



FITTING AND CONNECTION INSTRUCTIONS

ENGLISH

BETA is a electromechanical low voltage screwdrive operator for swing gates for residential use. The actuator has been designed for max leaf length of 2 m and max. leaf weight of 200 kg . Manual release with special key in case of power failure. Available version with mechanical limit switches adjustable in opening/closing.

MAIN PARTS NOMENCLATURE

- 1 Adjustable back-bracket
- 2 Electrical motor
- 3 Endless-screw
- 4 Front-bracket
- 5 Aluminium Carter
- 6 Electric cable outlet
- 7 Release
- 8 Adjustable mechanical stop in opening (where foreseen)
- 9 Adjustable mechanical stop in closing (where foreseen)

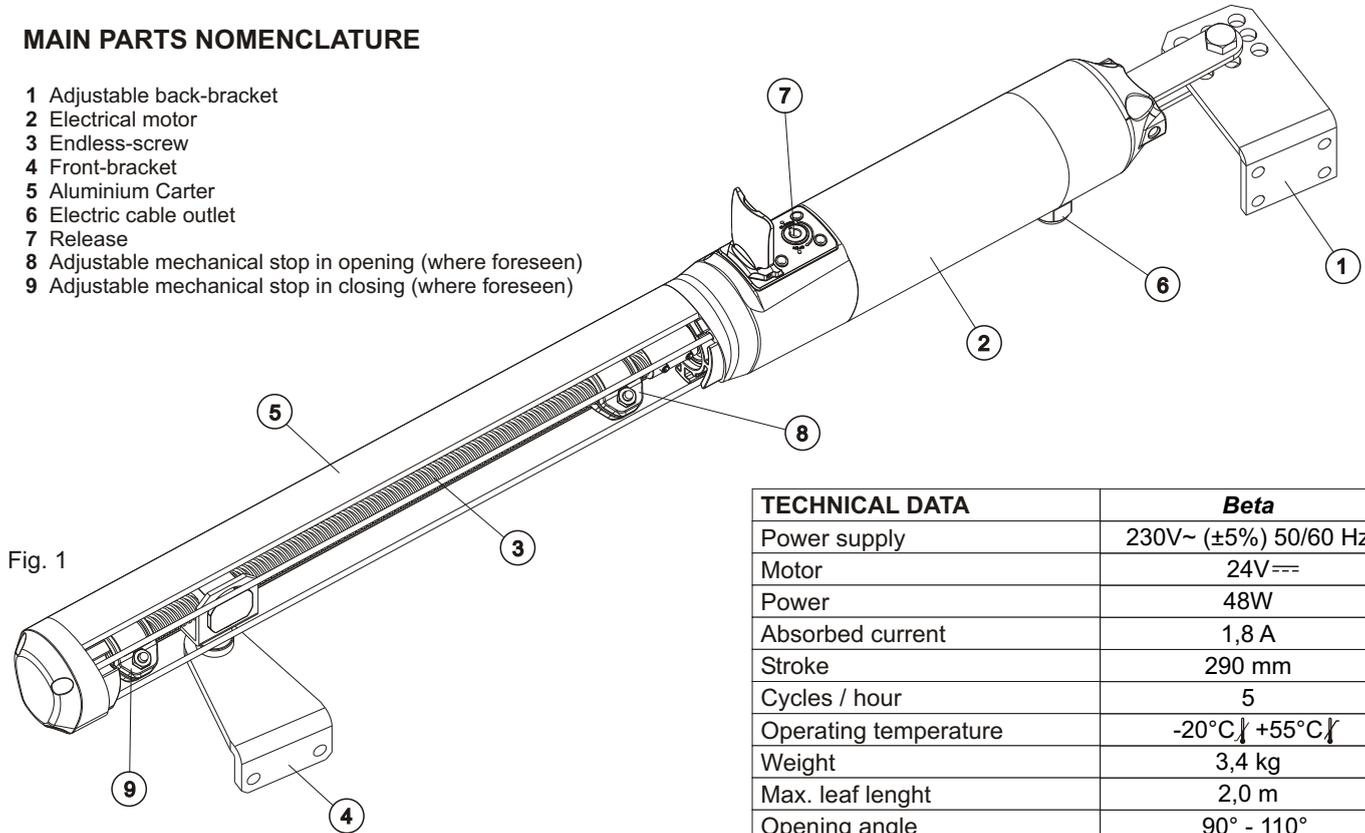
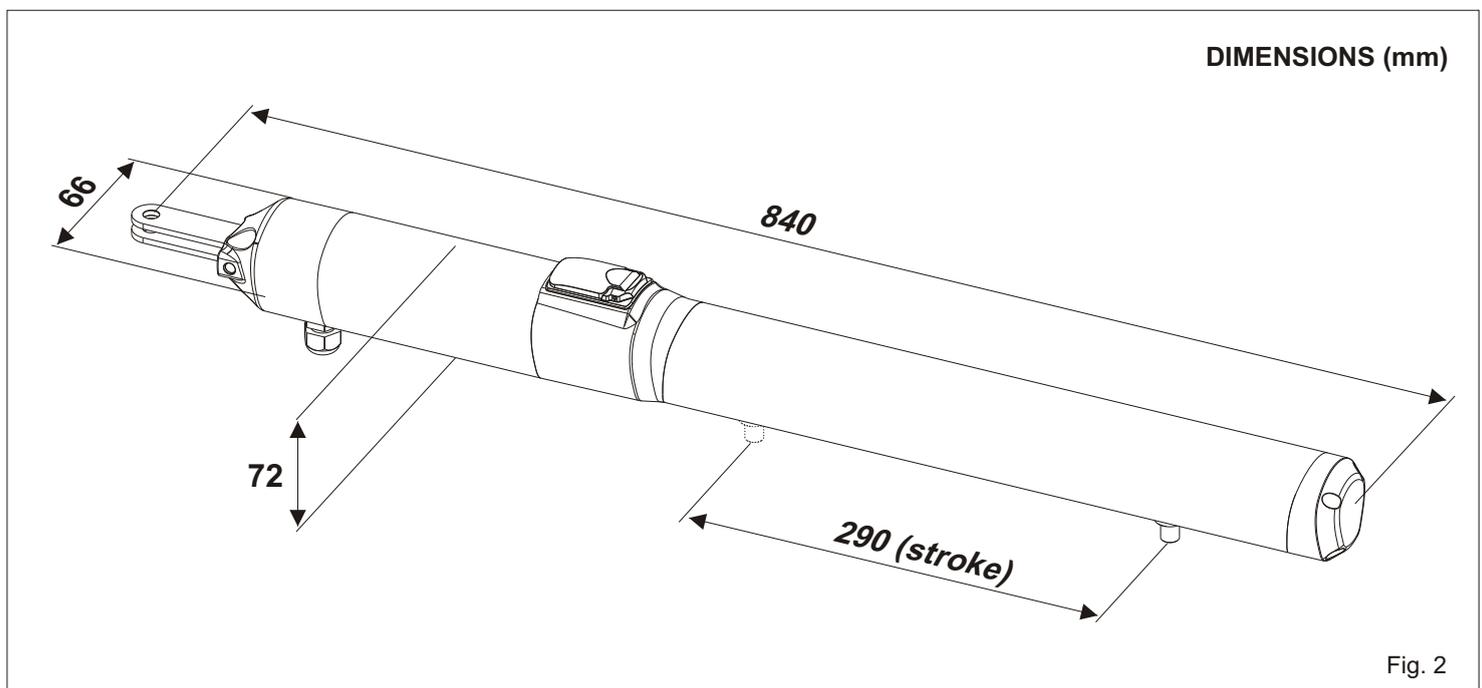


Fig. 1

TECHNICAL DATA	Beta
Power supply	230V~ (±5%) 50/60 Hz
Motor	24V===
Power	48W
Absorbed current	1,8 A
Stroke	290 mm
Cycles / hour	5
Operating temperature	-20°C / +55°C
Weight	3,4 kg
Max. leaf length	2,0 m
Opening angle	90° - 110°
Time of 90° movement	16-18 s
Max. torque	1550 N
Protection class	IP54
Max. leaf weight	200 kg

Note: The frequency of use is valid only for the first hour at 20°C room temperature.

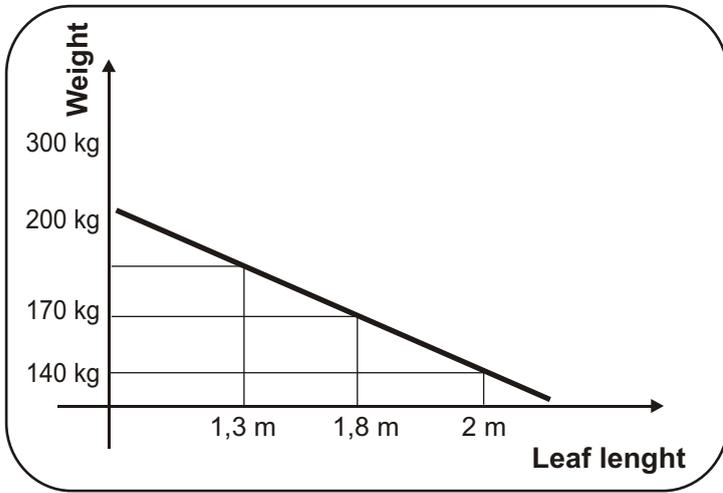


DIMENSIONS (mm)

Fig. 2

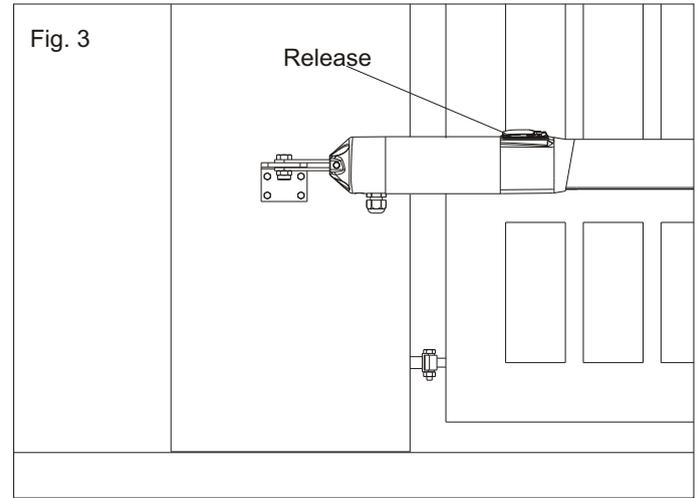


GRAPHIC FOR USE OF BETA



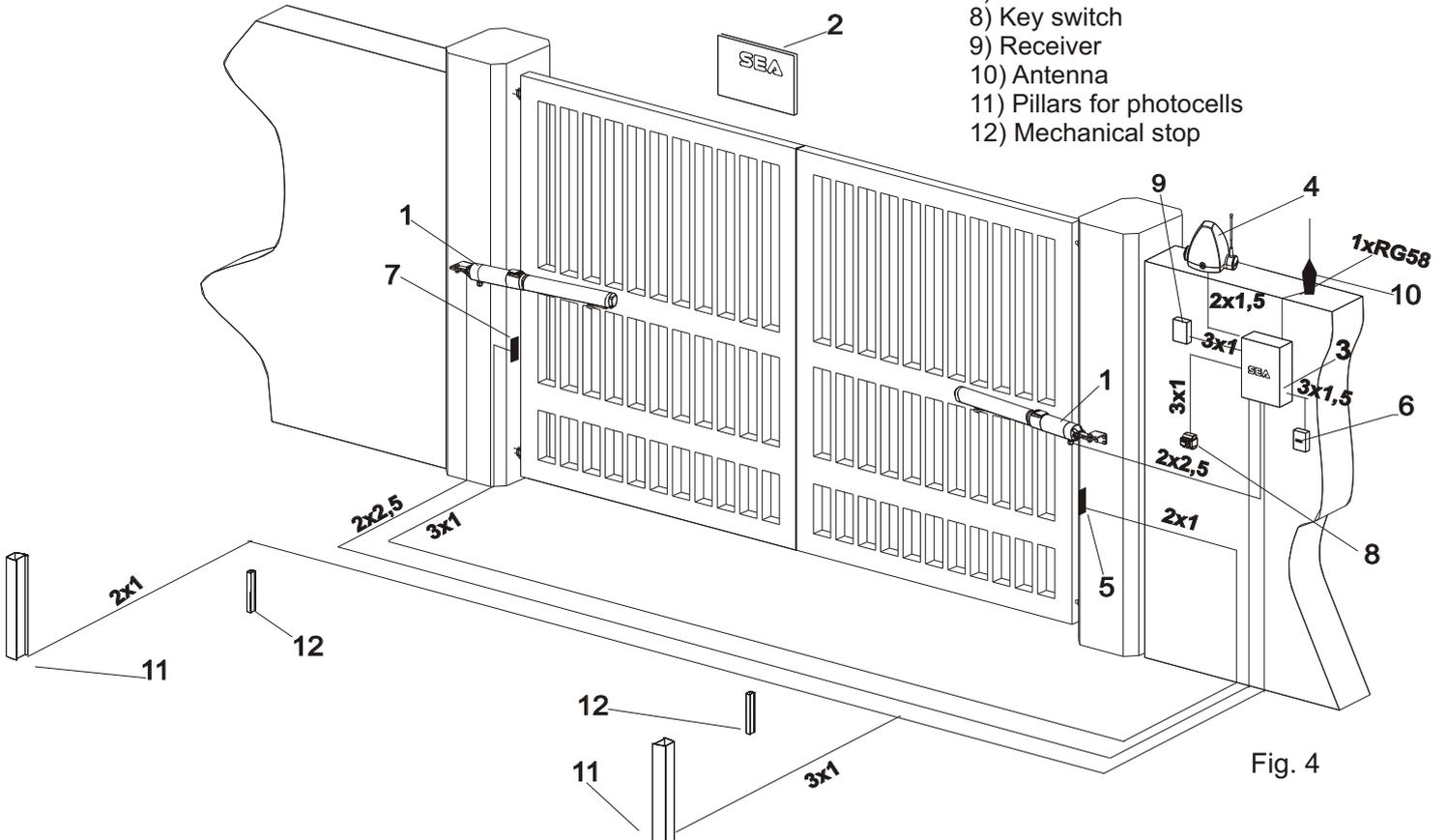
Note:

The motor must be mounted with the release turned up (Fig.3)



TYPICAL INSTALLATION

- 1) Motor
- 2) Warning notice
- 3) Electronic control unit
- 4) Flashing lamp
- 5) Photocell Tx
- 6) 16A - 0,03A differential switch
- 7) Photocell Rx
- 8) Key switch
- 9) Receiver
- 10) Antenna
- 11) Pillars for photocells
- 12) Mechanical stop





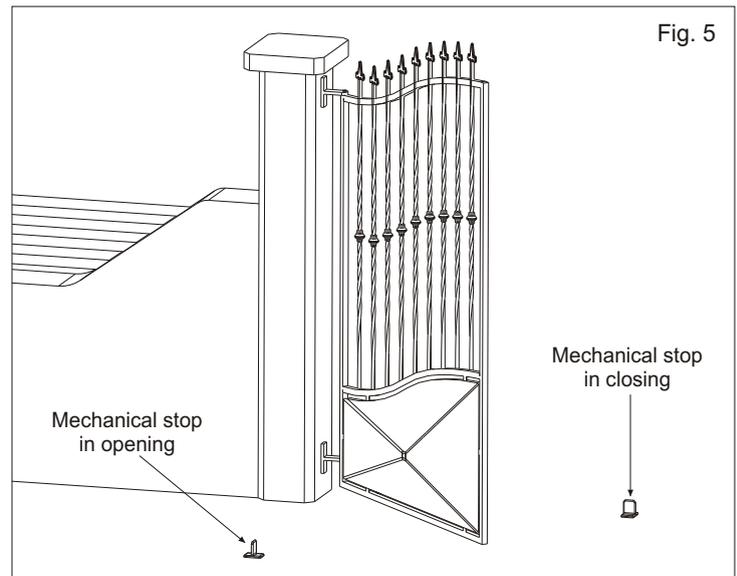
1. GATE ARRANGEMENT

You must do some checks on the gate to see if fitting a BETA system is possible:

- A. (Make sure that) the fixed and moving parts of the gate are strong and non-deformable;
- B. the weight of each gate leaf must not exceed 200 kg;
- C. the length of each gate leaf must not exceed 2,0 m;
- D. the hinges and general structure must be in good condition and the gate must move smoothly throughout its travel;

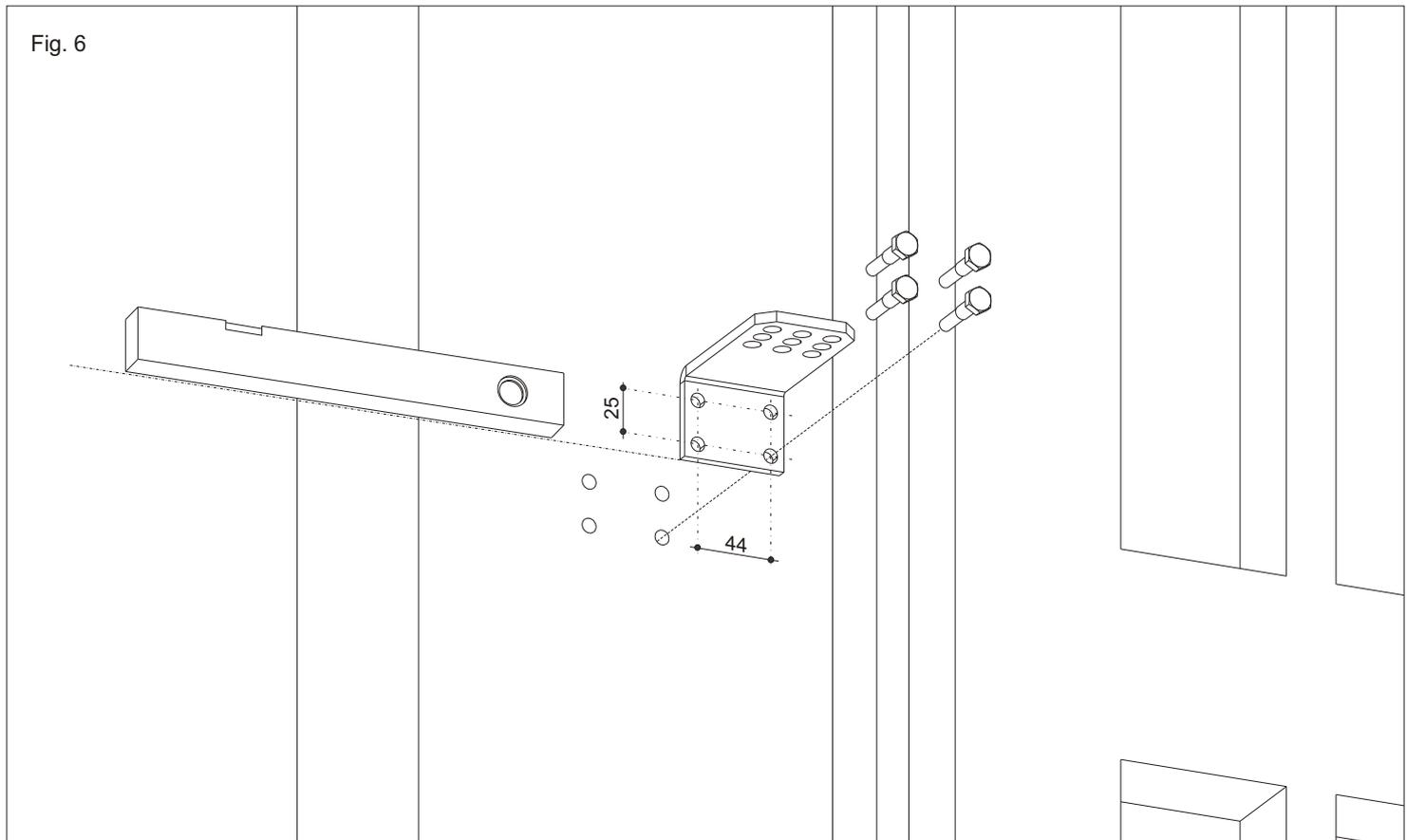
In the version BETA without adjustable mechanical stop (opening and closing) it is obligatory to install a limit switch stop on the ground (Fig. 5).

In the version BETA with adjustable mechanical stop, where possible, it is recommended to install limit switch stops on the ground for a better functioning of the motor.



2. INSTALLATION OF THE OPERATORS

2.1. Fix the drilled plate to the pillar using the screws as shown in Fig. 6, so that it is positioned perfectly horizontal and perpendicular to the pillar,



NOTICE:

BETA operator is not provided with mechanical torque regulation. The control board must be provided with electronic torque regulation (unless presence detectors are installed) and with inversion in case of obstacles to install it in conformity with the DIRETTIVA EN12453 and EN12445.

Use GATE2 24V PLUS electronic control unit for best performance.



DIMENSIONS FOR INSTALLATION

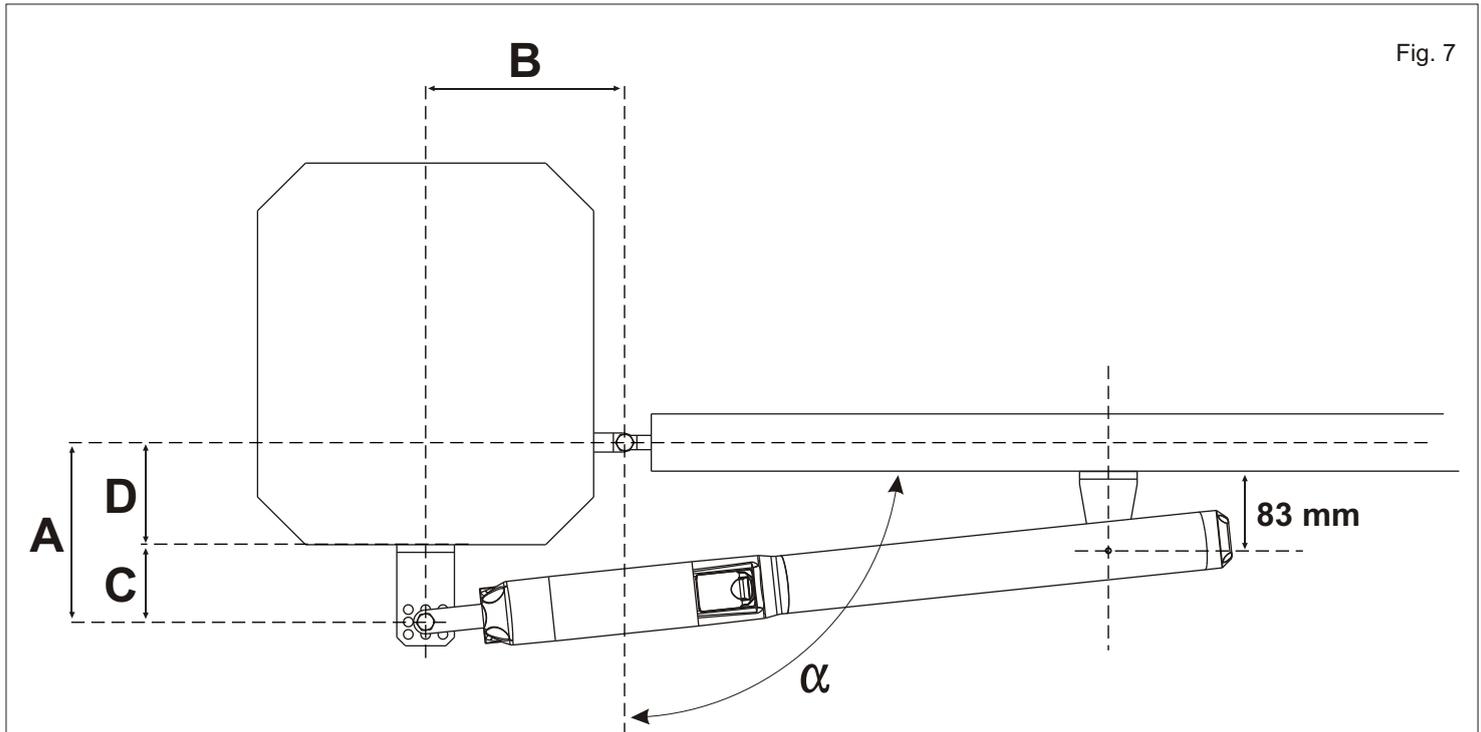


Fig. 7

BETA: CONNECTIONS TABLE
Total run 290mm

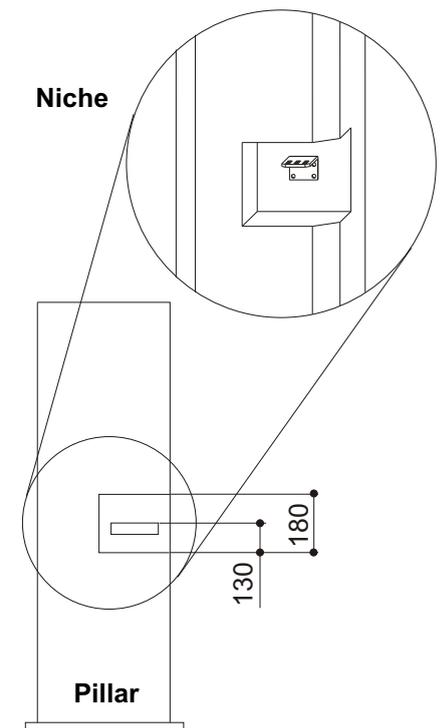
Choose the values of A on the base of the required opening angle: with smaller values of A you will obtain a bigger angle and a higher speed, but when the connection bracket C is at least 55 mm long, you will have a limit of the distance D: When D is superior to maxD it's necessary to make a niche in the column.

The dimension B can be chosen between the two values:

- Minimum B (maximum angle, maximum speed, but also maximum effort for the operator).
- Maximum B (maximum run utilization, less speed, but also less effort for the operator and regular movement).

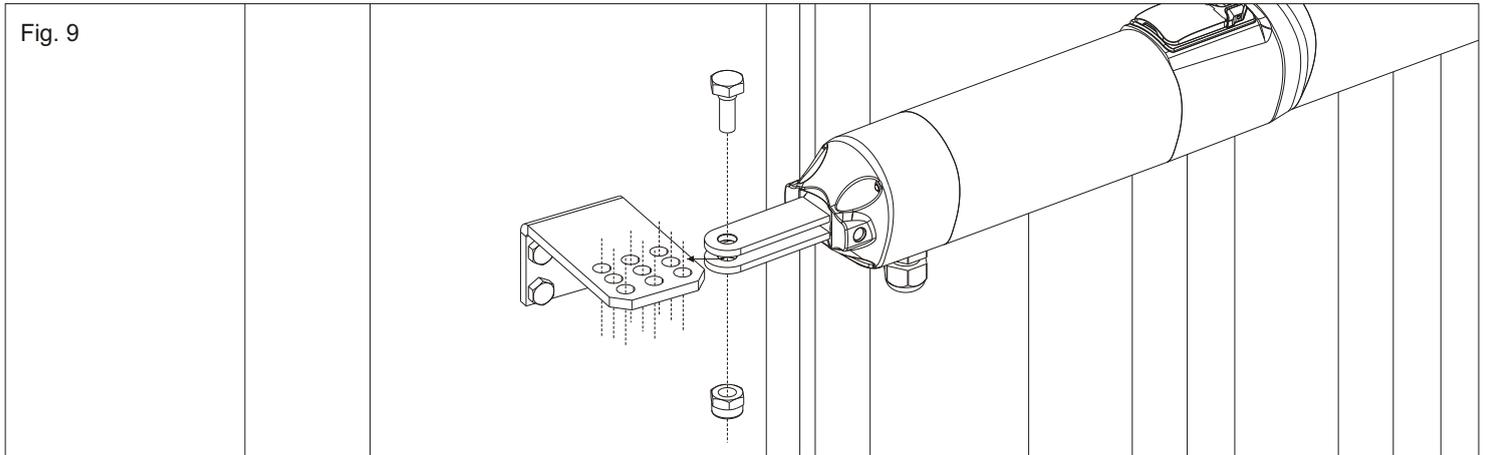
If you don't have to respect any angle or dimension limits of the column, we suggest to apply the biggest possible values of A and B (using the mounting plate holes).

A mm	B mm	Max D	Maximum opening angle (α)	Maximum run (mm)	Run for 90° opening (mm)
110	130	55	120°	290	240
110	160	55	90°	270	
120	130	65	110°	290	250
120	155	65	90°	280	
140	120	85	105°	290	262
140	145	85	90°	290	
150	115	95	105°	290	267
150	140	95	90°	290	
160	110	105	100°	290	273
160	125	105	90°	290	
180	95	125	100°	290	280
180	105	125	90°	290	
190	90	135	95°	290	285
190	95	135	90°	290	
200	80	145	95°	290	286
200	75	145	95°	285	281
210	70	155	90°	287	





2.3. Mount the motor on the back support which has been installed before and fix it with the special pivot (Fig. 9)



2.4. Release the arm (see paragraph 3)

2.5. Fix the front support (Fig. 10)

**Limit switch stop in closing
(where foreseen)**

2.6. Remove screw A, bring the mechanical stop to 10/15mm from the stop (Fig. 11) and tighten screw A again.

2.7. Close the gate

2.8. Bring the front support to the stop with the limit switch in closing which has been fixed before and lean it on the leaf to individuate the 2 points of the leaf which have to be pierced (Fig. 12)

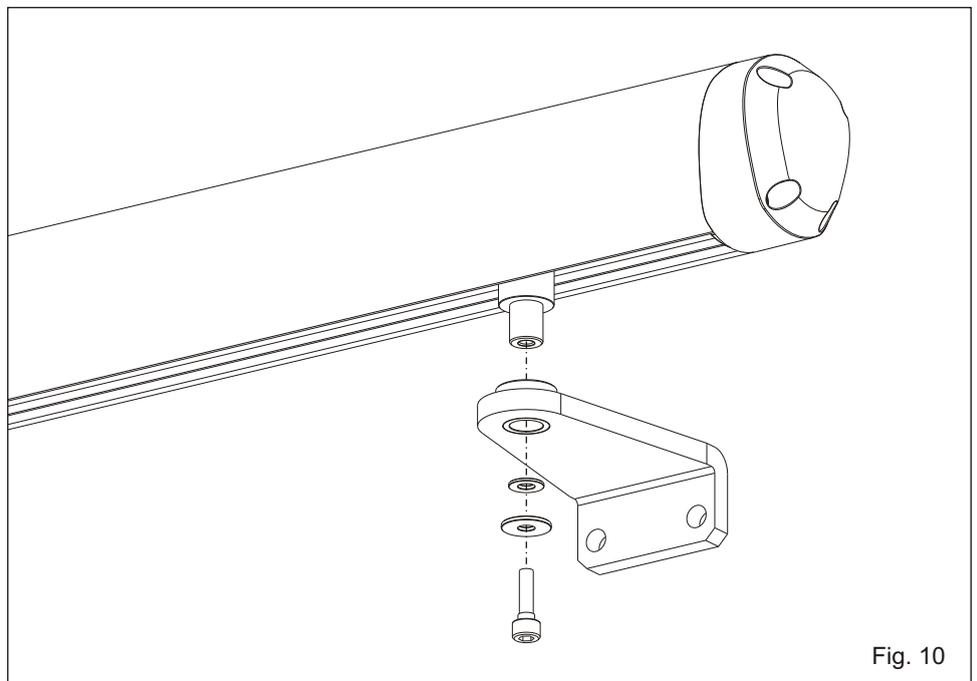
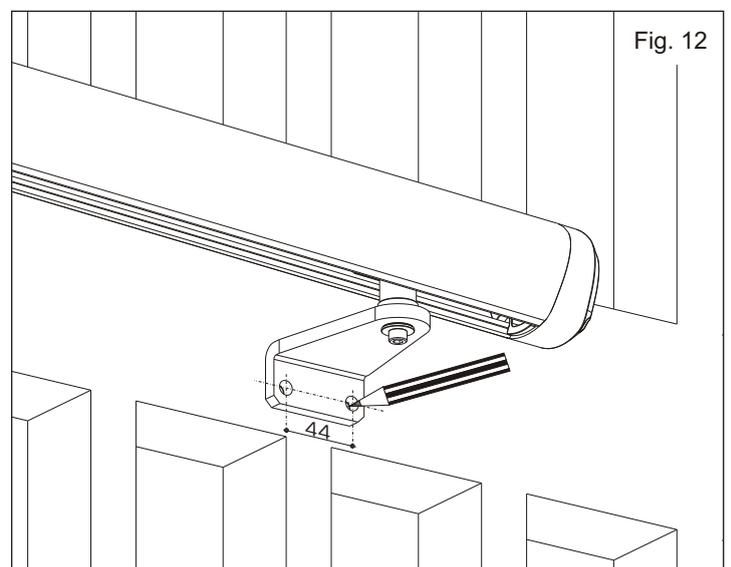
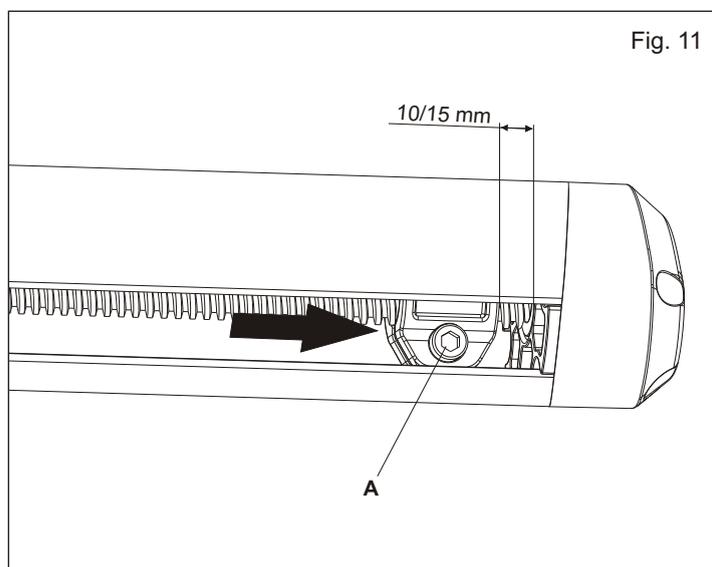
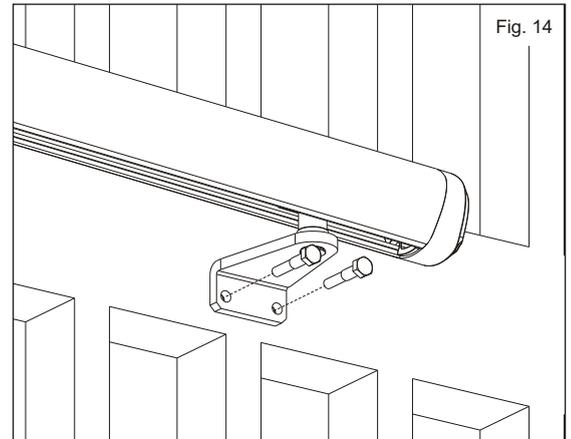
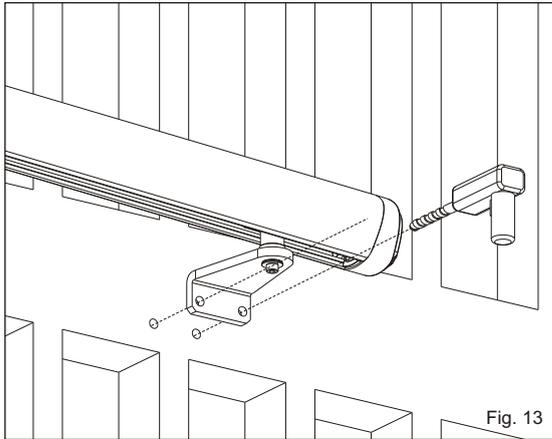


Fig. 10



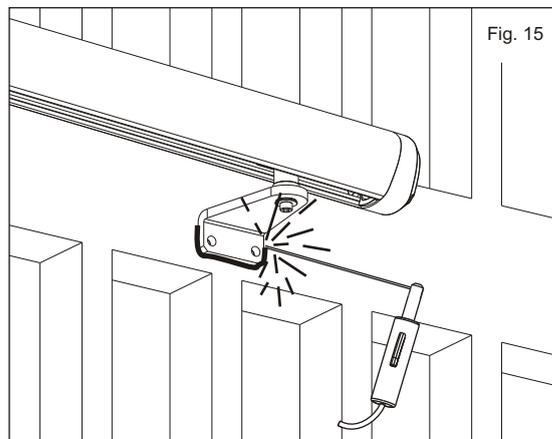


2.9. Pierce the gate (Fig. 13) so that to fix the front support with two bolts paying attention that the operator is perfectly horizontal (Fig. 14)



NOTE:

if it is not possible to attach the front bracket with the bolts, weld it to the gate (Fig 15), being careful to protect the shaft from welding waste.

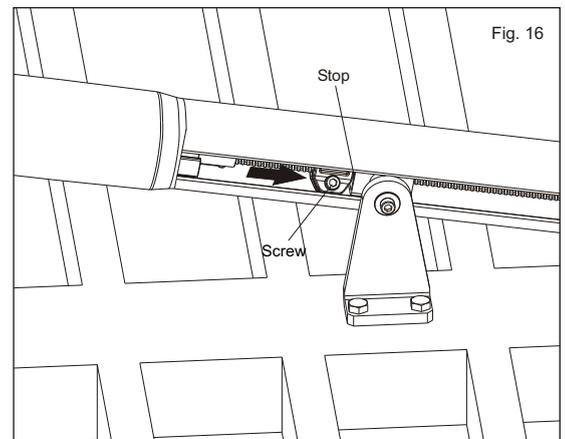


Limit switch stops in opening (where foreseen)

2.10. Open the leaf up to the desired point

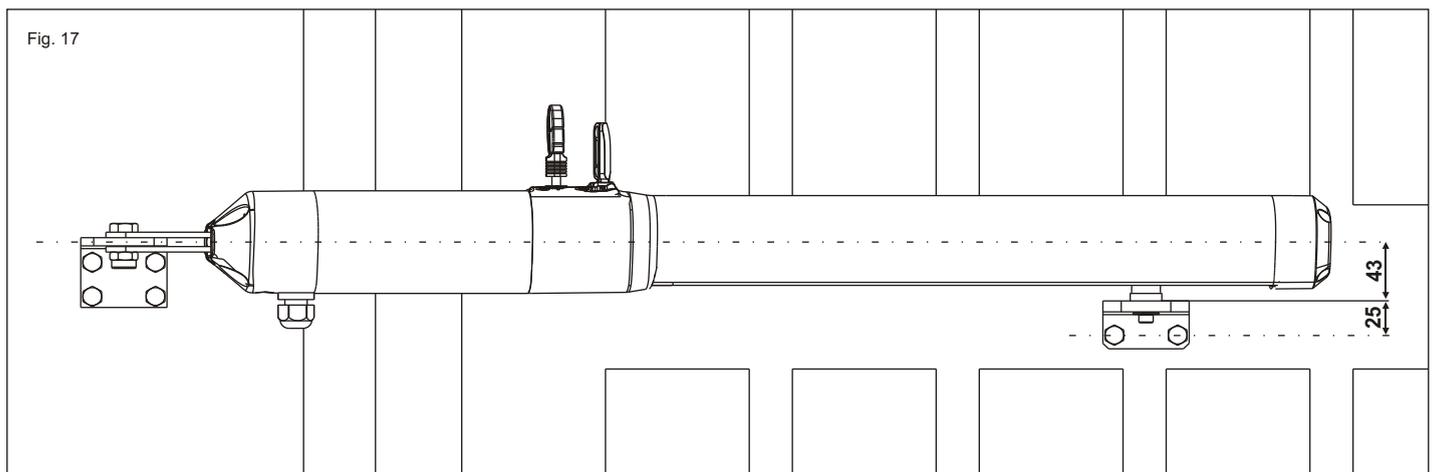
2.11. Unscrew screw B and position the mechanical stop on the stop with the front support (Fig. 16) and tighten the screw B.

2.12. Restore the lock of the operator (see paragraph 3)



NOTE:

Positioning the front attachment on the gate, consider the off centre on respect to the central axe of the motor (Fig. 17).





To the attention of users and technicians

3. RELEASE SYSTEM

3.1. To release the motor operate as follows:

1. Insert the release key into the fissure as in Fig. 18
2. Turn the release key about 180° in clockwise direction until reaching the stop, without over forcing (Fig. 19).

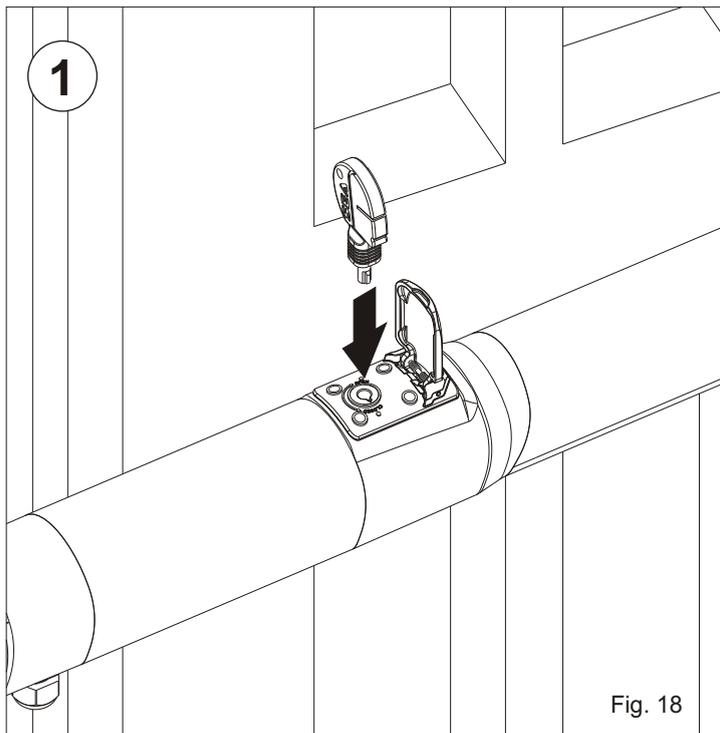


Fig. 18

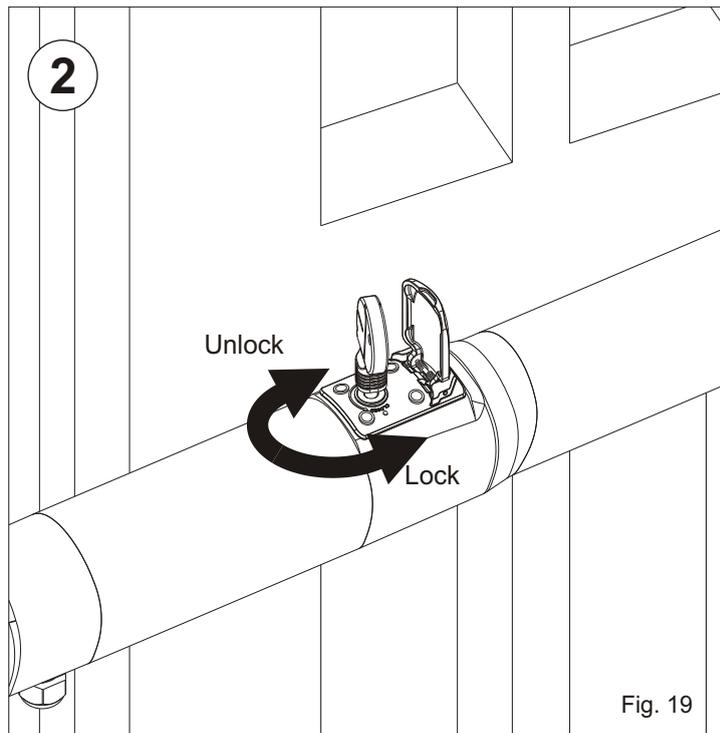
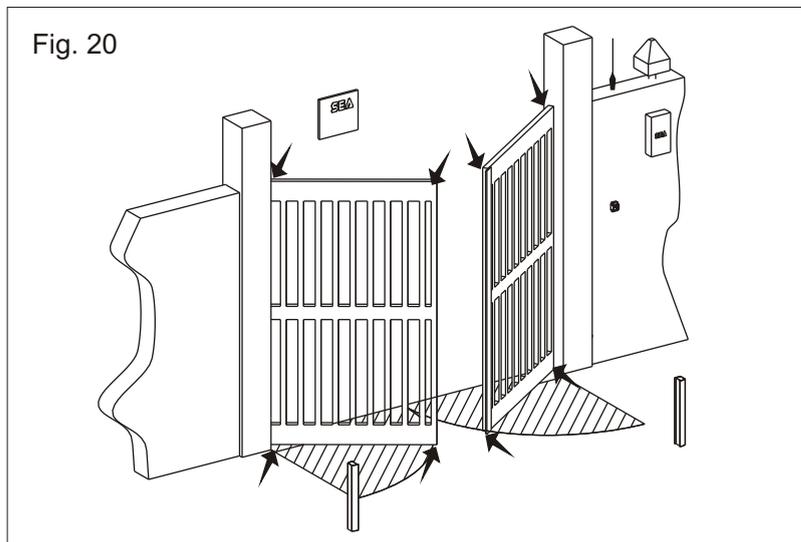


Fig. 19

3.2. To relock the motor bring back the key into the origin position (Fig. 17), extract the key and move the leaf manually until the automation has reengaged.

RISK EXAMINATION

The points pointed by arrows in Fig. 20 are potentially dangerous. The installer must take a thorough risk examination to prevent crushing, conveying, cutting, grappling, trapping so as to guarantee a safe installation for people, things and animals (Re. Laws in force in the country where installation has been made).



NOTICE

SEAs.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.



To the attention of users and technicians

PERIODICAL MAINTENANCE

Check the solidity and the stability of the gate, especially the points of support and/or rotation of the gate (pivots).	Annual
Check the release function	Annual
Check and grease the fixing pivots and the endless screw	Annual
Check the integrity of the connection cables	Annual
Verify the functionality and the conditions of the limit switch stops in opening and closing (where foreseen)	Annual
Verify the good condition of all apparatus which are subject to stress (back attachment, oscillating fork and front attachment)	Annual
Check the functionality of all the accessories, in particular way of all safety disposals	Annual
After having executed the periodical maintenance it is necessary to repeat the test of the automation and its putting in service	Annual

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

INITIAL TEST AND STARTING OF THE AUTOMATION

After having completed the necessary operations for a correct installation of the BETA product, as described in this manual, and after having valued all resting risks which could arise in any installation, **it is necessary to test the automation to guaranty the maximum security and, in particular way, to guaranty that the laws and norms of this sector are fully respected.** Especially the test must be executed following the norm **EN 12445** which establishes the methods of tests for checking the gate automations respecting the limits established by the rule **EN 12453**.

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 Beta operators are been designed to be solely used for the automation of swing gates.

SPARE PARTS:

To obtain spare parts contact:

SEAs.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.

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.



To the attention of users and technicians

ARRANGEMENTS

Read attentively the installation manual as it gives important indications concerning safety, installation, use and maintenance.

Installation, maintenance, reparation, controls and eventual putting out of function of the product must be executed by qualified staff only.

For the security of people it is important to follow with attention all the advises and instructions in this manual. A wrong installation or a wrong use of the product can cause sever damages to people.

The max. length of the power supply cable between control unit and motors is 10m, use cables with 2,5 mm² section.

Use wirings with double insulated cables (cables with sheath) up to the immediate proximities of the terminals especially for the power supply cable (230V~).

The control unit must not be used by people (including children) whose physical, sensory or mental ability is reduced, or with lack of experience or knowledge, unless they are guarded or have been instructed on how to use the control unit by a person responsible for their safety. Children must be guarded to make sure that they don't play with the control unit.

Foresee on the power supply net of the automation a device that assures the complete omnipolar disconnection from the net, with a distance of opening of the contacts on each pole of at least 3mm. Those devices of disconnection have to be foreseen on the power supply net accordingly to the rules of installation, and they have to be directly connected to the power supply terminals.

It is necessary to keep in adequate distance (at least 2.5 mm in the air) the low tension conductors (230V~) from the very low tension conductors (SELV) or to use a suitable sheath of at least 1 mm which supplies an additional insulation.

Make sure that during installation the power supply and interconnection cables cannot come into contact with pointed or sharp extremities.

Dispose of the package materials (plastics, carton, polistirene, etc.) respecting the laws in order. Keep nylon and polistirene bags out of the reach of children.

Save these instructions for further information attaching them to the technical documents.

This product has been projected and built exclusively for the use described in this instruction manual. Uses not indicated in this manual could damage the product and be source of danger.

SEA declines all responsibility for improper or different use from the one for which it has been planned and described in the present manual.

Don't install the product in explosive atmospheres.

SEA declines all responsibility for the non-observance of the good technique in the construction of closings (doors, gates, etc.), as well as for the deformations which could occur during the use.

Remove the power supply before any intervention on the installation. Disconnect also possible battery buffers if present.

Make sure that the earth installation has been correctly made: connect all the metallic parts of the closing (doors, gates, etc.) and all the components of the installation provided with earth terminals.

Apply all the safety devices (photocells, sensitive edges, etc.) which are necessary to protect the area from dangers of crushing, conveying, cutting.

SEA declines all responsibility for safety and for the correct functioning of the automation if parts of other producers are used.

Use only original parts for any maintenance or reparation.

Do not modify the parts of the automation if not explicitly authorized by SEA.

Instruct the user of the installation on the applied command systems and how to manually open the gate in case of emergency.

What is not explicitly contained in these instructions is not permitted.