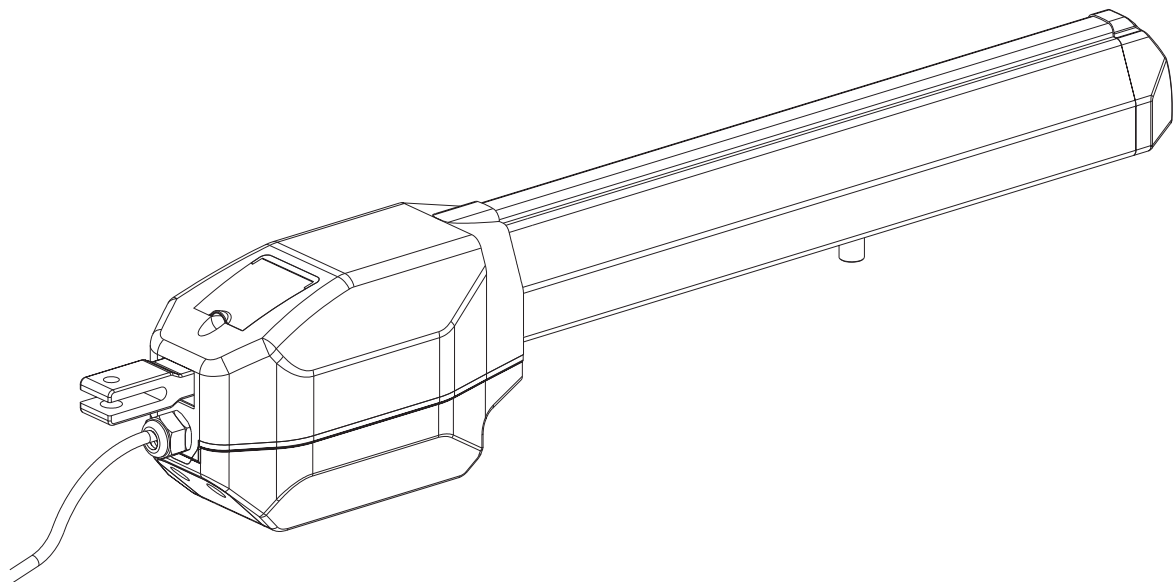


# *Automation Swing Gate Opener*

*Operating and installation instructions*

***SP WING 400***



## CONTENTS

|                                       |         |
|---------------------------------------|---------|
| 0) GENERAL SAFETY REGULATIONS .....   | Page 02 |
| 1) DESCRIPTION .....                  | Page 03 |
| 2) TECHNICAL SPECIFICATIONS .....     | Page 04 |
| 3) INSTALLATION TOOLS .....           | Page 04 |
| 4) COMPONENTS.....                    | Page 05 |
| 5) INSTALLATION .....                 | Page 05 |
| 6) TESTING THE AUTOMATED SYSTEM ..... | Page 10 |
| 7) MANUAL OPERATION .....             | Page 10 |
| 8) MAINTENANCE .....                  | Page 11 |
| 9) REPAIRS .....                      | Page 11 |
| 10) AVAILABLE ACCESSORIES .....       | Page 11 |
| 11) SPECIAL APPLICATION .....         | Page 11 |

## **IMPORTANT NOTICE FOR THE INSTALLER GENERAL SAFETY REGULATIONS**

- 1) ATTENTION! To ensure the safety of people, it's important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.
- 2) Carefully read the instructions before beginning to install the product.
- 3) Do not leave packing materials (plastic, polystyrene, etc) within reach of children as such materials are potential sources of danger
- 4) Store these instructions for future reference
- 5) This product was designed and build strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
- 6) We decline all liability caused by improper use or use other than that for which the automation swing gate opener was intended.
- 7) Do not install the equipment in an explosive atmosphere; the presence of inflammable gas or fumes is a serious danger to safety.
- 8) The mechanical parts must conform with standards EN12604 and EN12605.
- 9) We are not responsible for failure to observe Good Technique in the construction of the closing elements to be motorized, or for any deformation that may occur during use.
- 10) The installation must conform to standards EN12453 and EN12445. The safety level of the automated system must be C+D.
- 11) Before attempting any job on the system, cut out electrical power.
- 12) The main power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use a 6A thermal breaker with all-pole circuit break is recommended.
- 13) Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.
- 14) The safety device (EN12978 standard) protects from any danger are as against mechanical movement. Risks, such as crushing, dragging and shearing.
- 15) Use of least one indicator-light is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point 14.
- 16) We decline all liability as concerns safety and efficient operation of the automated system, if system components not produced by us are used.
- 17) For maintenance, strictly use original parts by us.
- 18) Do not in any way modify the components of the automated system.
- 19) The installer shall supply all information concerning manual operation of the system in case of na emergency, and shall hand over to the user the warnings handbook supplied with the product.
- 20) Do not allow children or adult to stay near the product while it is operating.
- 21) Keep remote controls or other pulse generators away from children to prevent the automated system from being activated involuntarily.
- 22) Transit through the leaves is allowed only when the gate is fully open.
- 23) The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.

### 1. DESCRIPTION

The SP WING 400 automated system for swing gates comprises an electromechanical operator which drives the gate leaves by means of a worm screw. The operators are equipped with opening and closing limit switches. The operator is irreversible and locks mechanically when the motor is not in use, therefore a lock does not need to be fitted.

### ATTENTION:

The SP WING 400 automated system was designed and manufactured to control access of vehicles. Avoid any other use whatever.

The motors must be installed at a minimum height of 20cm from the ground surface and not interfere with the mobile parts.

Command pulses must be given from sites where you can see the gate

Use transmitters only if you can see the gate.

### 1.1 Structure description

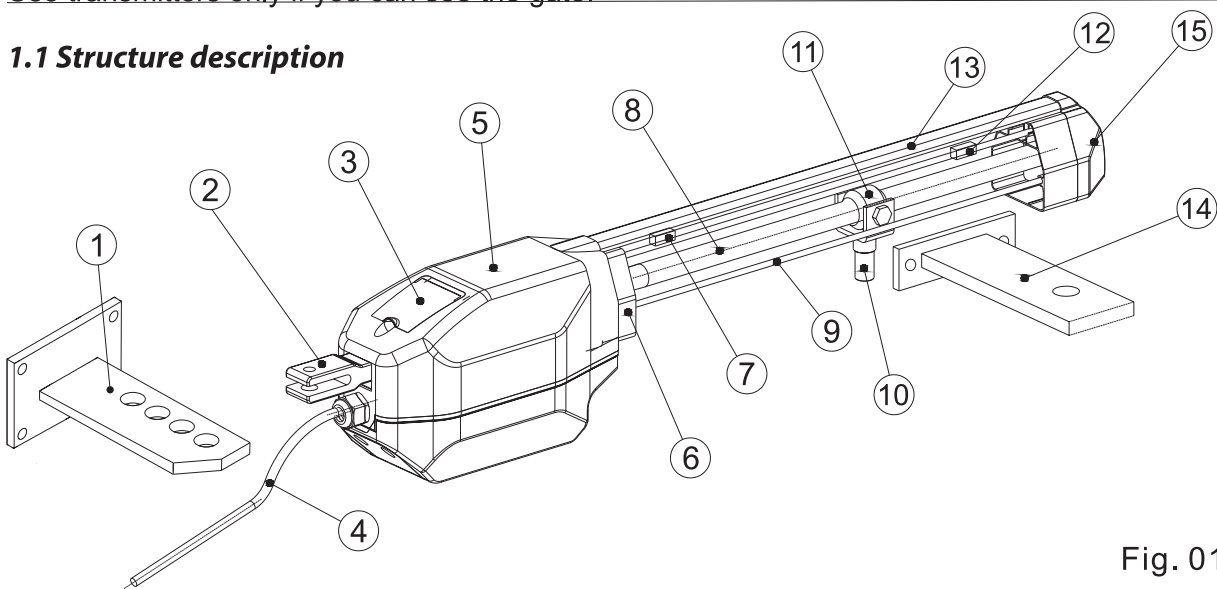


Fig. 01

- |                         |                        |
|-------------------------|------------------------|
| 1. Rear bracket         | 9. Long screw          |
| 2. Rear fitting         | 10. Pin                |
| 3. Release device       | 11. Copperscrew        |
| 4. Electric wire        | 12. Limit switch cover |
| 5. Aluminium body       | 13. Open Limit switch  |
| 6. Arm                  | 14. Front bracket      |
| 7. Opening limit switch | 15. Rearcover          |
| 8. Worm screw           |                        |

### 1.2 Dimensions (mm)

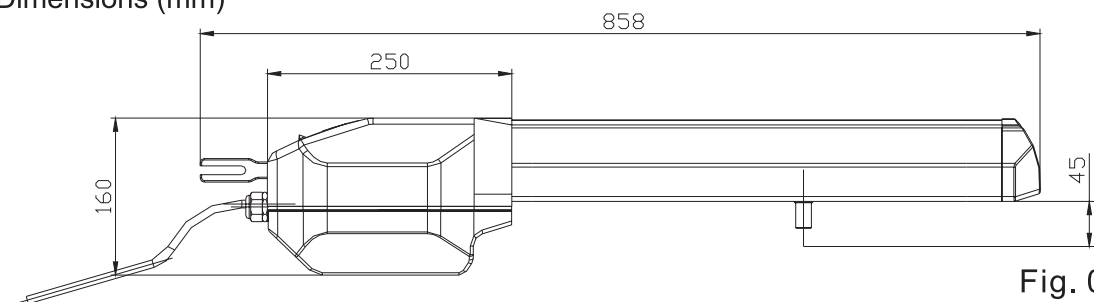


Fig. 02

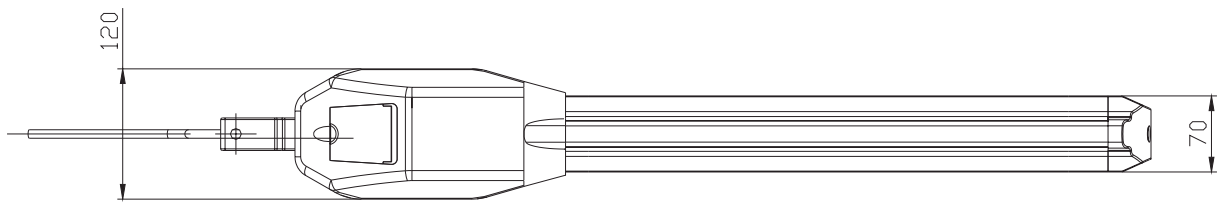


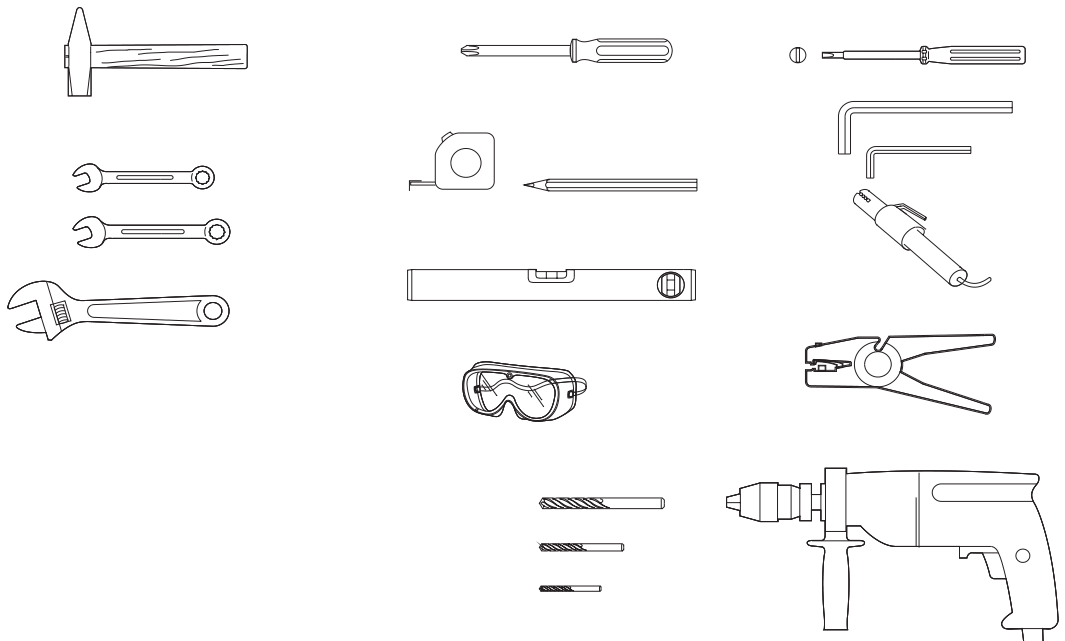
Fig. 03

## 2. TECHNICAL SPECIFICATIONS

| <b>TECHNICAL SPECIFICATIONS</b> | <b>SP WING 400</b> |
|---------------------------------|--------------------|
| Power supply (V)                | 230V, 50Hz         |
| Power (W)                       | 200W               |
| Current (A)                     | 0.8A               |
| Thermal protection (°C)         | 120°C              |
| Capacitor (uF)                  | 12µF 400V          |
| Thrust (N)                      | 1000N              |
| Travel (mm)                     | 400mm              |
| Speed (cm/s)                    | 1.6cm/sec          |
| Max. Leaf measure (m)           | 2.5m               |
| Use frequency at 20°C           | 30%                |
| Protection class                | IP54               |
| Working temperature             | >-20°C, <65°C      |

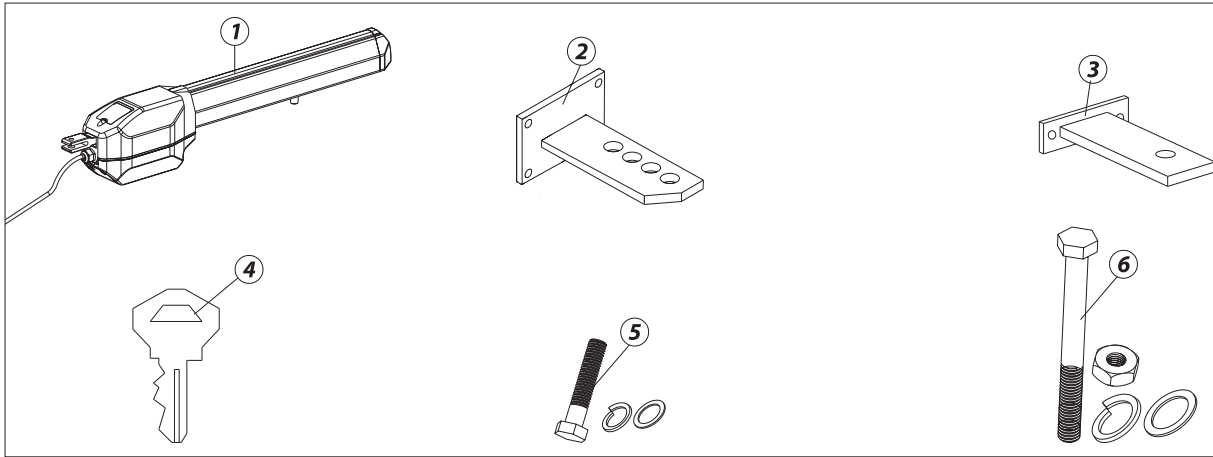
## 3. INSTALLATION TOOLS

There are some operating tools before installation as follow:



## 4. PACKING LIST

You must check the operator packing before installing the automated system



| Nº | Descrição     | Quant. |
|----|---------------|--------|
| 1  | Motors        | 2      |
| 2  | Rear bracket  | 2      |
| 3  | Front bracket | 2      |
| 4  | Key           | 2      |
| 5  | Short screw   | 2      |
| 6  | Long screw    | 2      |

## 5. INSTALLATION

### 5.1 Pre-installation checks

#### ATTENTION:

To ensure a correct operation of the automated system, make sure the following requirements are observed as for the gate structure (existing or to be realized):

- The leaf must be fixed firmly on the hinges to the pillars and must not be flexible during the movement
- Before the installation of SP WING 400, verify all dimension, etc.
- The mechanical parts must conform to the provision of standards EN12604 and En12605.
- Leaf length in compliance with the operator specification.
- The 2 leaves must have a robust and rigid structure , suitable for automation
- The leaves should have a regular and uniform movement , without any friction and dragging during the entire opening.
- Presence of an efficient earthing for electrical connection of the operator

**The condition of the gate structure directly affects the reliability and safety of the automated system!**



### 5.2 STANDARD INSTALLATION LAYOUT

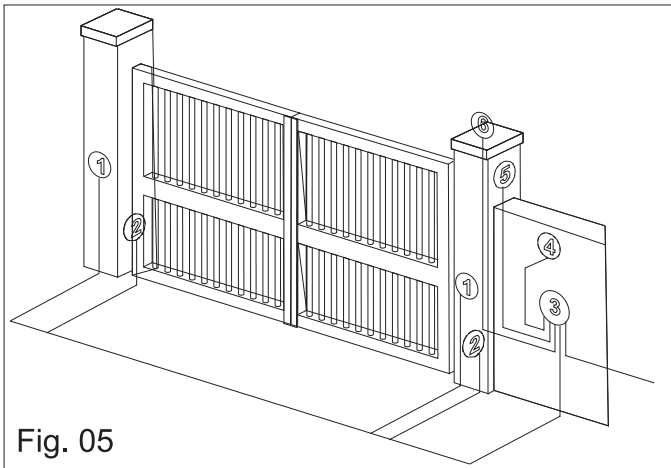


Fig. 05

1. Operators
2. Photocells
3. Logic board
4. Key-operated push-button
5. Receiver
6. Flashing lamp

**NOTE:**  
 Use suitable tubes and/or hoses to lay electric cables;  
 To avoid any kind of interference always separate low-voltage accessories and control cables from 230V power supply cable using separate tubes.

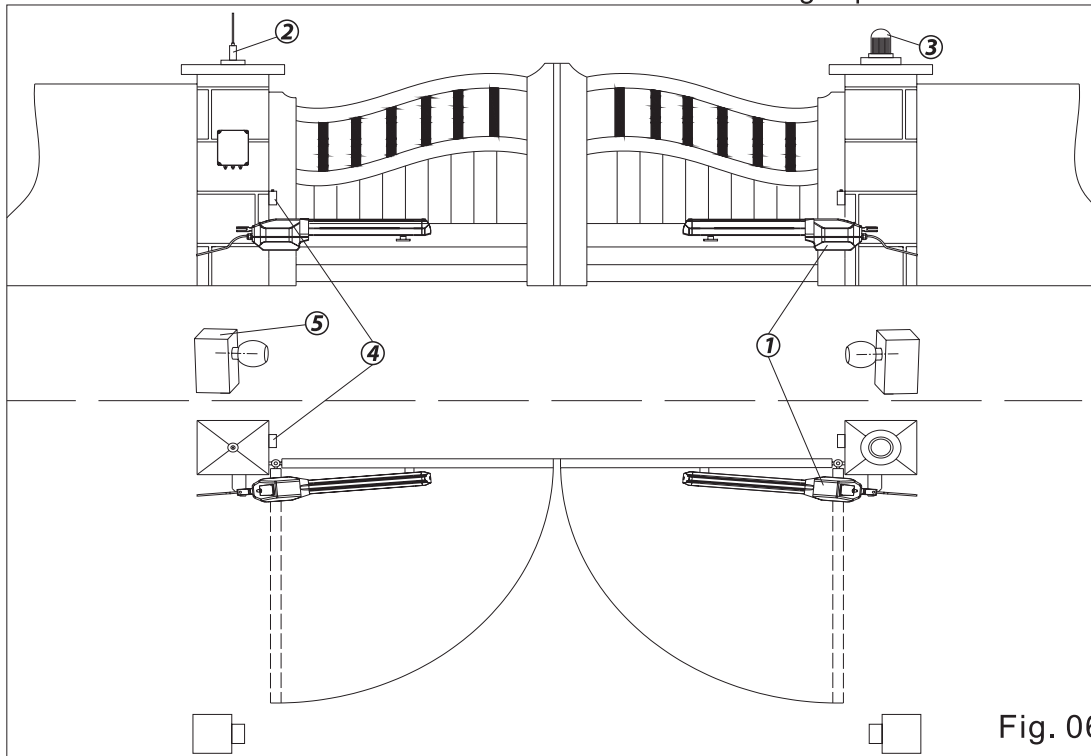


Fig. 06

1. Motors
2. Antenna
3. Flashing lamp
4. Photocells (external)
5. Photocells (internal)

### 5.3 Installation dimensions

Determine the fitting position of the operator.

**ATTENTION:**

Check with care if the distance between the open leaf and any obstacles (wall, fence, etc.) is higher than the operator.

|      | PATH ENGINE |     |     |     |
|------|-------------|-----|-----|-----|
|      | W           | X   | Y   | Z   |
| 95°  | 780         | 150 | 200 | 400 |
| 120° | 780         | 200 | 150 | 400 |

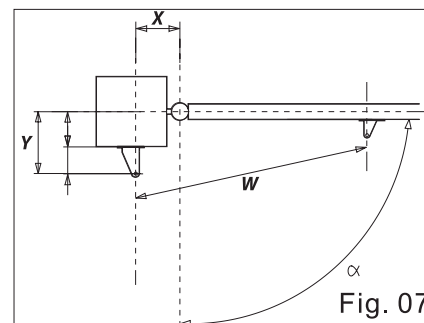


Fig. 07

### 5.3.1 General rules to determine the installation dimensions:

If the pillar dimensions do not allow the installation, a hole on the pillar should be created (example Fig.8).

The hole should be dimensioned in such a way to enable easy installation, rotation and release device operation. To help on the cut of the pillar, decrease the size of the wall bracket.

### 5.4 Preliminary checks

1) Fix the rear bracket in the position determined before. If the pillar is in iron, carefully weld the bracket directly to the pillar (Fig.10). If the pillar is in masonry, use suitable accessories to fix the motor to the wall (fig.09) using the provided screws. During the fastening operations, check if the bracket is perfectly horizontal using a level.

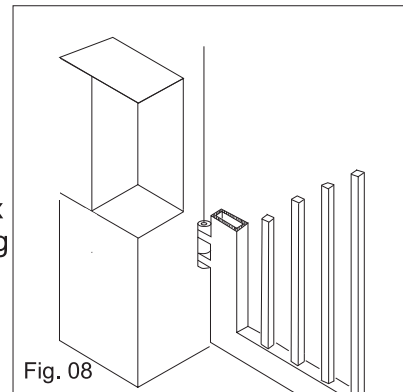


Fig. 08

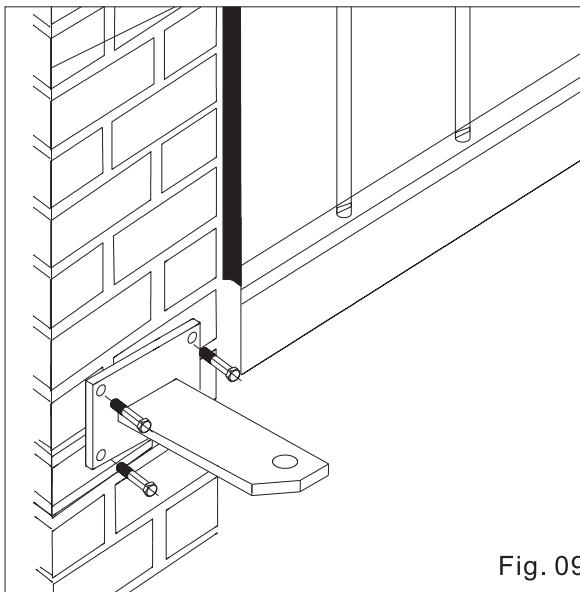


Fig. 09

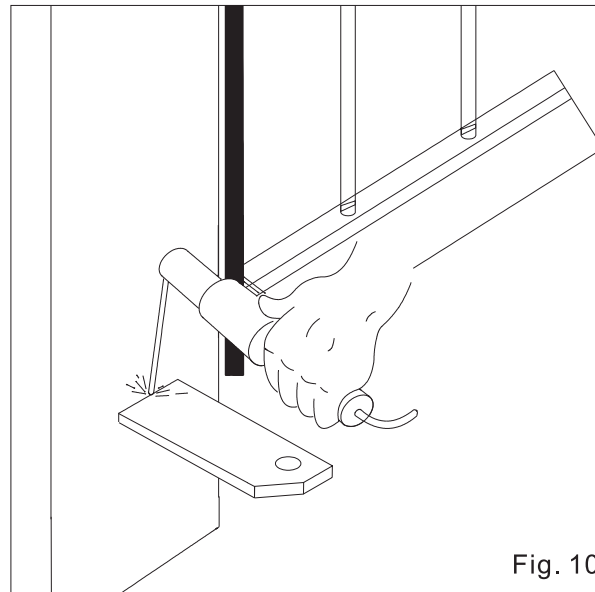


Fig. 10

2) Assemble the rear bracket fitting to the operator as shown in Fig. 11 and Fig. 12.

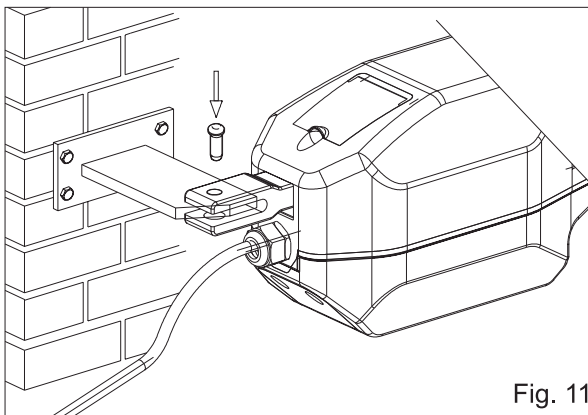


Fig. 11

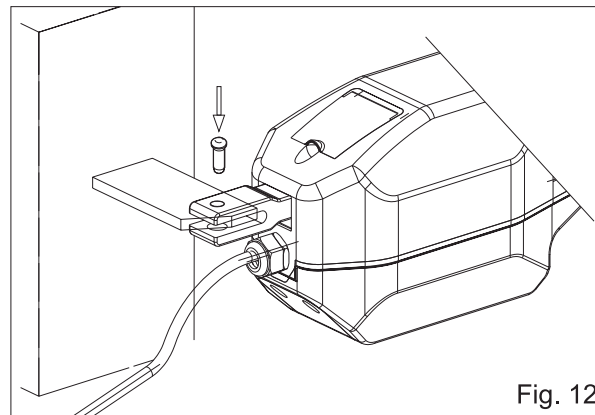
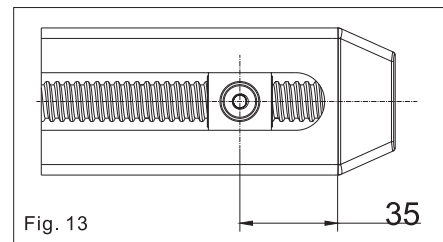


Fig. 12

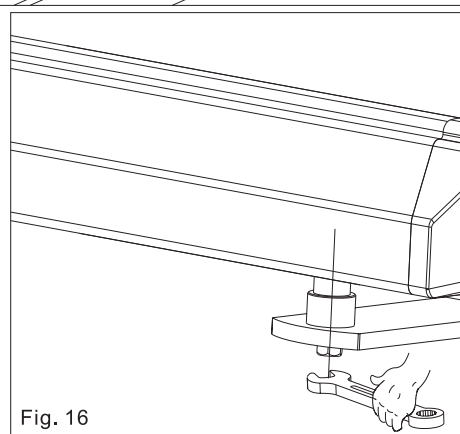
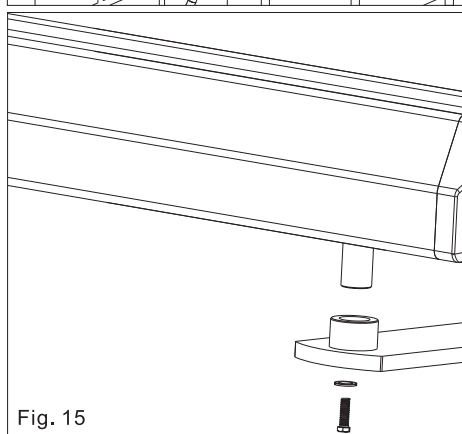
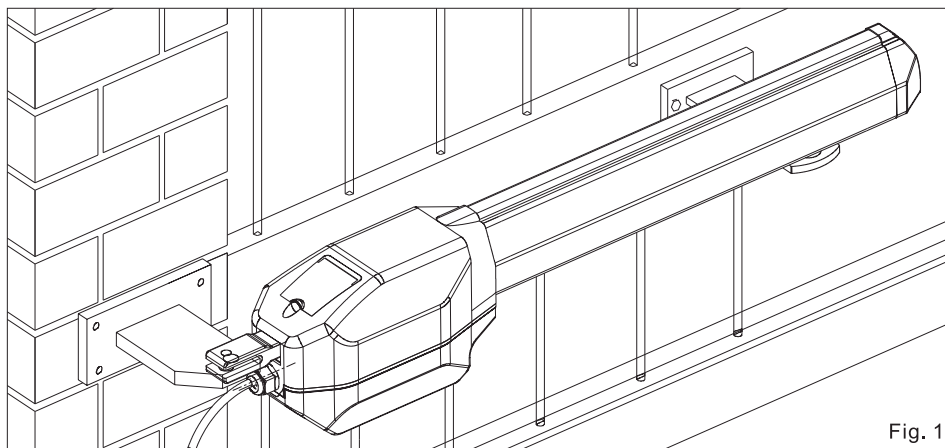
3) Check if the front bracket fitting is in the correct position as shown in Fig. 13, if is not the case, temporarily supply power to the operator to position the fitting. Providing power to the blue and black wires, Spwing400 motor will rotate in one way ,or in the opposite direction if provided to the blue and brown wires.



**ATTENTION:**

The operator can be moved by hand only if it is installed on the gate and in released position

4) Assemble the front bracket as shown in Fig.14, a hexagonal seat is located in the lower part of the fitting to make the assembling operations easier.



5) Close the leaf and, keeping the operator in a perfect horizontal position, determine the fastening point. Close the leaf and, keeping the operator in a perfect horizontal position, determine the fastening point of the front bracket.  
 Note: if the gate structure does not allow a fix bracket fastening it is necessary to create a sturdy supporting base in the gate structure.

6) Release the operator and manually check if the gate can completely open without hindrances and stop at the mechanical travel stop as well as if the leaf moves regularly without any friction.

7) Carry out necessary corrective measures.

Note: we recommend to grease all the fastening pins of the fittings.

### 5.5 Wiring the operator

A terminal board is fitted in the lower part of the operator for the connection of the motor, of any limit switch

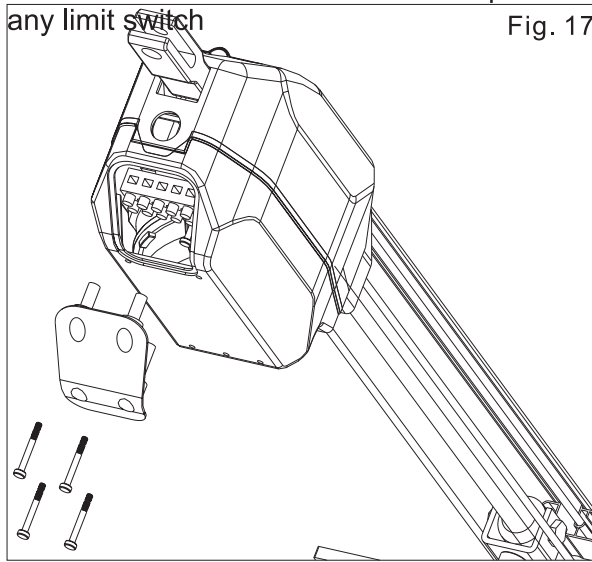


Fig. 17

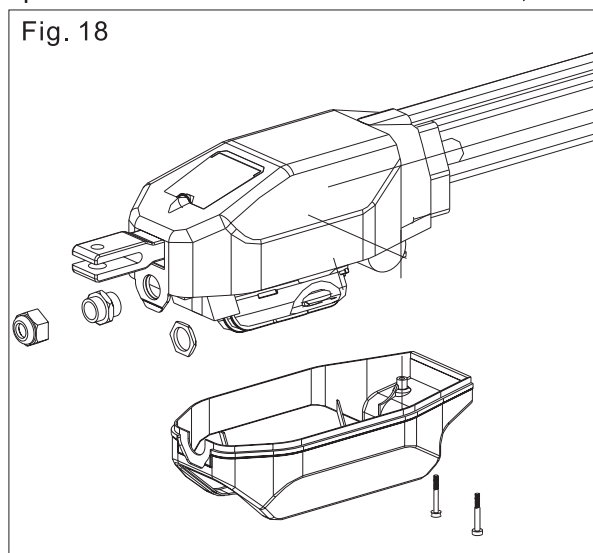


Fig. 18

#### 5.5.1 Motor wiring operations:

1) Move the terminal cover and bottom cover, fit the supplied cable gland (Fig.17 & 18)

2) Connect the motor and the earthing with reference to Fig. 19 (if supplied without cables)

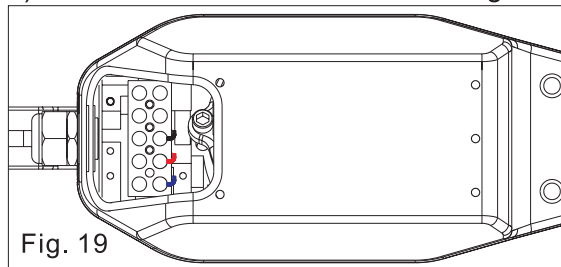


Fig. 19

| Pos. | Cor            |          |
|------|----------------|----------|
| 1    | Blue           | Common   |
| 2    | Brown          | Phase    |
| 3    | Black          | Phase    |
| 4    | Yellow / Green | Earthing |

3) The limit switches are wired in the same terminal board where the motor wiring has been carried out. After Connected, close all the cover with screws.

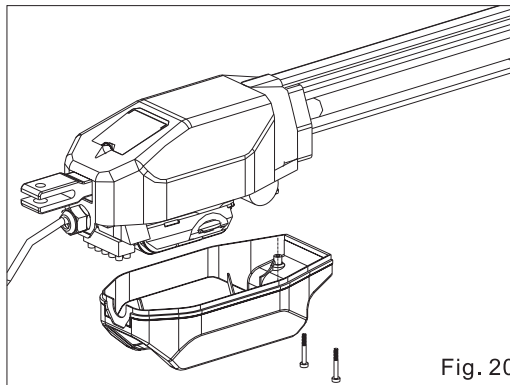


Fig. 20

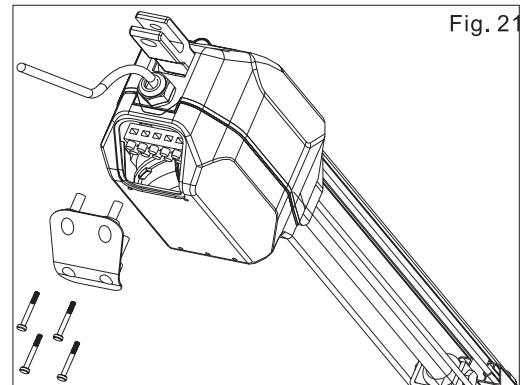
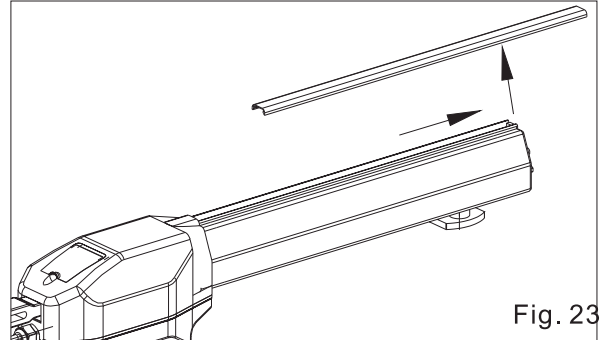
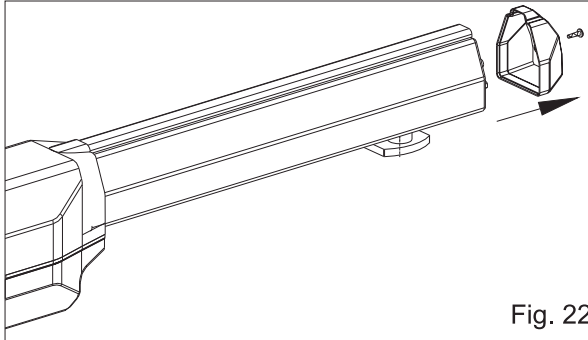


Fig. 21

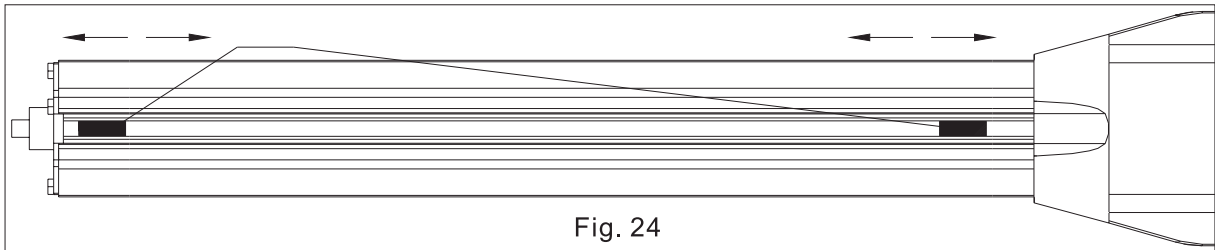
### 5.6 Limit switches

The limit switch adjustment is carried out as follows:

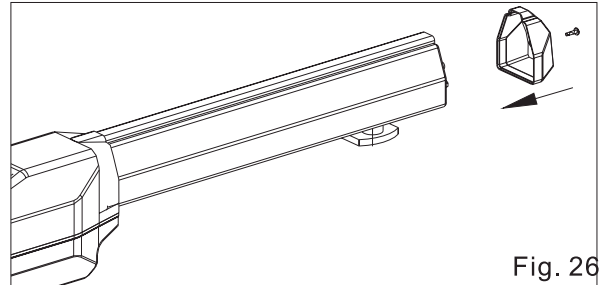
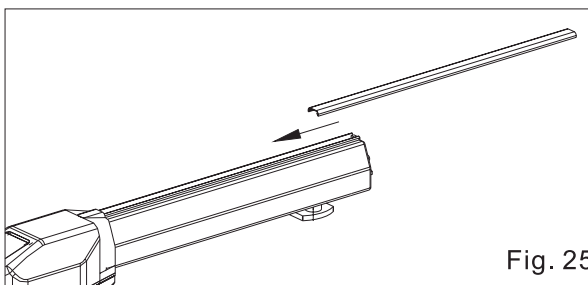
- 1) Unscrew both front cover screws of the front cap and remove the cover, (Fig.22).
- 2) Move the cover of limit switch (fig.23).



- 3) Loosen the fastening screws of the limit switch to adjust,
- 4) Move the limit switch to the desired position and lock the screws.



- 5) Perform a pair of test cycles to check the correct position of the limit switch, if the adjustment of the limit needs to be carried out again, repeat the operation starting from point 3.



### 6. TESTING THE AUTOMATED SYSTEM

Carefully check operating efficiency of the automated system and of all accessories connected to it, paying special attention to the safety devices.

Hand the "User's Guide" to the final user to get her with the Maintenance sheet.

Explain correct operation and use of the automated system to the user.

Indicate the potentially dangerous areas of the automated system to user.

### 7. MANUAL OPERATION

If the automated system needs to be moved manually due to a power lack or to an operator malfunction, proceed as follows:

- 1) Open the protective cap, Fig.27
- 2) Insert the key and turn it 90°, Fig.28
- 3) Open and close the leaf manually.

Note: To hold the operator in manual operation the release device should left in its current position and the system should be without power.

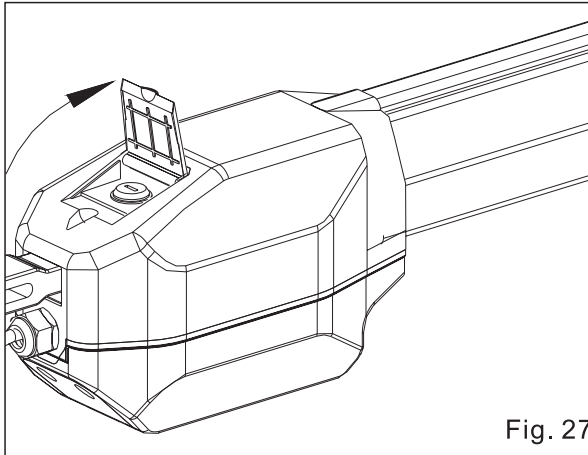


Fig. 27

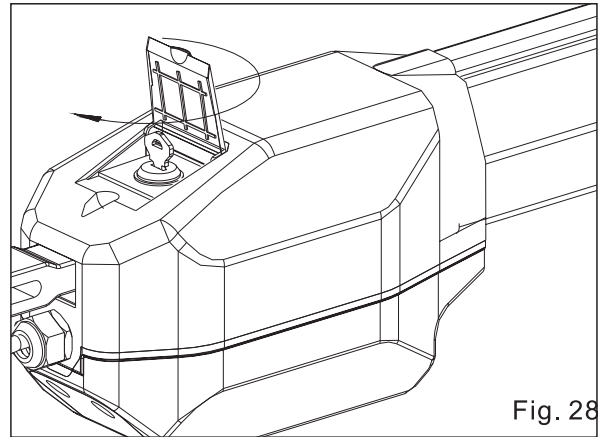


Fig. 28

7.1 To restore normal operating conditions, proceed as follows:

- 1) Close the gate;
- 2) Turn the release system 90° in the opposite direction of the arrow.
- 3) Remove key and close protection cover.
- 4) Power up the system and perform 1 movement in order to check the correct restoring of every function of the automated system.

## **8. MAINTENANCE**

To ensure trouble-free operation and a constant safety level, an overall check of the system should be carried out every 6 months.

A form for recording operations has been included in the "User's Guide" booklet.

## **9. REPAIRS**

For any repairs, contact an authorized repair center.

## **10. AVAILABLE ACCESSORIES**

Refer to catalogue for available accessories

## **11. SPECIAL APPLICATIONS**

There is no special application other than the described use.