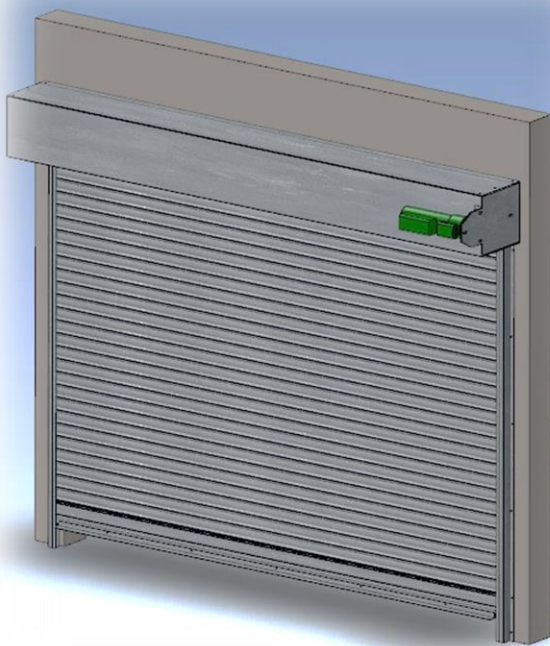


Fire Shutter
BLOCKSHUTTER E90



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IMPORTANT

All drawings in this manual are purely indicative and non-binding. The Customer is required to verify (see page 8) the suitability of the support (*wall*) for the installation of the shutter and the tightness of the anchor points (fixings are not included).

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

Dear Customer,

Thank you for choosing our Fire Shutter with **E90 resistance performance**.

It has been designed and constructed in accordance 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 dangerous 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;
- ❖ Safety device manuals with relative declarations of conformity;
- ❖ DOP (Declaration of Performance);
- ❖ CE label.

They must be kept by the owner/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 Shutter and must be kept near it in a transparent rain 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 technical documentation for the purpose of its improvement without prior notice.

Assembly and maintenance personnel must be properly trained in workplace safety. To ensure the integrity of the components of the shutter it is necessary to comply with the following indications:

1. To avoid corrosion problems before installation, the material must be parked in covered and dry places; moreover, sufficient ventilation of the site where the shutter is installed must be ensured.
2. Do not use solvents or other concentrated chemical compounds that could damage painted, plasticized or galvanized finishes when cleaning the mantle or components of the shutter.
3. Do not use high pressure washers for cleaning.
4. The compartment where the shutter must be installed must guarantee an adequate outflow of rainwater so that there is no infiltration or stagnation of water near it.
5. All the parts that make up the damper must be assembled according to the indications of this manual and the specifications produced to order (drawings) or manuals of the manufacturers of the control and safety components.

The Manufacturer will decline all responsibility for malfunction of the shutter if non-compliance of assembly, use and maintenance is ascertained, with respect to the requirements 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 malfunction of the shutter in the event of ascertained assembly of components of Third Parties.



DANGER



The shutter is equipped with active and passive safety devices. In case of their intervention, do not attempt unlocking maneuvers but request the intervention of specialized personnel recognized by the Manufacturer. Irregular maneuvers can cause damage to property or people. In case of maintenance of the gearmotor make sure that the damper stations in the closed position.

1. PACKAGING AND TRANSPORT

In loading, unloading and delivery operations, be sure to pair packages bearing the same Order / Item number and Model. The "E" fire shutter is packed in a wooden cage and consists of Guides (right + left), support shelves (motor and safety brake); flat E (supplied assembled in one or more rolls); Motor; Transmission; Safety Brake; Accessory Box with Siren/Flashing Light and Base, Small Parts; Technical and CE documentation (**attention wall fixings are not provided**).

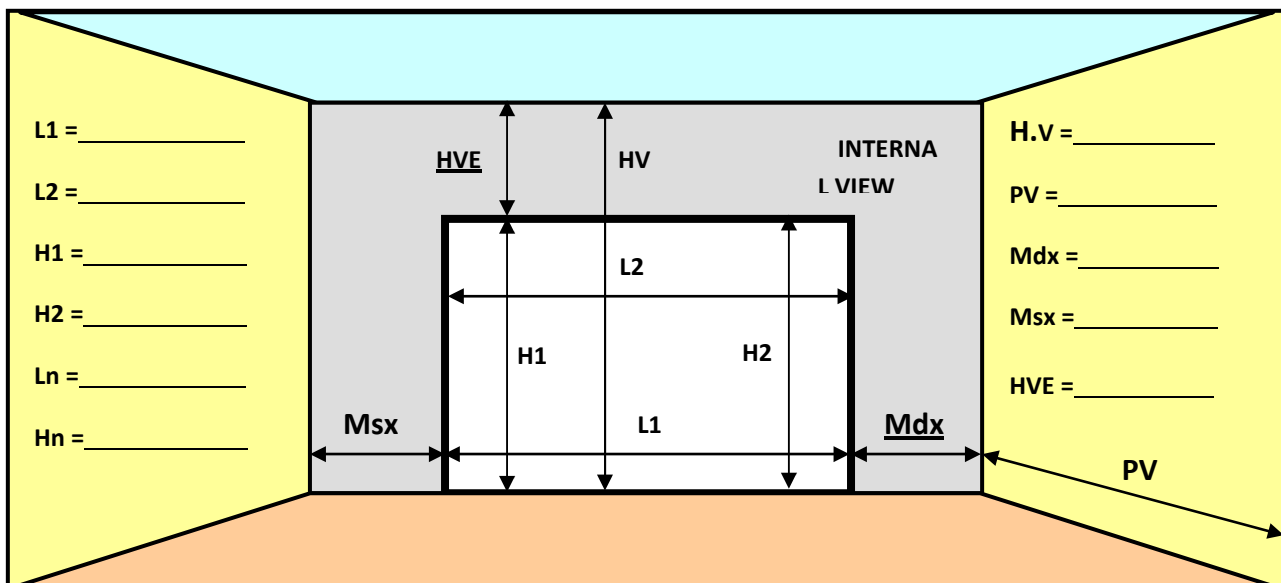
In case of shipments of several shutters, the pieces can be grouped. The handling of packages must be carried out with the utmost care using suitable forklifts or pallet trucks. Storage must be carried out in a covered place. At the time of unloading, the customer must verify the presence and integrity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

2. DISPOSAL

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

3. PRELIMINARY CHECKS

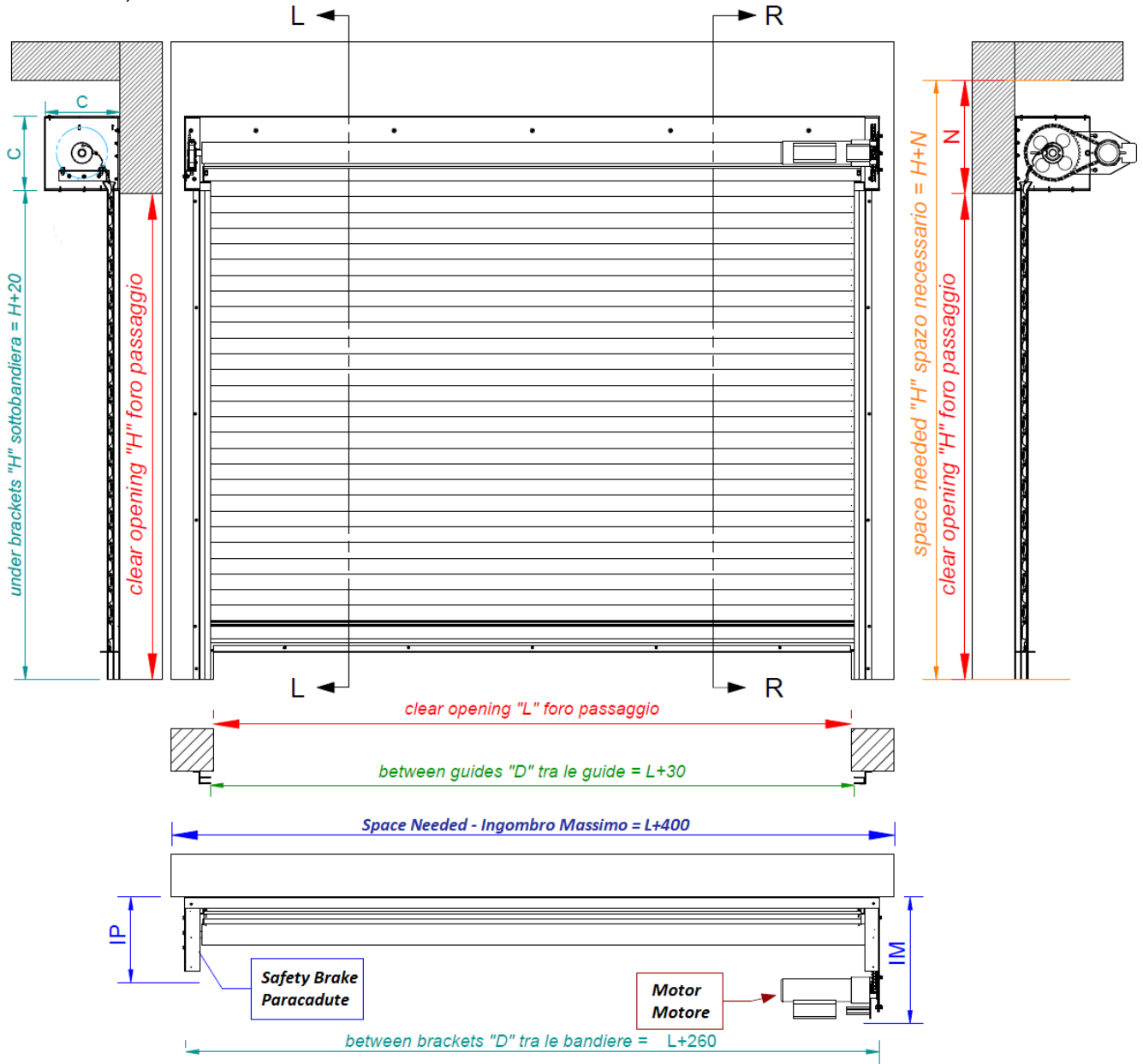
Before proceeding with the assembly operations, carry out the following preliminary checks: Carry out the survey of the masonry compartment reporting the values in the following diagram;



- Define the values of L_n (nominal light width) and H_n (nominal light height) determining them on the basis of the maximum values detected (L_1 and L_2) (H_1 and H_2) net of any false squares. The values of L and H indicated on the label on the packages must be equal to L_n and H_n or deviate in excess of a maximum of 10 mm.
- Check the consistency of the walls on which the fixings will be made in order to identify the correct ones to be used.
- Check that there are no impediments (electrical ducts, water pipes, beams, etc.) in the installation and sliding area of the shutter.
- Check the level of the floor and the lead of the side tangent.

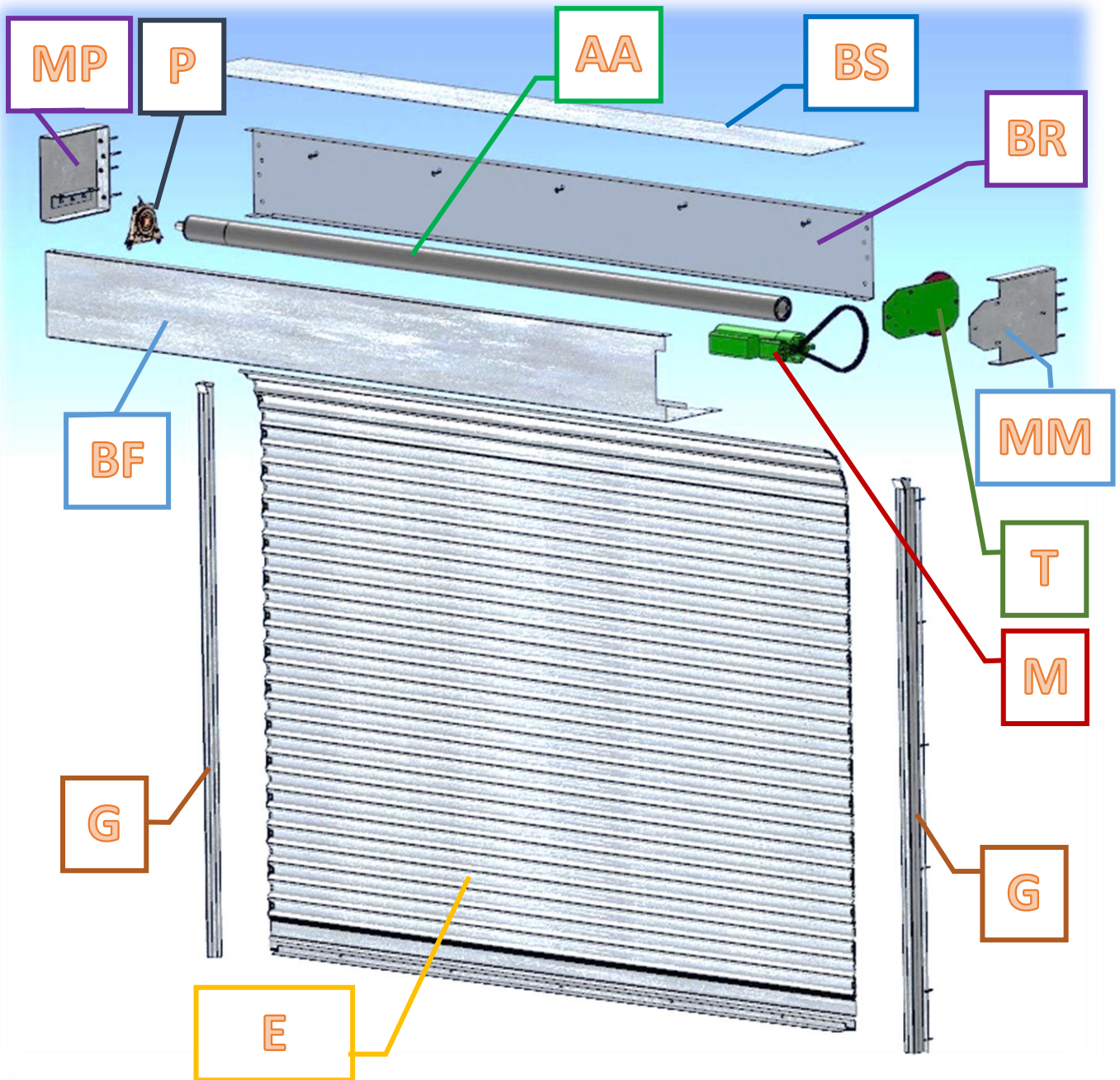
4. CONSTRUCTION STANDARDS FIRE ROLLING SHUTTER E90

The E90 fire shutter is built for installation beyond the opening, with clear opening $L \leq 8\text{m}$ $H \leq 7\text{m}$ according to the following scheme (scheme valid up to $L = 3\text{m}$, always refer to the technical drawing of the order).



The motor in the drawing is an example. The motor position is at the customer's choice.

5. FIRE ROOLING SHUTTER COMPONENTS SCHEME

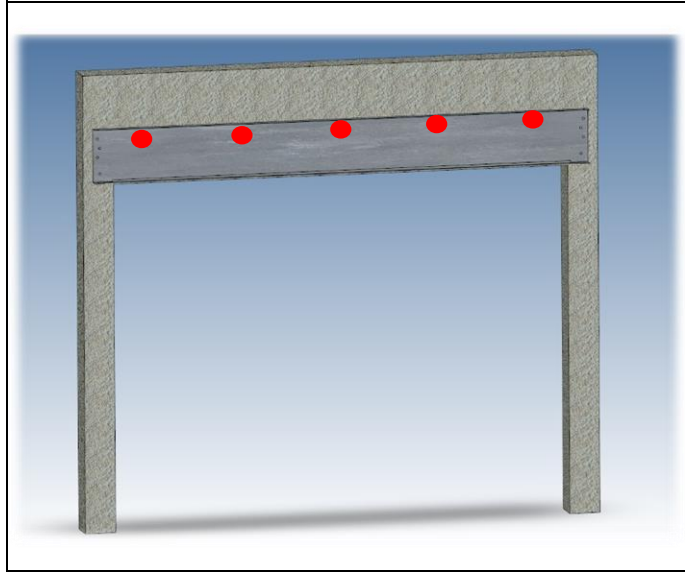
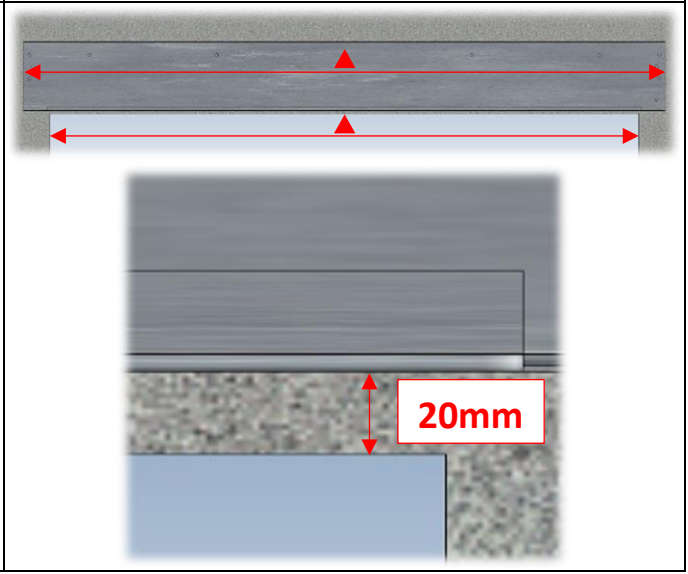
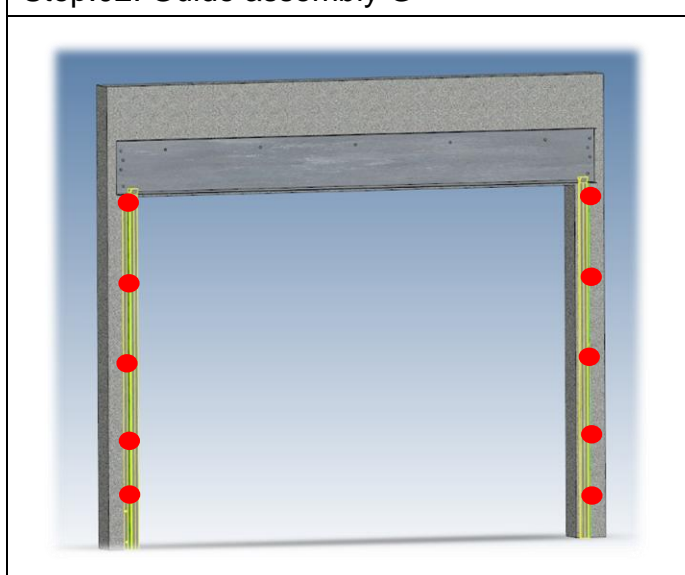
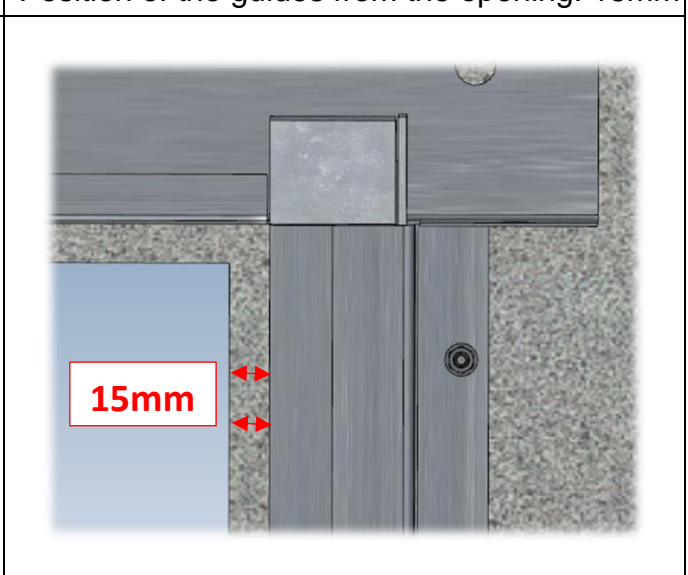


- | | |
|---------------------------|-------------------------|
| BR) Rear box; | AA) Roll shaft |
| G) Left and right guide; | P) Safety Brake System; |
| MM) Motor Bracket; | E) Sheet E90; |
| MP) Safety Brake Bracket; | BF) Frontal box; |
| T) Transmission; | BS) Upper box; |
| M) Motor; | |

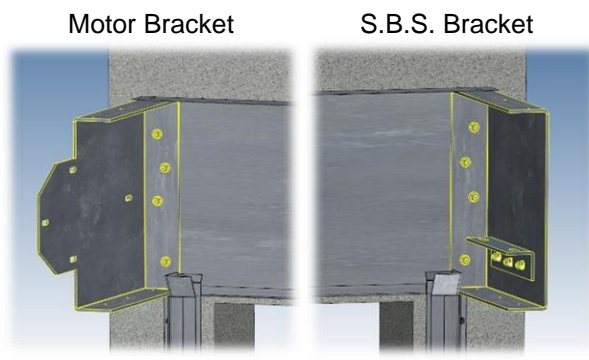
6. ASSEMBLY SEQUENCE

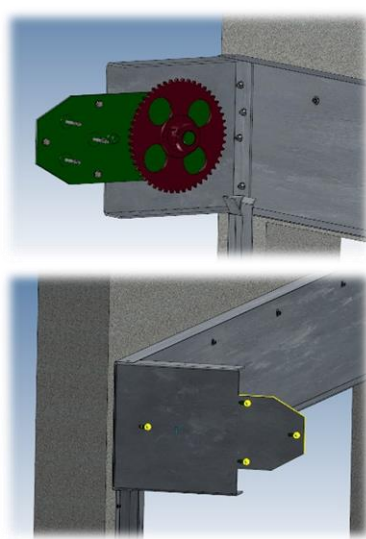
IMPORTANT


The E90 Fire Rolling Shutter is designed to be installed beyond the opening on a rigid load bearing support with the following minimum *fire resistance characteristics*: 130 mm thick perforated ceramic bricks, covered with 10 mm thick mortar, total thickness 140 mm and density of 1450 kg/m³. The Customer must verify that the structural characteristics of the support are suitable for installing the shutter. 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. Fastener are not included. **Use only fasteners that are suitable for the mechanical strength and fire resistance provided and that fit the mounting surface. Use the "Installation Instructions" attached to the order for correct installation.**

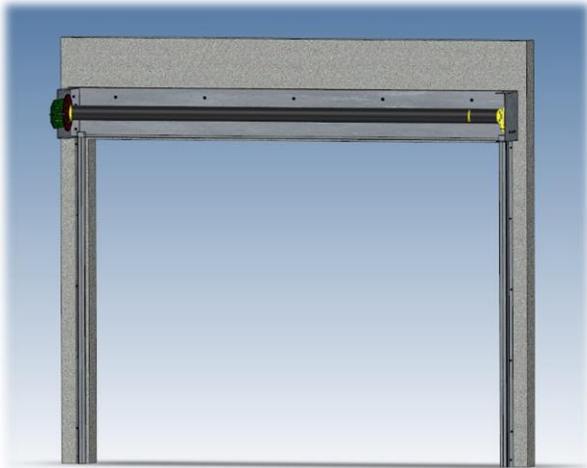
<p>Step.01: Rear box Assembly BR</p>	<p>Central Position and from the edge: 20mm</p>
	
<p>Step.02: Guide assembly G</p>	<p>Position of the guides from the opening: 15mm</p>
	

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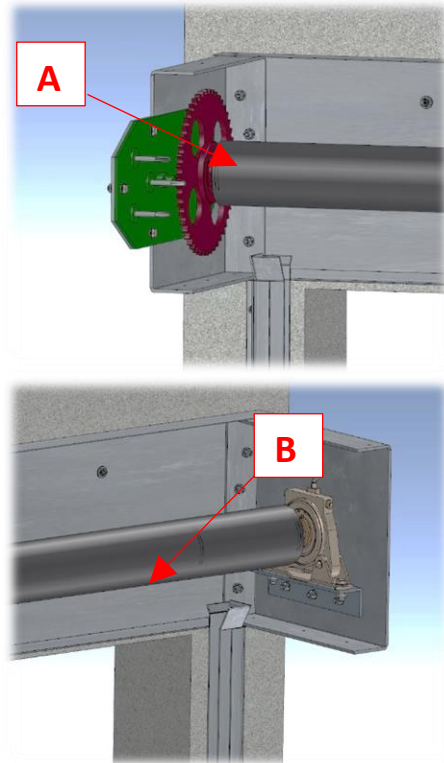
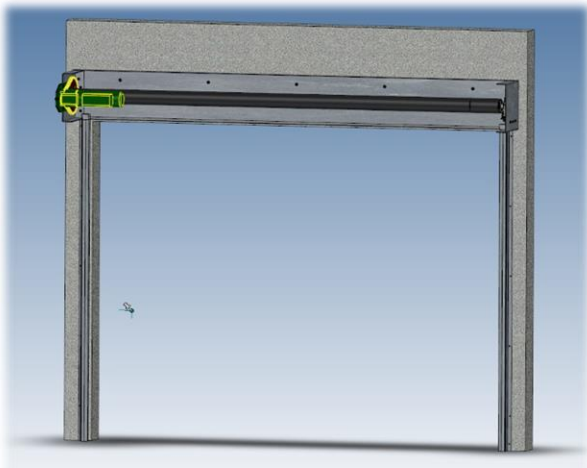
<p>Step.03: Brackets mounting MM/MP</p>	 <p>Motor Bracket S.B.S. Bracket</p>
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<p>Step.03: Transmission assembly T</p>	<p>Assembly screws TTEI M10x30 - Flange bolt M10</p> 
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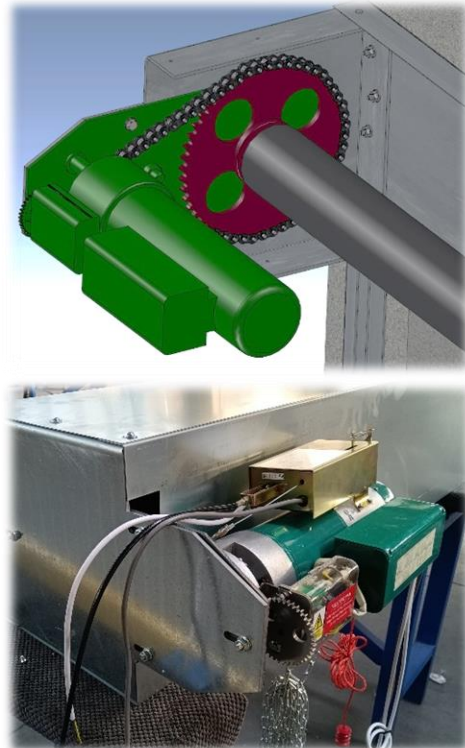
<p>Step.04: Shaft assembly AA</p>	<p>Insert safety brake P on the axis (attention to the arrow on the parachute, it indicates the direction of descent)</p> 
--	---

Step.04: Shaft assembly AA

Insert into the hub of the crown (A)
Lock the screws of the safety brake system (B)

**Step.05: Motor assembly M**

Mount the motor to the holder and connect the drive chain. Turn the screws on the motor to adjust the chain tension. The motor is equipped with a safety device for releasing the brake and controlled closing in case of emergency. *(refer to the engine manual)*

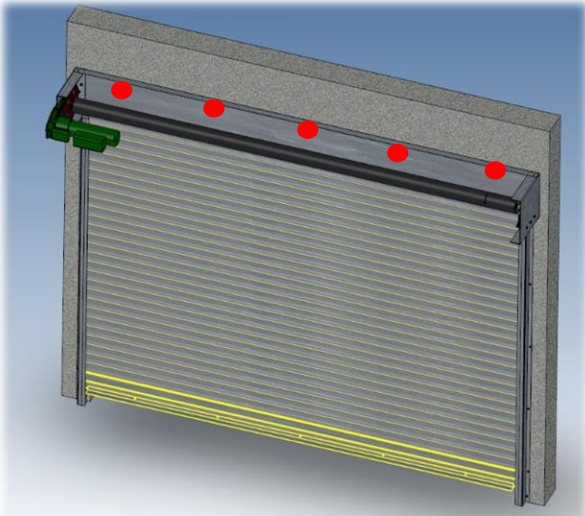


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Step.06: Sheet assembly E

Assembly screws TSPH M8x20 - Washer Ø12

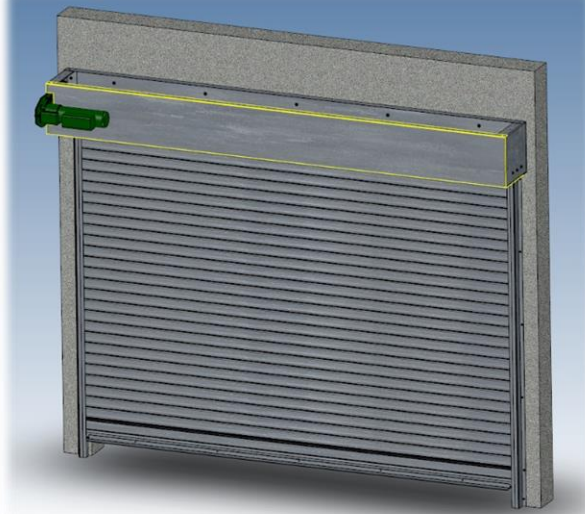


Slide the sheet inside of the guides and connect the last element to the screws on the shaft. Check the correct sliding of the sheet by wrapping it on the shaft.

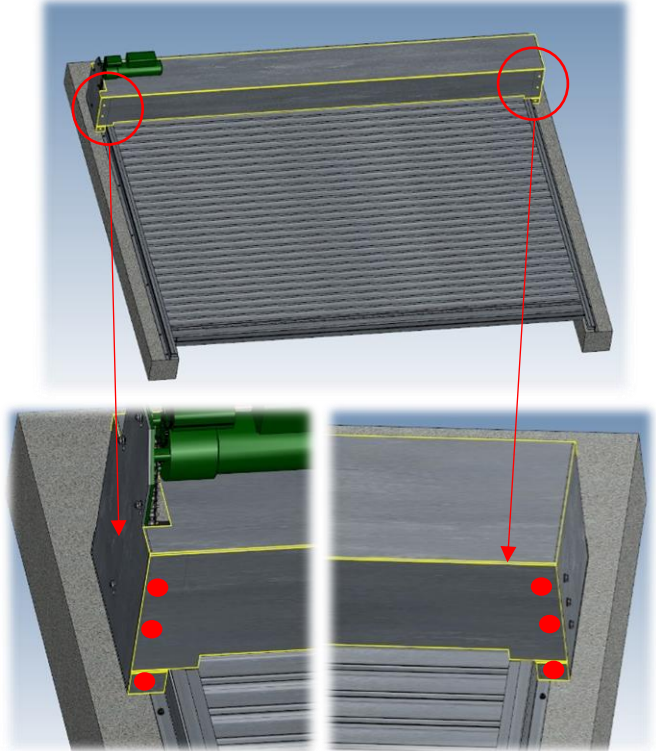


Step.07: Front Box Assembly BF

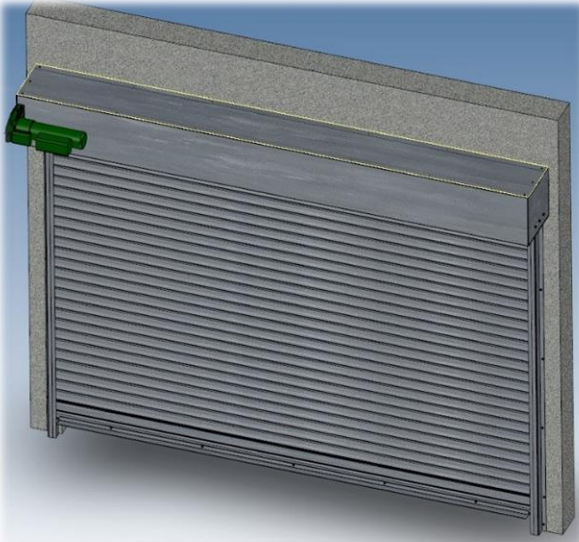
TBEI M6x20 assembly screws - On Brackets



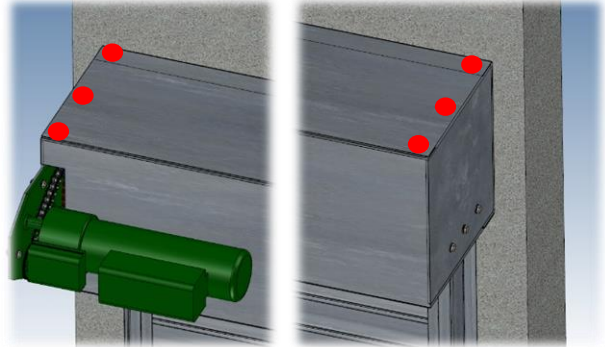
Insert the Front Box behind the motor leaning it against the side brackets. Fix it with the special screws supplied to the lower threaded holes of the flags.
(NB: the type of box may vary according to the size of the shutter).



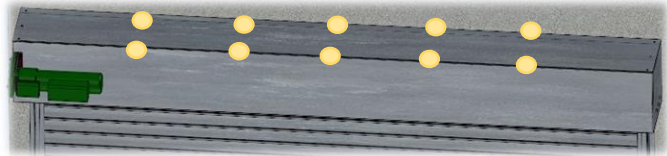
Step.08: Top Box Assembly BS



Overlap the Upper Box as to make the holes match up and fix it with the special screws supplied to the upper threaded holes of the flags.
(NB: the type of box may vary according to the size of the shutter).



● TBEI M6x20 assembly screws - On brackets



● AF assembly screws 4.8x16 - On box

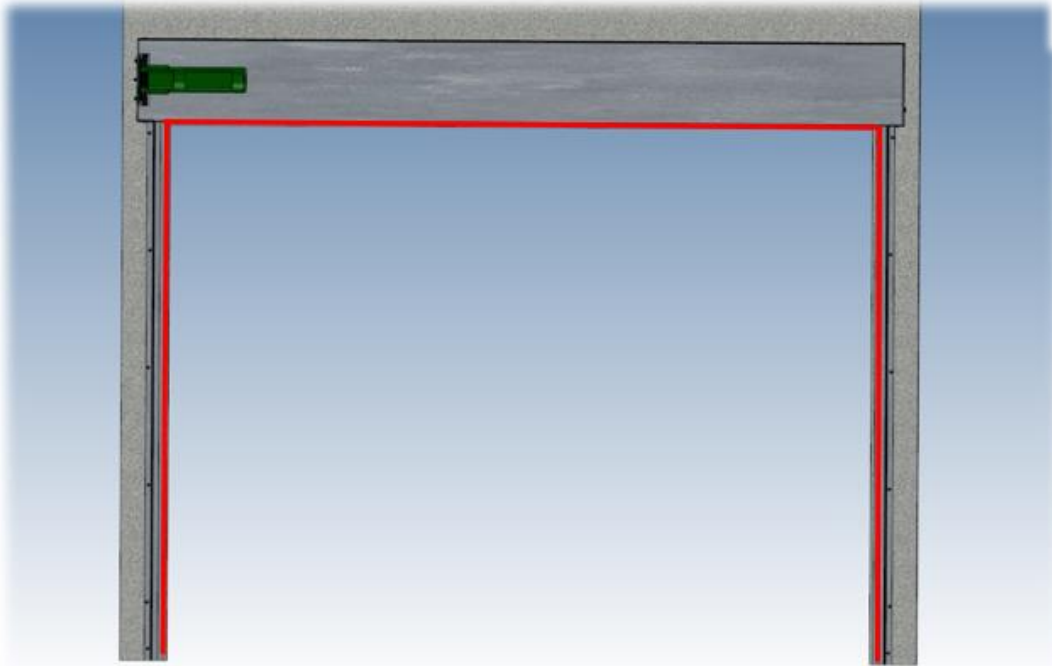
MOTOR NOTE

Each motor is equipped with a key selector with manually adjustable limit switches with controlled descent (refer to the dedicated installation manual). Activation of the descent controlled by means of a **continuous 24Vdc** fire alarm signal connected to the release solenoid. *The signal must be continuous*, in case of interruption the solenoid will unlock the gravity descent. 24Vdc LED acoustic alarm as standard (provide a dedicated line for activating the visual acoustic alarm).

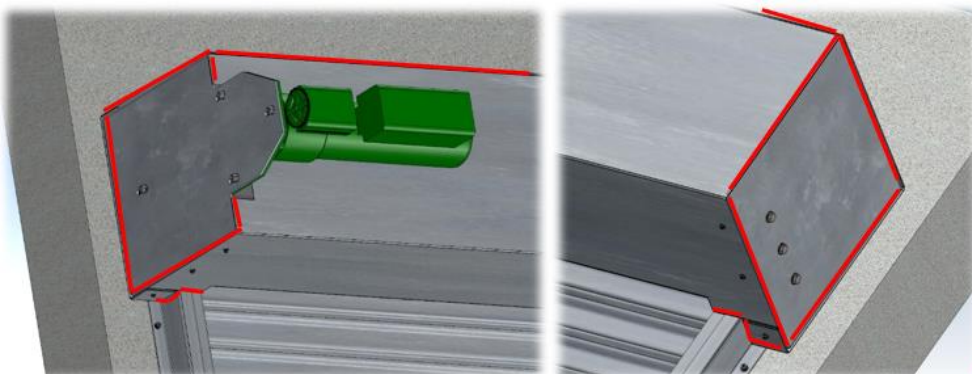


IMPORTANT

All the spaces between the frame of the E90 Fire Rolling Shutter (guides, box) and the masonry must be sealed with suitable foam (type "Promafoam-C").



It is advisable to seal the spaces between the components of the box with a suitable fire-resistant fire-fighting product (type "Promaseal-A")



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7. ELECTRICAL CONNECTIONS

Refer to the instructions contained in the gearmotor and solenoid manual.

8. LIMIT SWITCH ADJUSTMENT

Refer to the instructions contained in the gearmotor manual.

9. USAGE

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

The Fire Rolling 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.

10. CONTROLS

At the first start-up and at least once a year it is necessary to carry out the following checks:

- Tightening of fixing systems (flags, guides, box);
- Tightening of nuts and bolts (safety brake, motor);
- Integrity of welds (guides, shafts);
- Integrity of the sliding guides;
- Integrity of the mantle;
- Check the sliding of the curtain in the guides;
- 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 manual actuation forces;

11. CLEANING AND LUBRICATION

At the time of the first start-up and at least once every six months it is necessary to proceed with the cleaning of the side guides, mantle and the lubrication of Transmission chain eliminating by special means the excesses of dust or solid materials.

WARNING

Do not use solvents or other concentrated chemical compounds that could damage galvanized and painted finishes. **Do not use** high-pressure pressure washers and do not convey water or steam jets to the 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



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. carelessness of the user

In case of any anomaly, do not perform negligent manoeuvres. Always ask for the intervention of a Specialized Technician. Irregular or unexpected operations may cause damage to property or persons. THE MANUFACTURER will not assume any responsibility for damage or disturbances resulting from lack of periodic maintenance or user carelessness. Carry out maintenance with the shutter in **closed position**, making sure that the shutter does not have uncontrolled movements if the electric brake is released. **Always turn off the power supply before any intervention.**
The checks must be carried out with the frequency indicated below:

CONTROL	FREQUENCY
Tightening of fixing systems (shelves, guides, box)	12 MONTHS
Tightening the hardware (safety brake, motor)	12 MONTHS
Integrity of welds (guides, shafts)	12 MONTHS
Integrity of the sliding guides	12 MONTHS
Integrity of the sheet (elements and slat retainers)	12 MONTHS
Sliding of the mantle in the guides and alignment of the slats	12 MONTHS
Emergency closing actuation cycle.	12 MONTHS
Noisiness of the Gearmotor;	12 MONTHS

NOTE

The *elements* (slat) are particularly subject to wear during the operation of the Fire Rolling Shutter, and 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 of lubrication.

13. SPARE PARTS

The spare parts must be original, under penalty of forfeiture of any form of warranty.

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

14. POSSIBLE SETBACKS

The drawbacks that may occur on the Fire Shutter are summarized in the following table. In the event of unreported incidents, contact the MANUFACTURER.

Inconvenience	Probable cause	Solution
The shutter gets stuck during the ascent or descent	The mantle is not perfectly aligned	Check the alignment of the mantle and the integrity of the slats; Check the integrity of the guides;
The shutter does not work electrically	Lack of electricity on the network	Wait for the power supply to restore
	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 safety break system	Contact the Maintenance Company
	Intervention of the overrun micro switch	Contact the Maintenance Company

15. GUARANTEE

According to laws in force from the date of supply. According to this warranty, 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. Excluded from the warranty are those parts subject to wear in normal operation and failures due to force majeure, lack of maintenance, overloads, fraud, inexperience or negligence of the user.

The MANUFACTURER guarantees the continuation of the services declared in DOP provided that the checks and maintenance required by a specialized and authorized company are carried out.

16. RISK ANALYSIS

Below is the risk analysis carried out on the Fire Rolling Shutter.

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

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RISK	SOLUTION
Fall protection of 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	Control with dead man maneuver.
Crush, Collision	Control with dead man maneuver.
Conveying, Hooking	Blind curtain and lack of protrusions > = 40 mm;
Lift	Command with hold-to-run operation; Blind curtain and lack of protrusions > = 40 mm;
Loss of stability	Rigid brackets for guides and shelves; Tightening of nuts and bolts and fixing plugs; 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.
Resistance to wind load	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
Motorization units	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	Chain rescue maneuver
Extra stroke of the mantle	Micro emergency of extra-travel.

Residual risks are indicated on the shutter by applying the following signal

RESIDUAL RISKS



RISK	SOLUTION
Electrocution	Do not intervene on the electrical parts without first removing the power to the engine. Report the fault and wait for the intervention of specialized personnel.

REGISTER OF ORDINARY AND EXTRAORDINARY MAINTENANCE

Pag.01

Date	Maintainer	Intervention type:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention			
Replaced material			
Notes			
Signature of the Maintainer		Customer's signature	

Date	Maintainer	Intervention type:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention			
Replaced material			
Notes			
Signature of the Maintainer		Customer's signature	

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REGISTER OF ORDINARY AND EXTRAORDINARY MAINTENANCE

Pag.02

Date	Maintainer	Intervention type:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention			
Replaced material			
Notes			
Signature of the Maintainer		Customer's signature	

Date	Maintainer	Intervention type:	<input type="checkbox"/> Ordinary <input type="checkbox"/> Extraordinary
Description of the intervention			
Replaced material			
Notes			
Signature of the Maintainer		Customer's signature	

