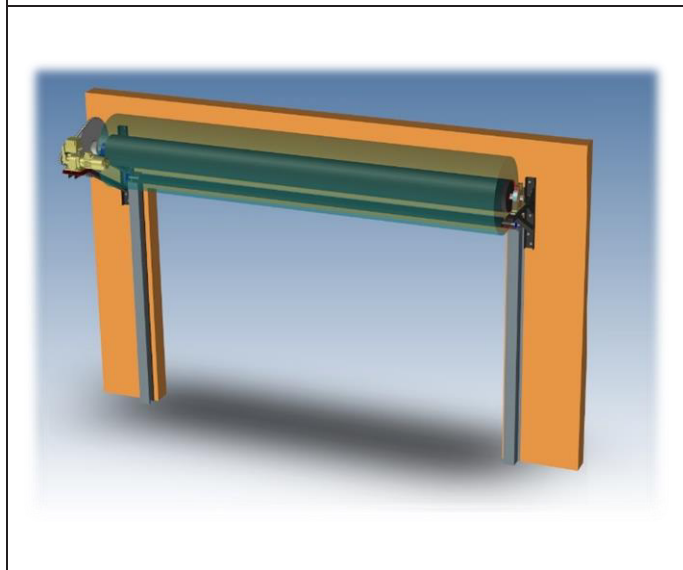


Fasten the guide covers to the masonry (using suitable fasteners for the masonry) through the series of holes on the external fin.

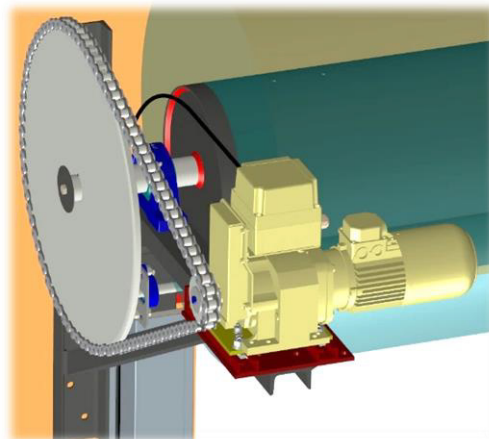


Fix the cover to the guide plates by inserting self-drilling screws (supplied) in the series of holes on the internal and external side.

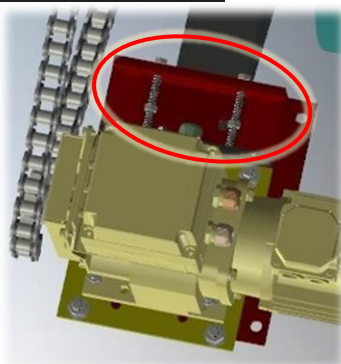
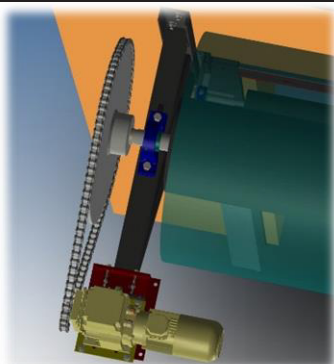
## Step.07: Motor assembly



Secure the transmission chain to motor and shaft



The type of shelf can vary according to the motorization chosen.



**Adjust the chain by acting on the chain tensioner screws.**

Bolt the motor to the respective adapter plate, slide it into the appropriate tracks on the shelf. Insert the pinions in their respective axes. Position the chain and align the sprockets and then act on the respective dowels to lock them. At the end, it is necessary to replace the stop washer on the axis.

## Step.08: Assembly of Control panel



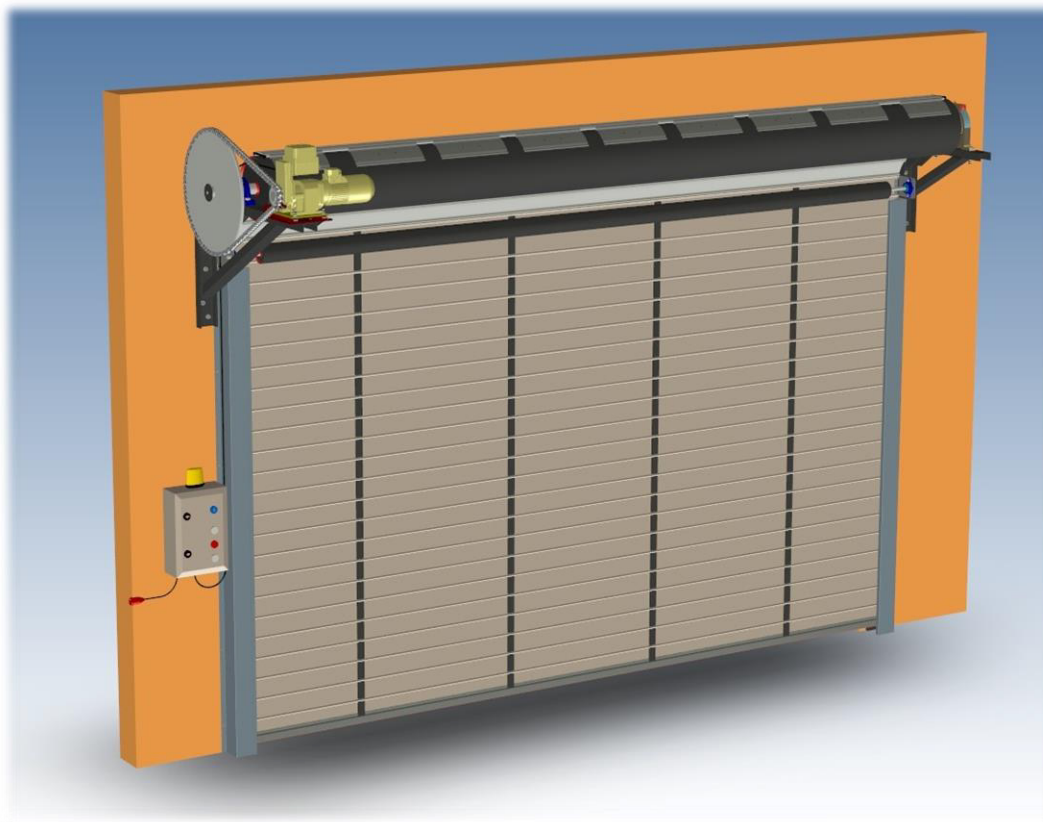
**ATTENTION! see alert on Page 19**



The type of control unit can vary according to the motorization chosen.

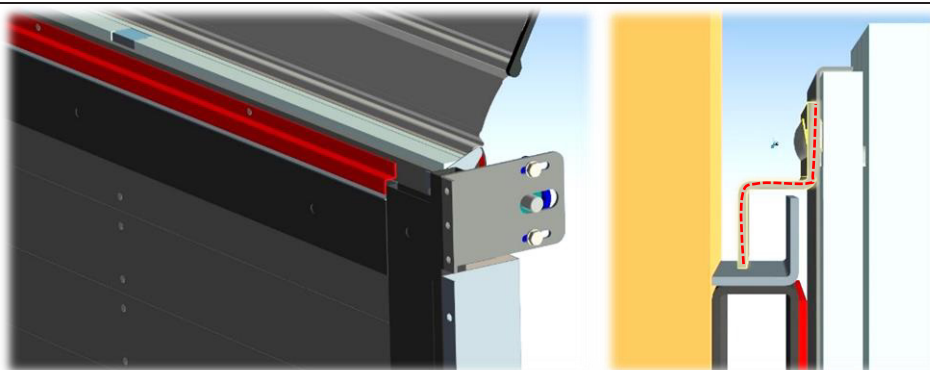


## Step.09: Roll down the mantle inside the guides



Cut the containment straps and through the control unit slowly unroll the mantle inside the guides. Adjust the little shaft so that it accompanies the mantle keeping it vertical. It is necessary to carry out the checks listed in point "10. CHECKS" on page 14 during initial start-up and at least once every six months.

## Step.10: Assembly of the "Z" profile



Once the previous operations have been carried out, check the correct fastening position which, when the sheet is completely unrolled, must be just above the "cross" profile fixed to the lintel. Once this position has been marked on the element, the sheet must be wound so that it is easy to access, drill 5mm holes (not through holes) and fix the Z profile with 4.8x8mm steel rivets, in correspondence with the rivets on the element insert a 4.8x19mm self-drilling screw.



## **IMPORTANT**

All spaces between the frame of the EI Fire Rolling Shutter (guides plates, beam plate) and the masonry must be sealed with suitable foam (type "**Promafoam-C**") not included.

**PLEASE READ THE ALERT ON PAGE 18 CAREFULLY!**

## **7. ELECTRICAL CONNECTIONS**

Refer to the instructions contained in the control unit manual.

## **8. LIMIT SWITCH ADJUSTMENT**

Refer to the instructions contained in the gearmotor and control unit manuals.

## **9. USE**

Before using the fire shutter, carry out the checks and operations listed below.

The Fire Shutter is equipped with all active and passive safety devices, to better safeguard the safety of the user and his parts. The maintenance of its performance and safety over time is subject to correct use and maintenance, a maximum daily use of 2 (two) cycles is recommended. For the operating modes: refer to the instructions contained in the control panel manual.

## **10. CHECKS**

At the first start-up and at least once every six months it is necessary to carry out the following checks:

- Tightening of fixing systems (shelves, guides, crosspiece);
- Tightening of nuts and bolts (parachute, bearings);
- Integrity of welds (brackets, shafts);
- Integrity of the sliding guides and the crosspiece;
- Integrity of the mantle;
- Integrity of thermo-expanding gaskets (ledge, guides, transom) and seals;
- Tensioning the transmission chain, tightening the pinion grains and engine fixing bolts;
- Check the sliding of the curtain in the guides;
- Control of the efficiency of the safety and command devices;
- Verification of the correct activation of the emergency closure;
- Check that the curtain does not have uncontrolled movements during the emergency closing;
- Noise control;
- Control of the manual actuation forces (in the case of a gearmotor equipped with an emergency manoeuvre);

## **11. CLEANING AND LUBRICATION**

Upon initial start-up and at least once every six months, it is necessary to clean:

- Sliding guides;
- Mantle;

and the lubrication of:

- Drive chain
- Bearings

eliminating with special means the excesses of dust or solid materials.

## WARNING

**Do not use** solvents or other concentrated chemicals that could damage galvanized and painted finishes. Do not use high pressure hydro-cleaners and do not convey jets of water or steam on electrical parts. Report to the MANUFACTURER particular and anomalous environmental situations, which may favor the accumulation of powdery or encrusting materials.

## 12. MAINTENANCE

For the perfect efficiency of the Fire Rolling Shutter, for the maintenance over time of the performances declared in the DOP and CE plate and in accordance with the provisions of the mandatory safety regulations in the workplace, it is MANDATORY to carry out periodic and accurate maintenance by specialized personnel recognized by the MANUFACTURER, under penalty of forfeiture of the guarantee.



## ATTENTION

Carry out maintenance with the shutter in the closed position, making sure, if the electric brake is released, that the shutter leaf does not have uncontrolled movements. Always disconnect the power supply before any intervention.

**Periodically and constantly check that the chain is always under tension by acting, if necessary, on the chain tensioner screws (see page 11, step.07).**

The checks must be carried out with the frequency indicated below or at least every six months.

CHECK	PERIODICITY
Check the tensioning of the drive chain.	2 MONTHS
Tightening of fixing systems (shelves, guides, crosspiece);	6 MONTHS
Tightening of nuts and bolts (parachute, bearings);	6 MONTHS
Integrity of welds (brackets, shafts);	6 MONTHS
Integrity of the sliding guides and of the crosspiece in the architrave;	6 MONTHS
Integrity of the mantle (beach integrity, slats and slats);	6 MONTHS
Integrity of thermo-expanding gaskets (ledge, guides, transom) and seals;	6 MONTHS
Tensioning the transmission chain, tightening the pinion grains and engine fixing bolts;	6 MONTHS
Sliding of the mantle in the guides and alignment of the slats;	6 MONTHS
Integrity and efficiency of the control unit with UPS (if present) and of the safety devices (if provided): photo-coast; photocells; audio-visual device;	6 MONTHS
Emergency closing actuation cycle.	6 MONTHS
Noisiness of the Gearmotor;	6 MONTHS

## **UPS BATTERIES MUST BE REPLACED EVERY TWO YEARS**



### **ATTENTION**

In case of any anomaly, do not carry out careless maneuvers. Always ask for the intervention of a specialized technician. Irregular or unforeseen operations can cause damage to things or people.

THE MANUFACTURER will not assume any responsibility for damage or disturbances resulting from lack of periodic maintenance or carelessness of the user

### **NOTE**

The elements (staves), which are particularly subject to wear during the operation of the Fire Rolling Shutter, must always be kept in an excellent state of cleanliness and lubrication. In the event that the environmental conditions are particular, for example there is a high humidity or concentration of dust in the air, high temperature ranges and / or conditions favorable to the increase in corrosive processes, it is advisable to increase the frequency of checks as well as interventions lubrication.

## **13. SPARE PARTS**

Spare parts must be original, under penalty of forfeiture of any form of guarantee.

To order them, it is sufficient to communicate to the MANUFACTURER the serial number shown on the CE plate, identifying the required component with a photo.

## **14. POSSIBLE PROBLEMS**

The problems that may occur on the Fire Rolling Shutter are summarized in the following table. In case of unreported problems, contact the MANUFACTURER.

Inconvenience	Probable cause	Solution
The shutter gets stuck during the ascent or descent	The coat is not perfectly aligned	Check the alignment of the mantle and the integrity of the slats; Check the integrity of the guides and relative gaskets;
The shutter does not work electrically	Lack of electricity on the network or flat batteries	Wait for the power supply to restore power or replace the batteries
	Blown fuse on the control panel	Replace the fuse with another of the same rating
	Unsuitable power supply line	Check with the tester the voltage values 230/400 V with tolerance +/- 10%

During an intensive cycle of operation the shutter stops	Intervention of the thermal protections of the gearmotor	Wait about ten minutes for the electrical parts of the motor to cool down, then try the maneuver again
The shutter starts but slows down and stops during the run	Loss of insulation from the electric motor winding	Contact the Maintenance Company
Excessive noise	Lack of cleaning and / or lubrication; Damaged guide	Contact the Maintenance Company Check the integrity of the guides
Damage to elements of the shutter	Accidental events	Do not operate the shutter Contact the Maintenance Company
The shutter locks during operation and does not start again	Intervention of the parachute device	Contact the Maintenance Company
	Intervention of the overrun micro switch	Contact the Maintenance Company

## 15. WARRANTY

*According to laws in force from the date of supply.* On the basis of this guarantee, the MANUFACTURER undertakes to repair or replace free of charge, as soon as possible, those parts that prove to be defective in materials or construction. Those parts subject to wear during normal operation and failures due to force majeure, lack of maintenance, overloads, willful misconduct, inexperience or negligence of the user are excluded from the warranty. The MANUFACTURER guarantees the continuation of the performances declared in DOP as long as the checks and maintenance required by a specialized and authorized company are carried out.

## 16. RISK ANALYSIS

The risk analysis carried out on the Fire Rolling Shutter is shown below.  
Residual risks are signaled on the fire rolling shutter by applying the following signal



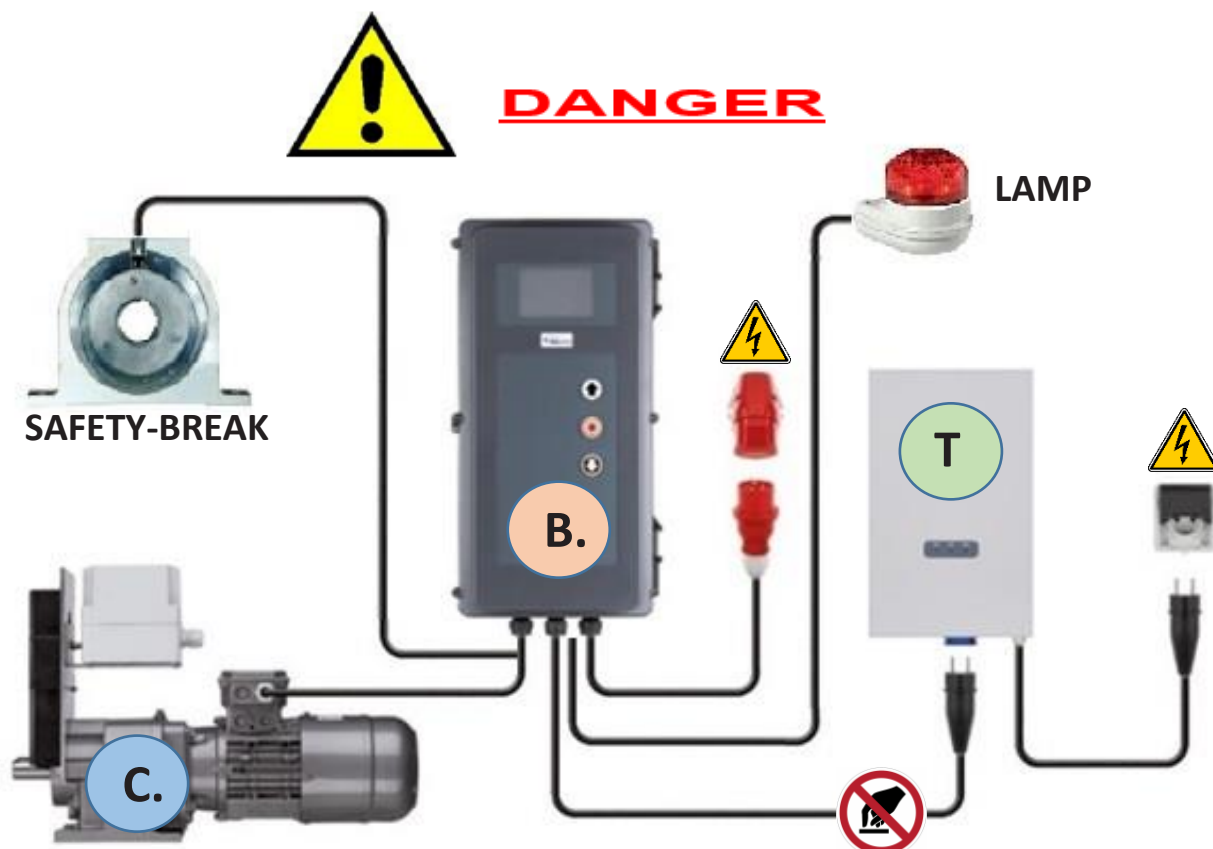
The shutter is equipped with all the necessary safety devices to eliminate, as far as reasonably possible, any risk. The risks and related remedies are listed in the safety requests of UNI EN 13241: 2016 and indicated in the following table:

RISK	SOLUTION
Fall protection safety for vertical sliding doors	An anti-fall device for excess speed has been installed on the motorized axis. All structural elements are sized according to UNI EN 12604.
Cutting, blanking	Gasket mounted on the guides; Command with hold-to-run operation.
Crush, Collision	Command with hold-to-run operation; Double pair of anti-collision photocells (where necessary);
Conveying, Hooking	Blind curtain and lack of protrusions > = 40 mm;
Loss of stability	Rigid brackets for guides and shelves; Tightening of nuts and bolts and fastening systems; Verification of welds.
Emission of harmful substances	The shutter is built with materials that do not release substances that are harmful or dangerous to health.
Unexpected movements due to the wind	The shutter is designed to withstand wind overloads declared in DOP.
Wind load resistance	The shutter is designed to withstand wind overloads declared in DOP.
Installation and use	The shutter is equipped with a "Use, Maintenance and Safety" manual
Drive unit	Differential and magnetothermic protection on the power supply line; Thermal protection in the motor; Safety devices with redundant control (where necessary).
Manual operation in case of emergency	Only with direct drive motor;
Extra run of the mantle	Micro emergency limit switch.

## RESIDUAL RISKS

RISK	SOLUTION
Electrocution	Do not carry out interventions on the electrical parts without first disconnecting the power supply to the control panel and the motor. Report the fault and wait for the intervention of specialized personnel.





**BEFORE** POWERING THE MOTOR “C” CHECK THAT:

- **CONTROL UNIT "B" IS CONNECTED TO THE UPS "A".**
- **"A" AND "B" ARE CONNECTED TO THE ELECTRIC LINE;**
- **"A" IS POWERED.**

# ATTENTION!!! DANGER!!!

**IF "A" IS NOT POWERED AND/OR "B" IS NOT CONNECTED TO "A"  
THE BRAKE OF MOTOR "C" DOES NOT WORK!!!**



**NEVER DISCONNECT THE PLUG BETWEEN “B” AND “A” !!!**

## ORDINARY AND EXTRAORDINARY MAINTENANCE WORK REGISTER

### Page 01

Date	Maintenance technician	Type of surgery:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention carried out			
Replaced material			
Note			
Signature of the maintainer		Customer signature	

Date	Maintenance technician	Type of surgery:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention carried out			
Replaced material			
Note			
Signature of the maintainer		Customer signature	

## ORDINARY AND EXTRAORDINARY MAINTENANCE WORK REGISTER

### Page 02

Date	Maintenance technician	Type of surgery:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention carried out			
Replaced material			
Note			
Signature of the maintainer		Customer signature	

Date	Maintenance technician	Type of surgery:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention carried out			
Replaced material			
Note			
Signature of the maintainer		Customer signature	

## ORDINARY AND EXTRAORDINARY MAINTENANCE WORK REGISTER

### Page 03

Date	Maintenance technician	Type of surgery:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention carried out			
Replaced material			
Note			
Signature of the maintainer		Customer signature	

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		SERRANDA INDUSTRIALE MOTORIZZATA - FIRE ROLLING SHUTTER - BLOCKSHUTTER EI120	
MATRICOLA	S2022/24897		EN 13241:2016 UE N° 305/2011
ANNO PRODUZIONE	2022		
ANNO MARCATURA	2020		
DIMENSIONE	L. 3.434 X H. 4.200		
CARATTERISTICHE ESSENZIALI		PRESTAZIONE	
RESISTENZA MECCANICA E STABILITA'		CONFORME	
TENUTA ALL'ACQUA		NPD	
PERMEABILITA' ALL'ARIA		NPD	
RILASCIO DI SOSTANZE PERICOLOSE		CONFORME	
RESISTENZA CARICO DEL VENTO		CL 2	
RESISTENZA TERMICA		NPD	

ATTACHED:

- CE LABEL
- DRAWING OF FIRE ROLLING SHUTTER EI
- ELECTRICAL DIAGRAM CONTROL UNIT