



Corona is a ceiling actuator **easy to install** and noiseless thanks to the **slowdown** in the last phases of opening and closing. It is provided with an electronic speed control which allows the mechanical parts subjected to stress to be safed.

The **anticrushing safety** is assured by an electronic system which, regulated during the installation, allows the stopping of the door movement in opening and the movement reversing during the closing phase.

Corona **irreversibility** avoids the use of electric locks even if it guarantees a great safety during forcing attempts.

A **Manual Release** ensures door operation also in the case of power failure.

### DIMENSIONS (mm)

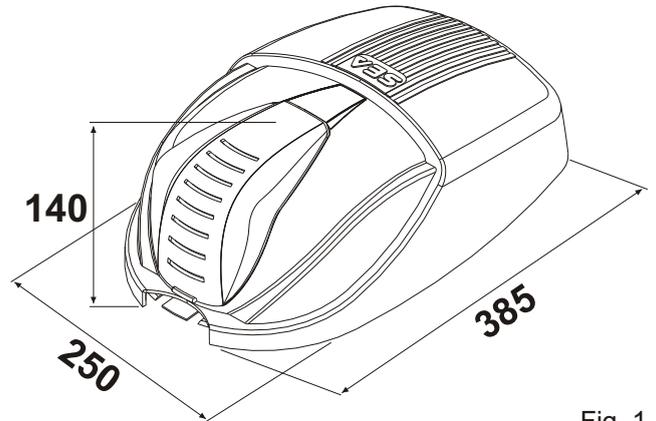


Fig. 1

### OPERATORS FOR SECTIONAL DOORS FOR GARAGES

MAX DOOR DIMENSIONS	up to 2,4 H x 3,5 L m	CORONA 60
	up to 2,4 H x 5 L m	CORONA 110

### OPERATORS FOR BALANCED OVERHEAD DOORS WITH SPRINGS

MAX DOOR DIMENSIONS	up to 2,3 H x 3 L m	CORONA 60
	up to 2,3 H x 4 L m	CORONA 110

### OPERATORS FOR COUNTERBALANCED OVERHEAD DOORS

MAX DOOR DIMENSIONS	up to 2,7 H x 3 L m	CORONA 60
	up to 2,7 H x 4 L m	CORONA 110

TECHNICAL DATA	CORONA 60	CORONA 110
Power Supply	110 V (±5%) 50/60 Hz	
Motor Supply	24 V---	
Power	140 W	370W
Opening Speed	adjustable	
Frequency of use	60%	40%
Temperature of working	-20°C } + 60°C }	
Weight	13 kg	14 kg
Max Pushing (N)	600	1100
Max Traction (N)	600	1100
Protection degree	IP 20	
Anticrushing clutch	electronic	
Limit switch	Micro switch	

### MAIN PARTS OF THE AUTOMATION

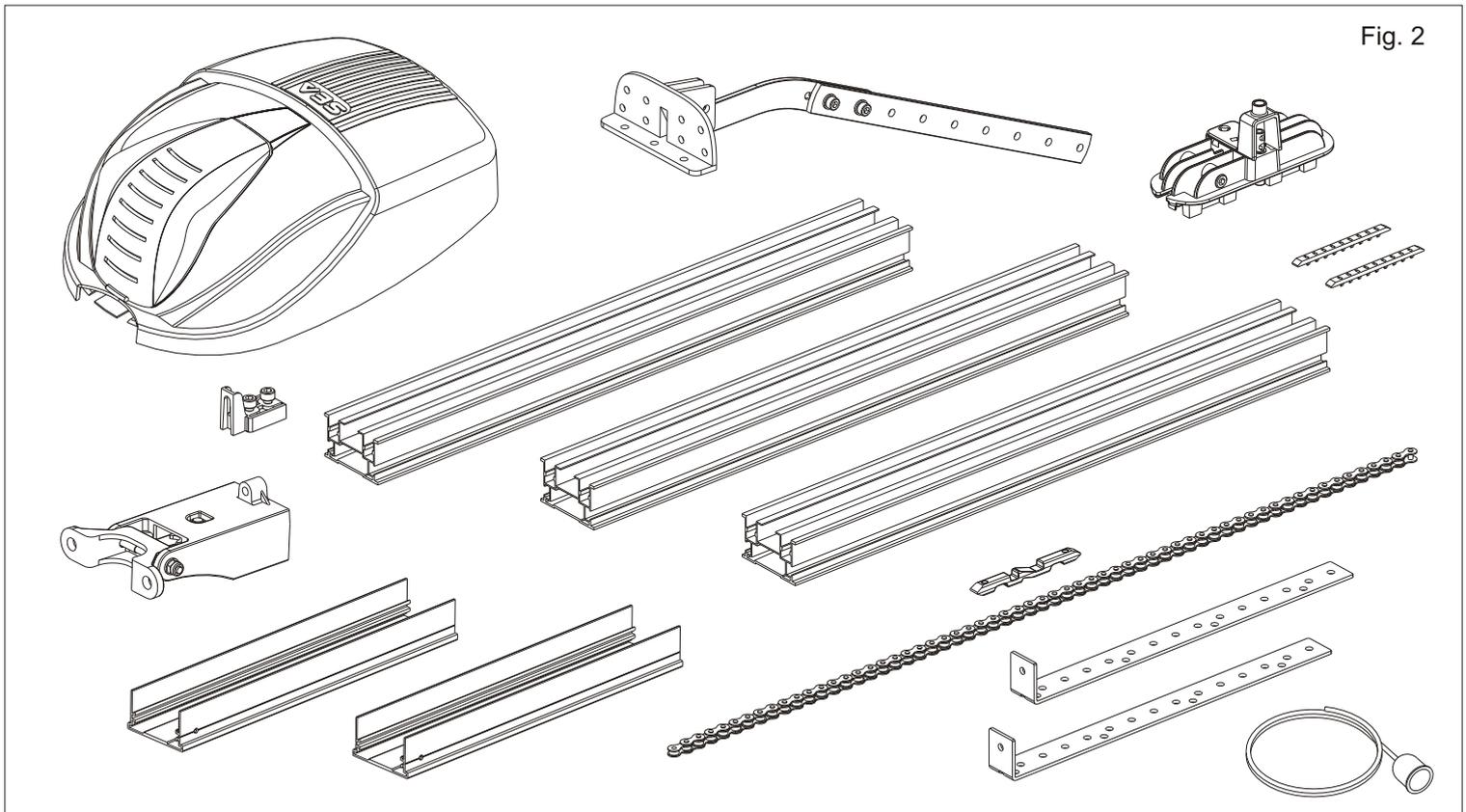
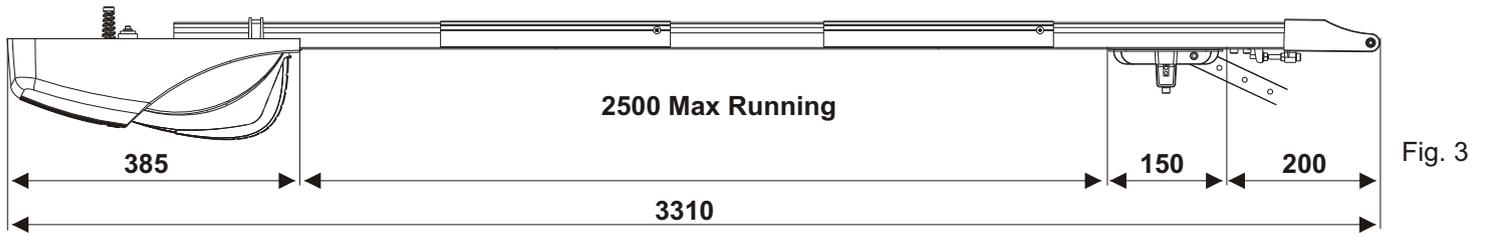


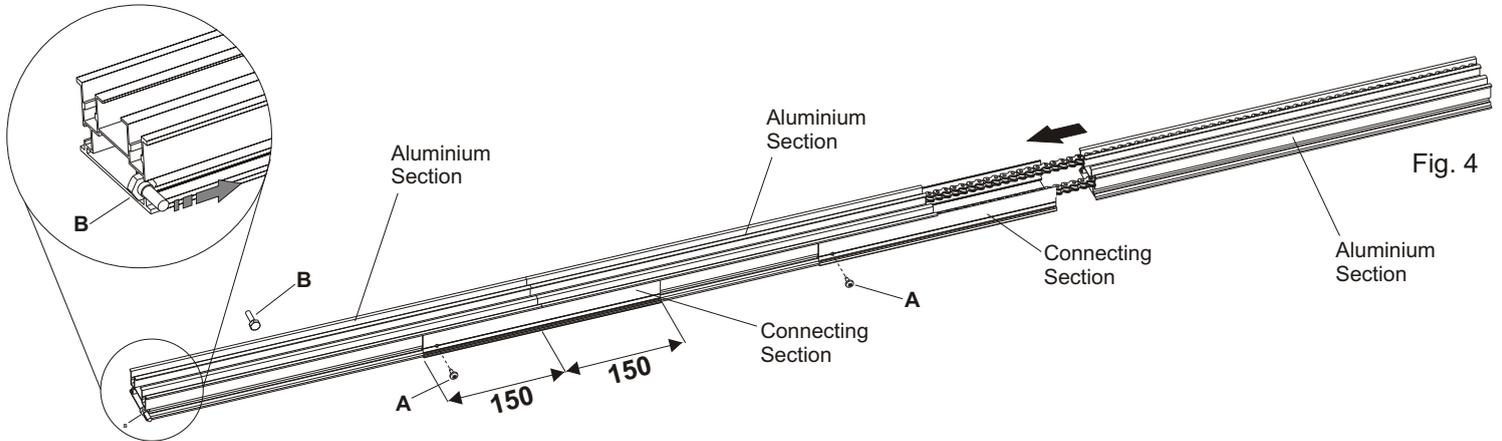
Fig. 2



Before installing, control that the door is perfectly working and that it does not have any obstacle on the guides.

## 1. INSTALLATION

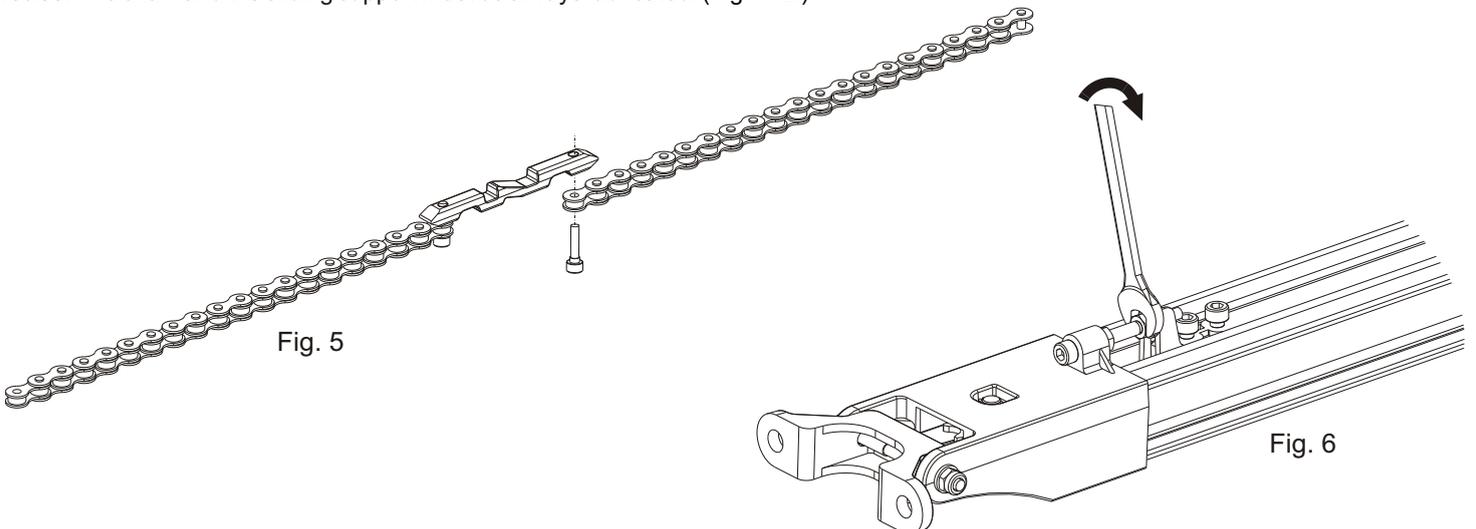
- Connect the aluminium sections by using the two connecting sections.
- Put the connecting section into the aluminium section until the middle of its length (150 mm) and fix it with the **A** screw. (Fig. 4)
- Make the same with the other two aluminium sections
- Put the two supplied screws (**B**) into the holes of the aluminium sections (Fig. 4)



Notice: In Fig.4 there is a couple of screws put inside the holes which will be used to fix Corona to the ceiling through the provided sections (See also Fig. 7).

- Put the two extremities of the chain together using the link and two provided screws as in Fig.5.
- Make sure the chain has been correctly put in the pinion of the Corona body (Fig. 7 - A)
- Bring the guide to the stop on the Corona body and fix it with the provided bracket (Fig. 7 - B)
- Fix the front connection support to the other extremity of the guide. (Fig. 7 - C)
- Tighten the chain lightly acting with a 10-key as in Fig.6

Notice: The chain and the sliding support must be always lubricated. (Fig. 7 - D).



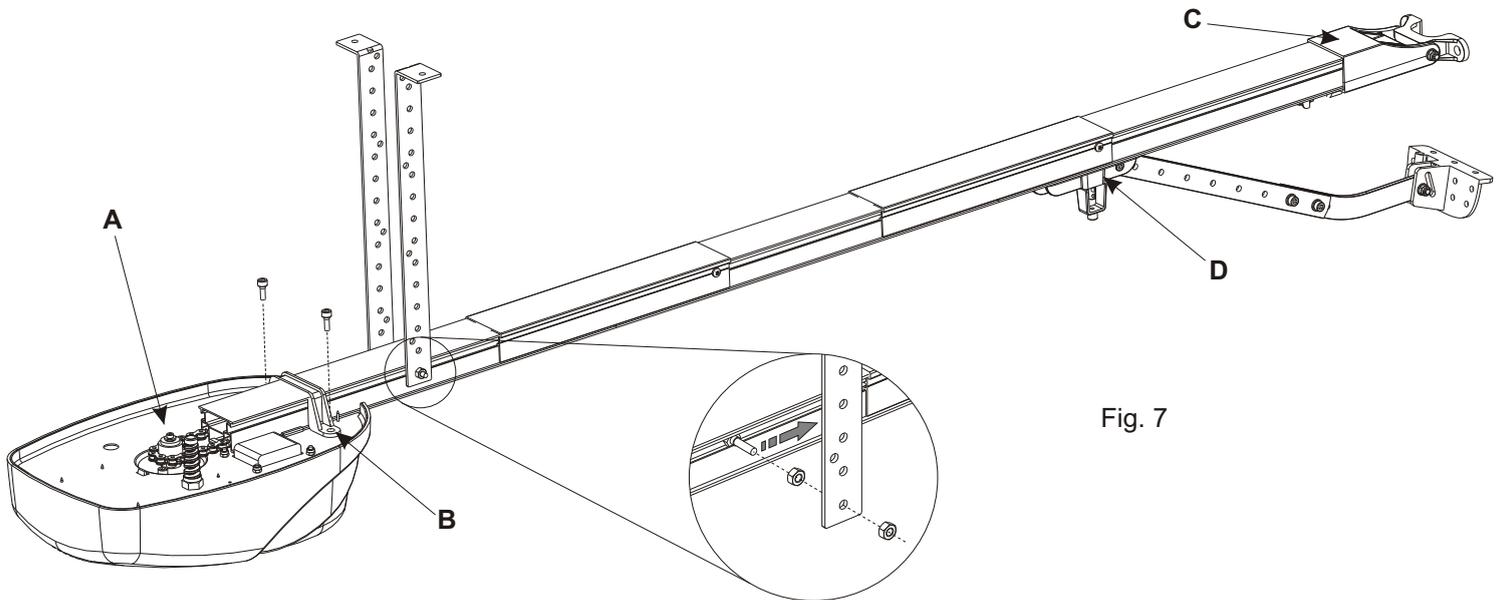


Fig. 7

## 2. FIXING

- Fix the front part of the Corona making sure to place it at the centre of the door;
- Put the anchor section together with the door frame or where necessary fix it on the wall through rivets or screws (Fig. 8);
- Lift Corona up and fix it to the ceiling with the provided brackets keeping a maximum distance of 400 mm from the ceiling and make sure Corona is perfectly horizontally fixed (Fig. 9);
- Release Corona and drag the drawing rod towards the door, then fix the rod to the door.

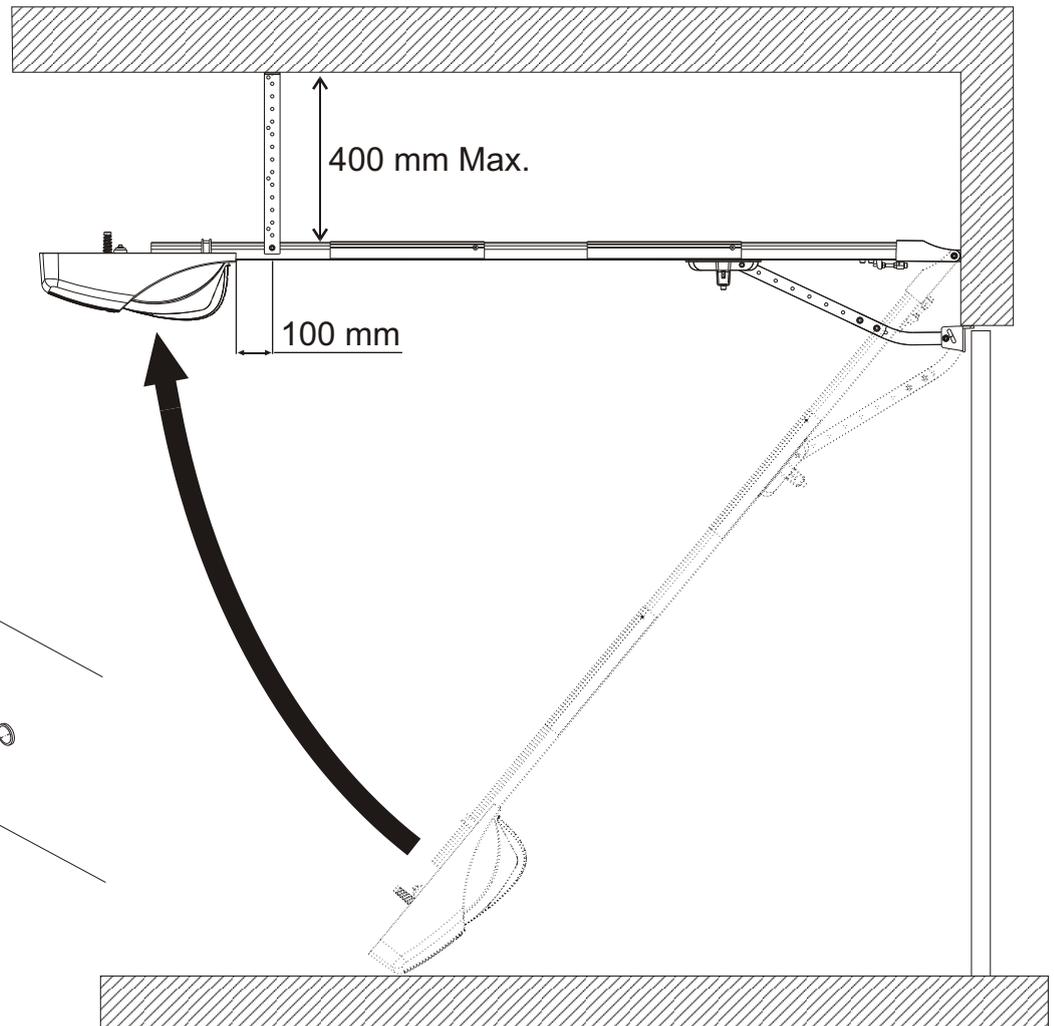


Fig. 9

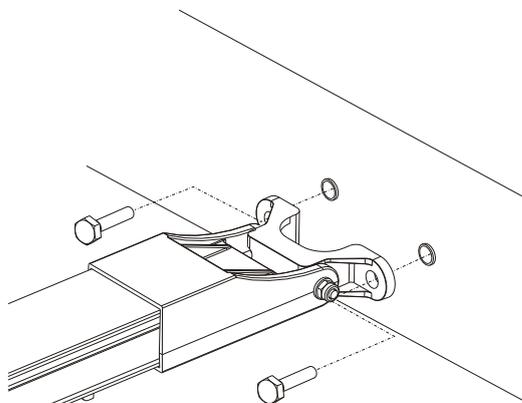


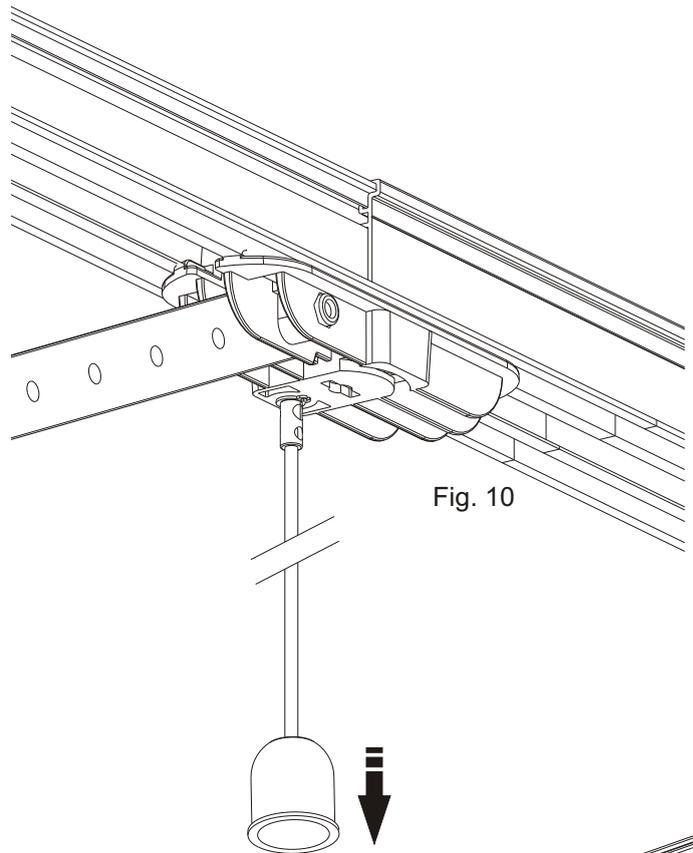
Fig. 8



### 3. STRING RELEASE SYSTEM

To release the operator, work as follows:

- Pull the release knob and open the door manually (Fig. 10).

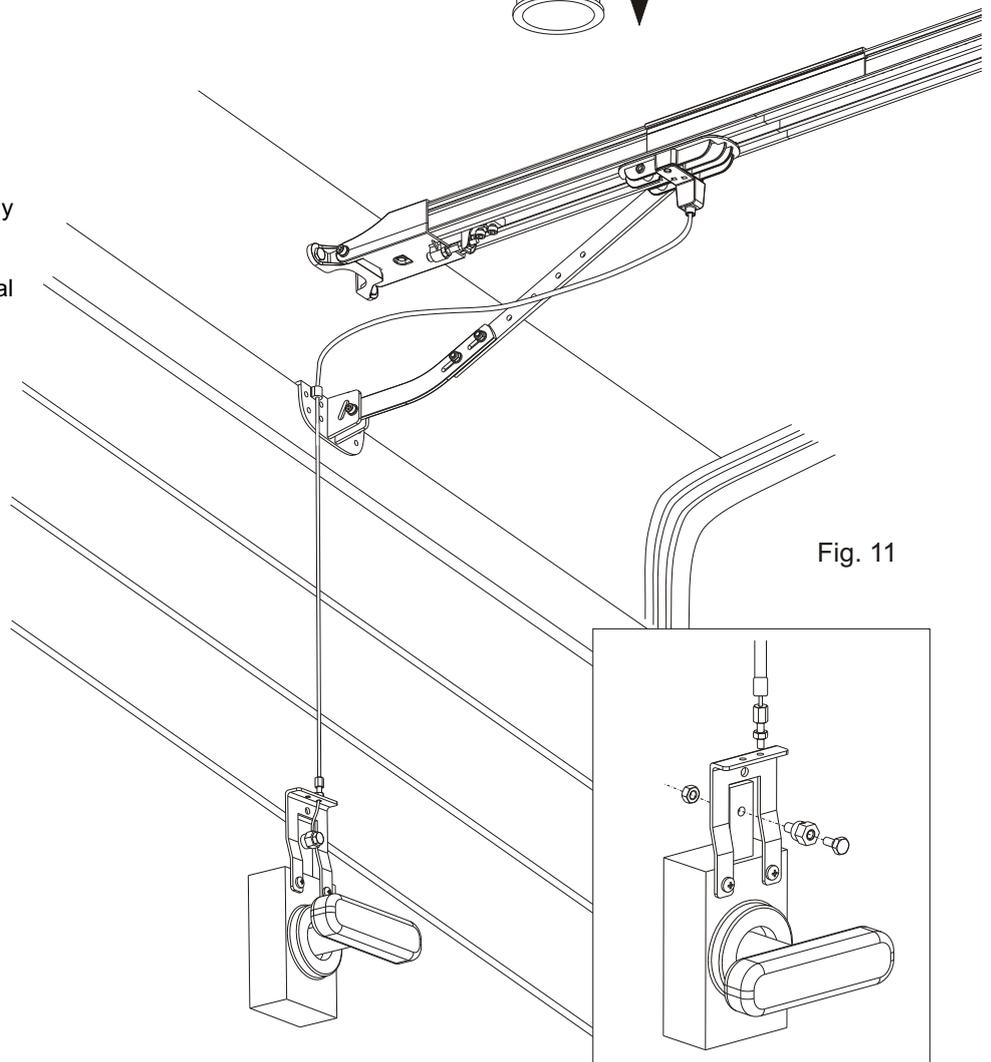


### 4. HANDLE RELEASE SYSTEM

To release the operator, work as follows:

- Turn the knob and open the door manually (Fig. 11)

Notice: This release system allows the external releasing of the door





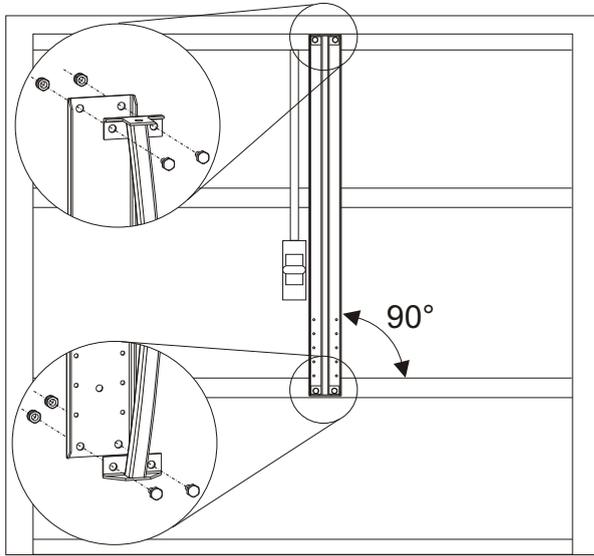
## 5. INSTALLATION KIT FOR GARAGE DOORS

### OPERATORS FOR BALANCED OVERHEAD DOORS WITH SPRINGS

MAX DOOR DIMENSIONS	up to 2,3 H x 3 L m	CORONA 60
	up to 2,3 H x 4 L m	CORONA 110

### OPERATORS FOR COUNTERBALANCED OVERHEAD DOORS

MAX DOOR DIMENSIONS	up to 2,7 H x 3 L m	CORONA 60
	up to 2,7 H x 4 L m	CORONA 110



It is suggested the use of additional guide shoes (optional)

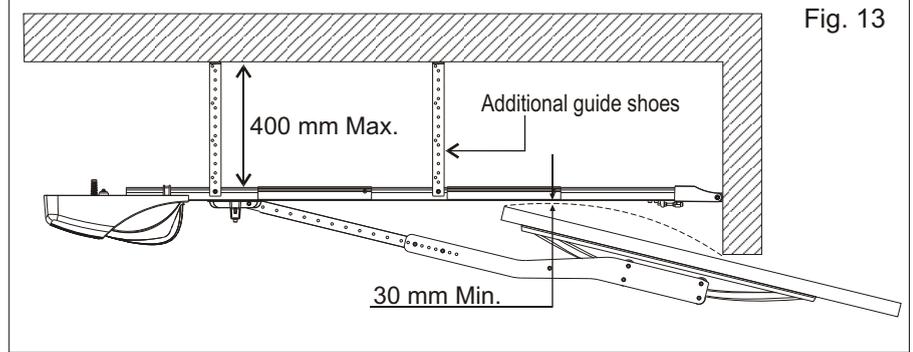


Fig. 12

Fig. 13

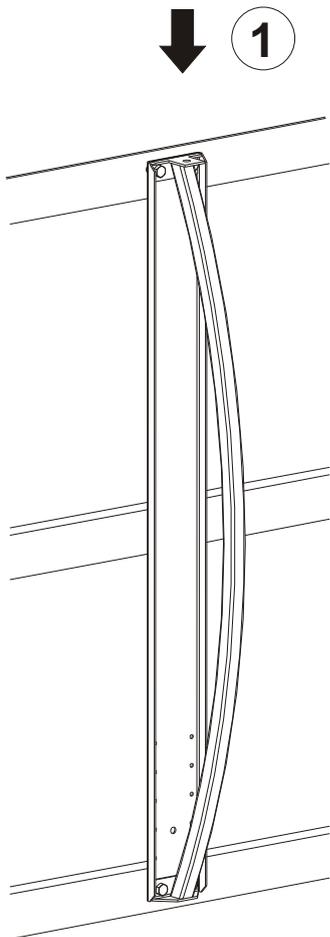


Fig. 14

1

2

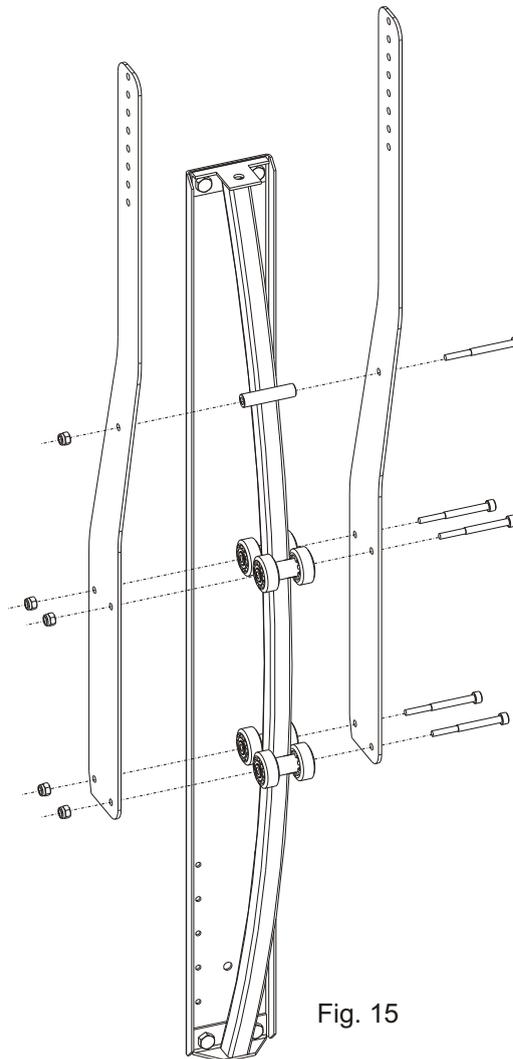


Fig. 15

3

3

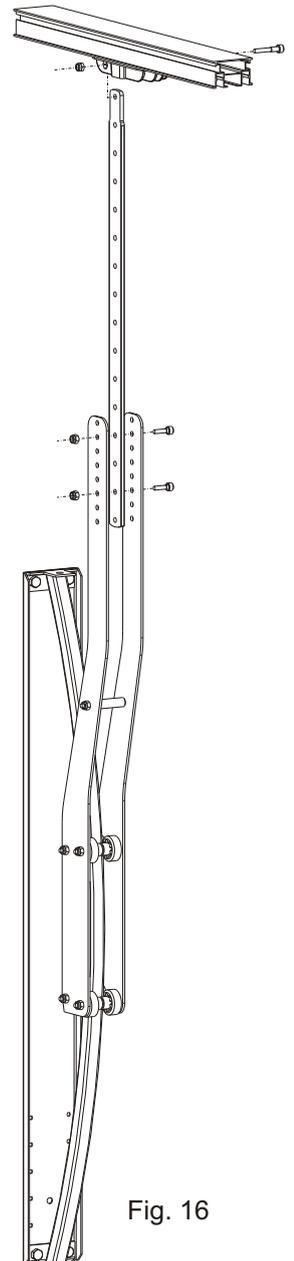
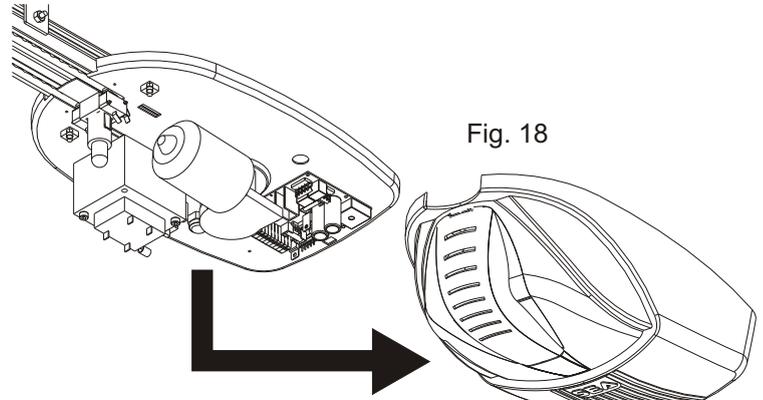
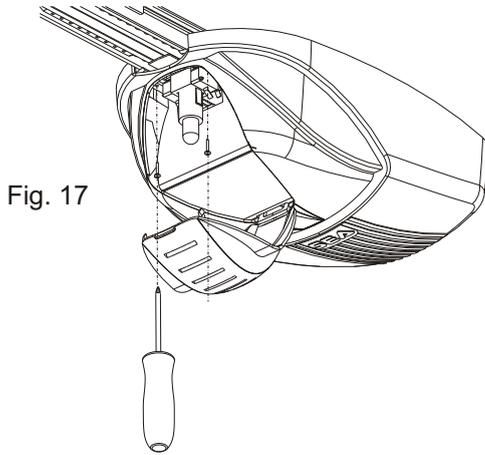


Fig. 16

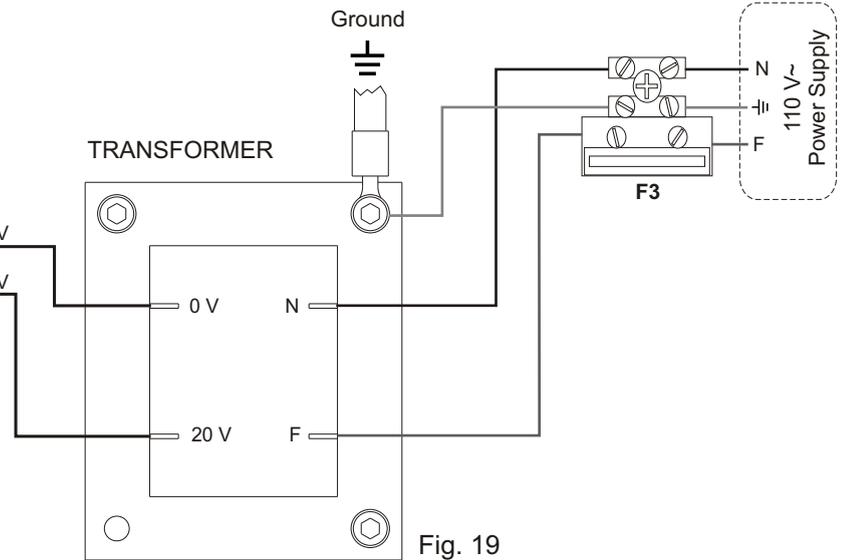
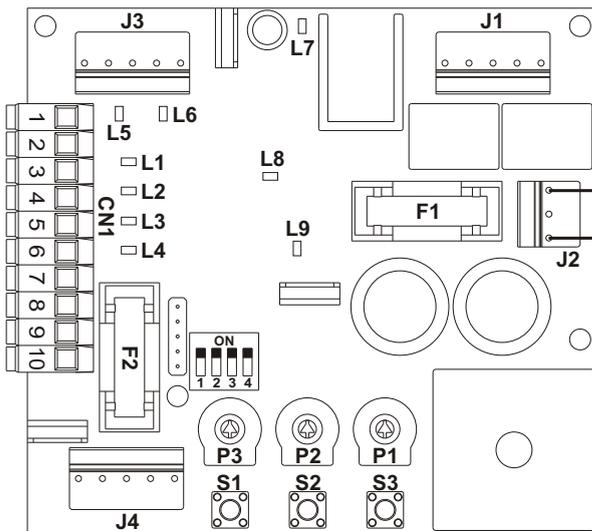


## 6. ELECTRONIC CONTROL UNIT

To gain access to the electronic unit and make all the regulations, unscrew the two fixing screws (Fig. 17) and open the case as shown in Fig. 18.

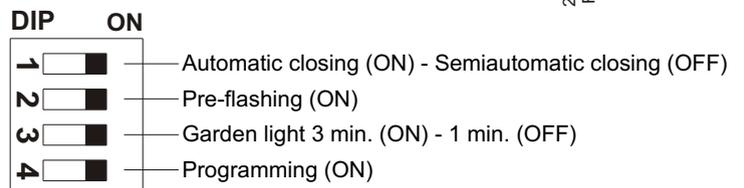
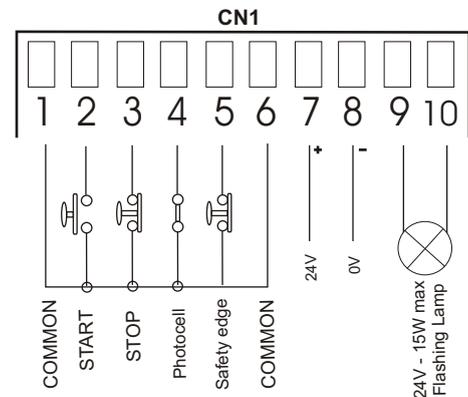


### MINI GATE 24V CONTROL UNIT



S1	START button/Programming
S2	Hand opening push button (only in programming modality)
S3	Hand closing push button (only in programming modality)
CN1	Main terminal board
J1	Motor and Encoder connector
J2	Transformer connector
J3	Garden light and limit switch connector
J4	Radio receiver connector
P1	Trimmer for anti-crushing sensibility regulation
P2	Trimmer for motor speed regulation
P3	Trimmer for pause time regulation
F1	6,3 A T motor fuse
F2	2A T accessories fuse
F3	3,15A T power supply fuse
L1	Led start
L2	Led stop
L3	Led photocells
L4	Led safety edge
L5	Led limit switch in closing
L6	Led limit switch in opening
L7	Led encoder
L8	Led Flashing lamp
L9	Led 24V power supply

### CONNECTIONS





## OPERATING LOGICS

- AUTOMATIC LOGIC:** A start order opens, executes the pause time set with P3 trimmer and closes.  
During the opening or the pause phase, a further start order is ignored; during the opening phase it opens again.
- SEMI-AUTOMATIC LOGIC:** A start order opens, a start order closes.  
A start during the opening phase stops the movement, during the closing phase it opens again.

## INPUTS

- START:** it sets up the opening/closing of the automation
- STOP:** it stops the automation whenever it is pushed.  
A start order is necessary to reset the movement.
- PHOTOCELL:** if it is set up during the closing of the automation, it causes the reversing of the movement, during the pause phase it prevents the closing, during the opening phase it is not managed.
- SAFETY EDGE:** if it is set up during the opening/closing phase, it stops the movement and reverses for about 1,5 s.  
A start order is necessary to reset the movement.

## OUTPUTS

- 24V:** 24V --- max 200mA accessories power supply output
- FLASHING LAMP:** During the opening phase, it flashes once a second; during the closing phase, it flashes twice a second. When the automation is opened and in automatic logic, the flashing lamp stays on for all the pause time. If DIP2 is set on ON there will be a pre-flashing of 3 s before the door starts to move.
- GARDEN LIGHT:** It switches on and stays on during the whole moving of the door. At the end of the closing cycle, it stays on for the time set by DIP3 (OFF=1min. ON=3min).

## SETTING

- TRIMMER P1:** It regulates the intervention threshold of the anti-crushing detector.  
Trimmer completely turned anti-clockwise=high sensibility (low push in case of obstacle).  
Trimmer completely turned clockwise=low sensibility (high push in case of obstacle).  
After three consecutive interventions of the anti-crushing detector, even if in automatic logic, the automation stays opened waiting for orders. **Regulate the sensibility in observance with the current laws.**
- TRIMMER P2:** Motor speed regulation.  
Trimmer completely turned anti-clockwise=low speed  
Trimmer completely turned clockwise=high speed
- NOTICE:** Be careful to regulate the operating high speed as it must be fit to the mechanical structure of the door on which the automation is installed and with reference to the current laws.
- TRIMMER P3:** Regulate the pause time (only in automatic logic)  
Trimmer completely turned anti-clockwise=0 s  
Trimmer completely turned clockwise=3 min

**NOTICE:** The setting of Trimmers and Dip Switches are read when the automation has stopped

- S1 PUSH BUTTON:** it sets up the self-programming process (with DIP4= ON)  
It sets up the opening/closing of the automation (with DIP4= ON)
- S2 PUSH BUTTON:** hand opening push button with low speed to use only to test the right movement of the door during the installation phase (only with DIP4 ON).
- S3 PUSH BUTTON:** hand closing push button with low speed to use only to test the right movement of the door during the installation phase (only with DIP4 ON).

## 7. LIMIT SWITCH MOUNTING

- Keep push button S2 pressed until the desired opening position has been reached;
- fix the limit switch slide (Fig. 20) as near as possible to the operator body near the switch wheel as shown in Fig. 21a

### Limit switch in closing

- Keep push button S3 pressed until the desired closing position has been reached;
- fix the limit switch slide (Fig. 20) as near as possible to the operator body near the switch wheel as shown in Fig. 21b

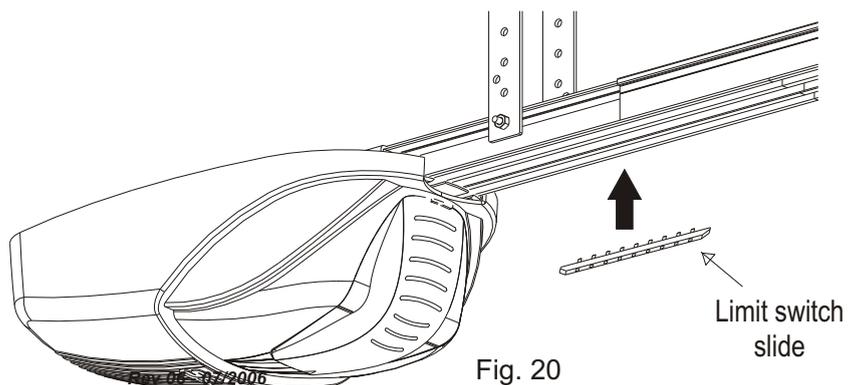


Fig. 20

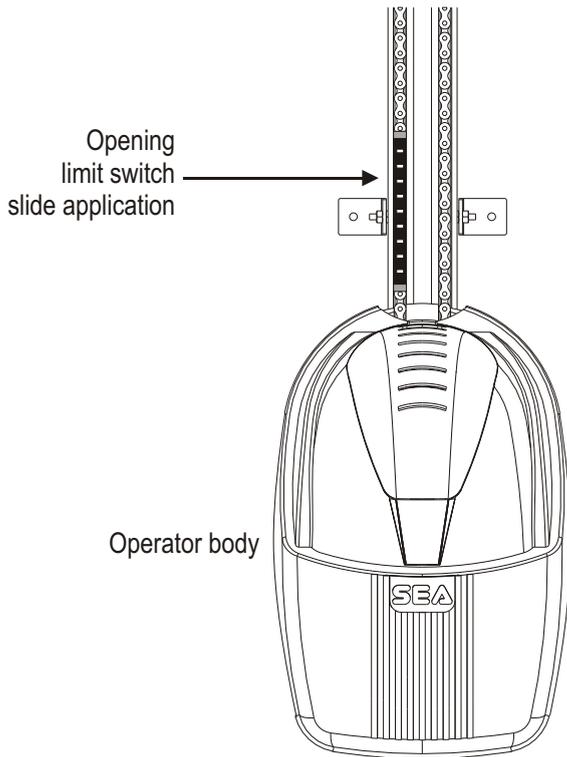


Fig. 21a

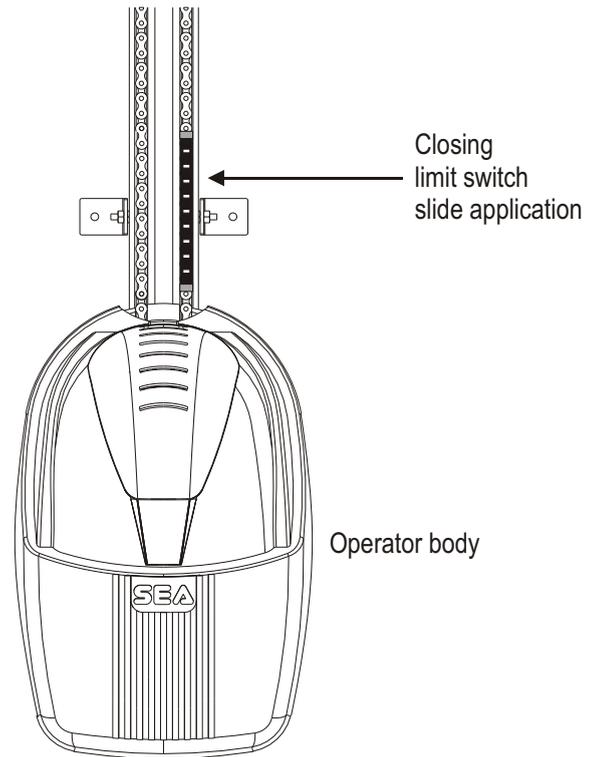


Fig. 21b

To adjust the closing of the door in a millimetric way after placing the limit switch slides act on the drawing curved rod releasing the bolts and adjusting the running through the two holes (Fig. 22)

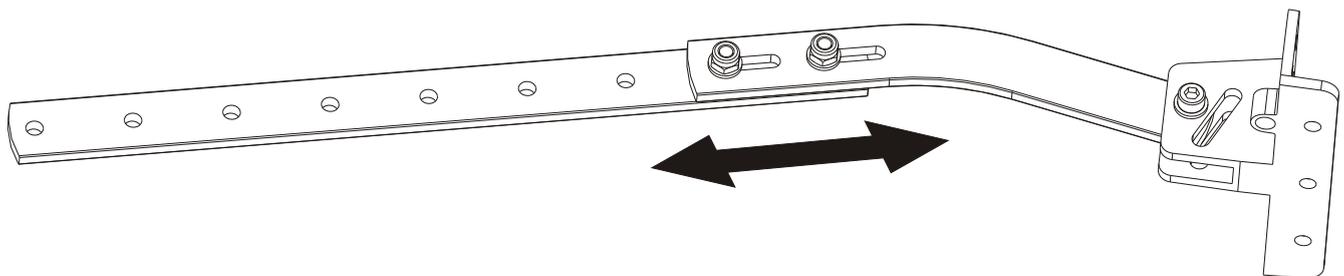


Fig. 22

## 8. PROCESS OF CARD SELF-PROGRAMMING

After having correctly placed the limit switches (paragraph 7) and tested the right running of the door and the electric connections on the inputs/outputs, make the following:

1. Power supply the control unit MINI GATE 24V
2. Position the door next to the stop in closing using the push buttons S2 and S3 (50cm ca.)
3. Bring Dip Switch 4 on ON position
4. Make sure that during the learning process the stop, photocell, safety edge, etc. orders are not set up.
5. Push button S1
6. The door will execute the closing manoeuvre until reaching the limit switch
7. At this point, an opening and a closing manoeuvre will be executed automatically
8. When the door will stop and will be completely closed, bring Dip switch 4 on OFF position again.
9. The automation is ready to work

Make the necessary regulations through the trimmers and the Dip Switches.



## 9. TYPICAL INSTALLATION

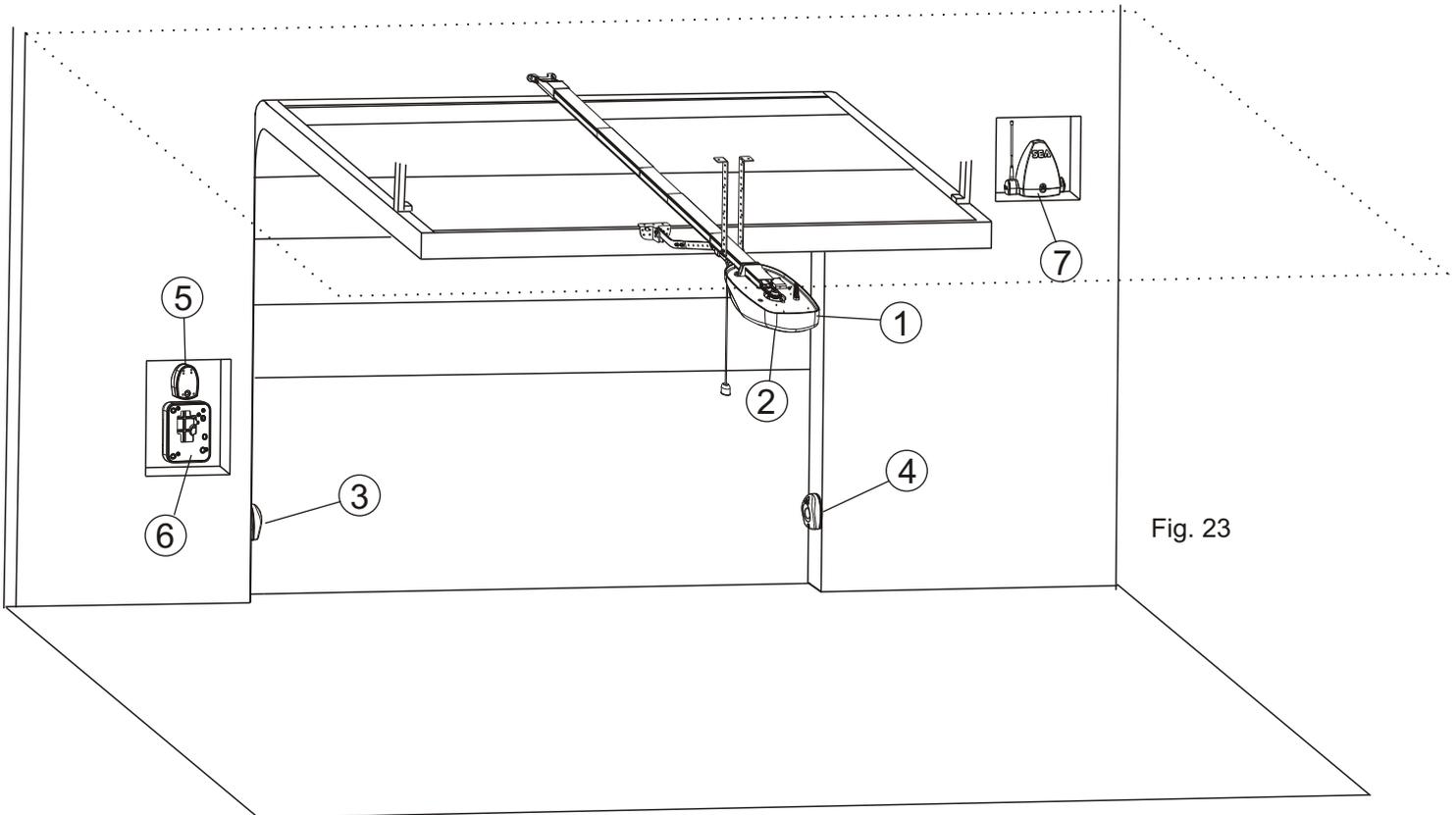


Fig. 23

- 1) CORONA actuator
- 2) Receiver on-board
- 3) Left photocell
- 4) Right photocell
- 5) Start-Stop button
- 6) Safety box for external release
- 7) Warning lamp

## 10. PERIODICAL MAINTENANCE

Verify the smooth sliding of the chain	Semestral
Verify the tightening of the chain	Semestral
Verify the stability of the ceiling and door junctions	Semestral
Verify the door is in a good state and that the slides are not dirty	Annual
Verify the tension of the steel cable of the external release	Annual
Verify the general condition of the operator (transformer, motor, electronic control unit)	Annual
Keep the chain and the sliding support lubricated	Semestral

All the above described operations must be made exclusively by an authorized installer.

### NOTICE

SEA s.r.l can not be deemed responsible for any damage or accident caused by product breaking, being damages or accidents due to a failure to comply with the instructions herein. The guarantee will be void and the manufacturer responsibility (according to Machine Law) will be nullified if SEA Srl original spare parts are not being used.

The electrical installation shall be carried out by a professional technician who will release documentation as requested by the laws in force. This is a quotation from the GENERAL DIRECTIONS that the installer must read carefully before installing.

Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.



**SEA**<sup>®</sup>  
Sistemi Elettronici  
di Apertura Porte e Cancelli  
International registered trademark n. 804888

# CORONA 110V

CE

ENGLISH

## DECLARATION OF CONFORMITY

SEA declares under its responsibility that the product

### CORONA

meet the essential requisites provided for by the following European Directive and following changes:

**89/392/CEE (Machine Directive)**

**89/336/CEE (Electromagnetic Compatibility Directive)**

**73/23/CEE (Low Tension Directive)**

### SAFETY PRECAUTIONS:

All electrical work should conform to current regulations. A 16 A 0,030 A differential switch must be incorporated into the source of the operators main electrical supply and the entire system properly earth bonded. Always run mains carrying cables in separate ducts to low voltage control cables to prevent mains interference.

### INTENDED USE:

The CORONA operator has been designed to be solely used for the automation of sectional doors and balancing doors.

### SPARE PARTS:

To obtain spare parts contact:

**SEA s.r.l. -Zona Ind.le, 64020 S. ATTO Teramo Italia**

### SAFETY AND ENVIRONMENTAL COMPATIBILITY:

Don't waste product packing materials and/or circuits.

When being transported this product must be properly packaged and handled with care.

### CORRECT DISPOSAL OF THIS PRODUCT (WASTE ELECTRICAL & ELECTRONIC EQUIPMENT) - EUROPE ONLY

(Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

### MAINTENANCE AND OUT OF SERVICE:

The decommission and maintenance of this unit must only be carried out by specialised and authorised personnel.

**NOTE: THE MANUFACTURER CAN NOT BE DEEMED RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY IMPROPER USE OF THIS PRODUCT.**

SEA reserves the right to do changes or variations that may be necessary to its products with no obligation to notice.