SEA
Sistemi elettronici
di Aperture Porte e Cancelli

BETA

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 lenght 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)

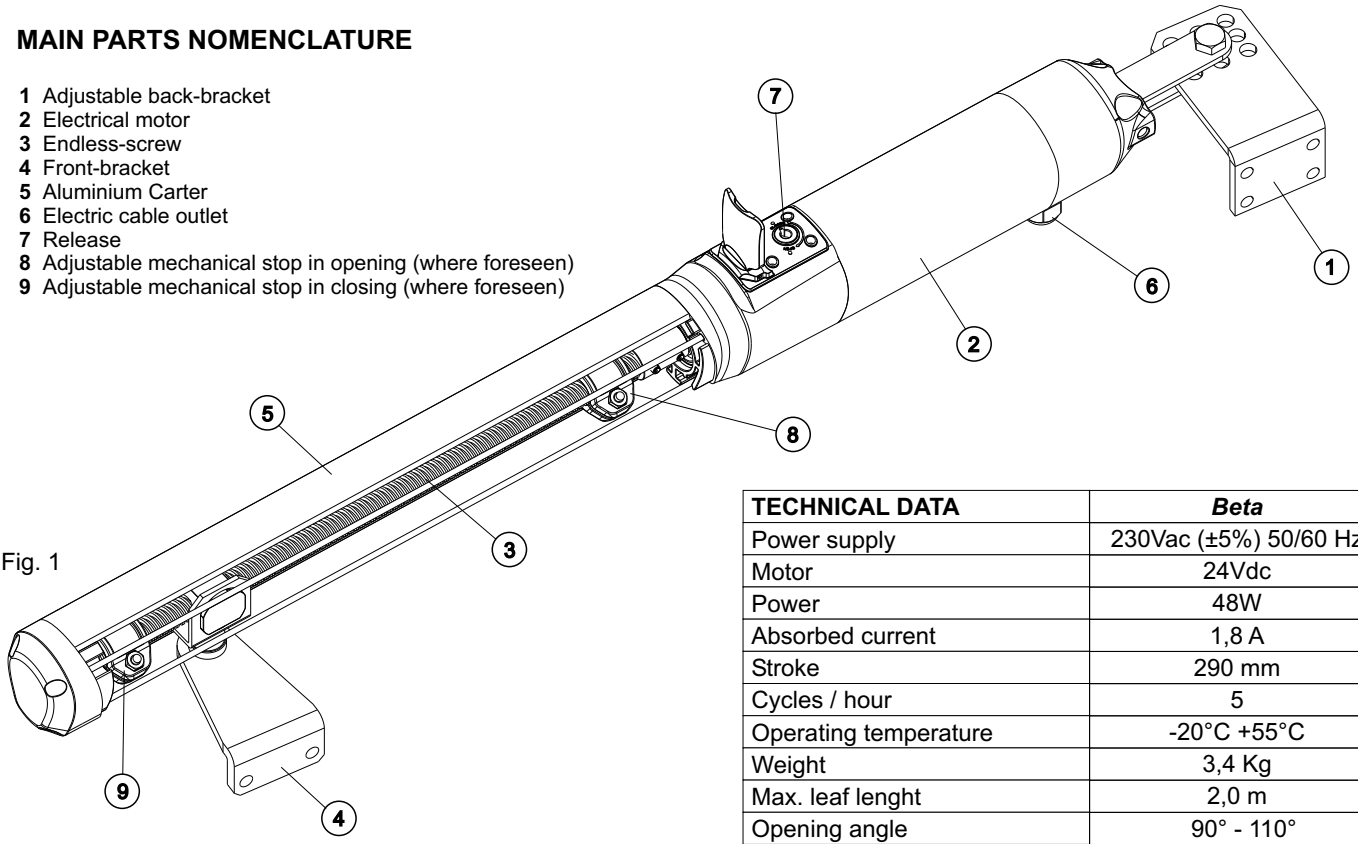

Fig. 1

TECHNICAL DATA	*Beta*
Power supply	230Vac (±5%) 50/60 Hz
Motor	24Vdc
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 lenght	2,0 m
Opening angle	90° - 110°
Time of 90° movement	16-18 sec.
Max. torque	1550 N
Protection class	IP54
Max. leaf weight	200 Kg

DIMENSIONS (mm)

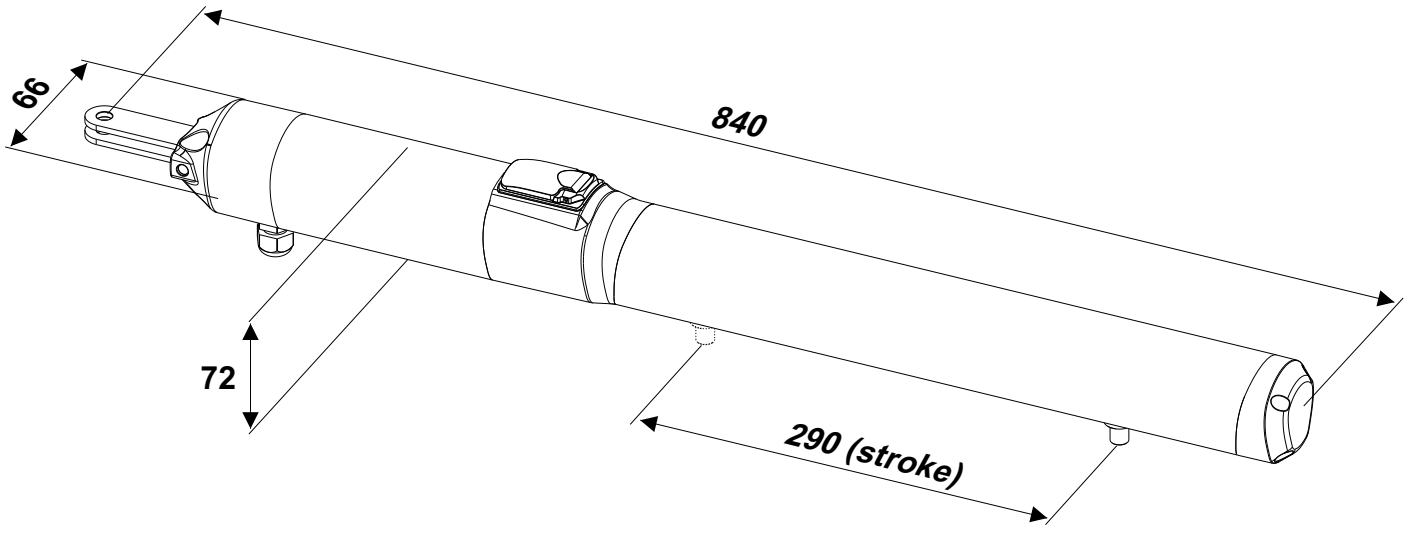

Fig. 2

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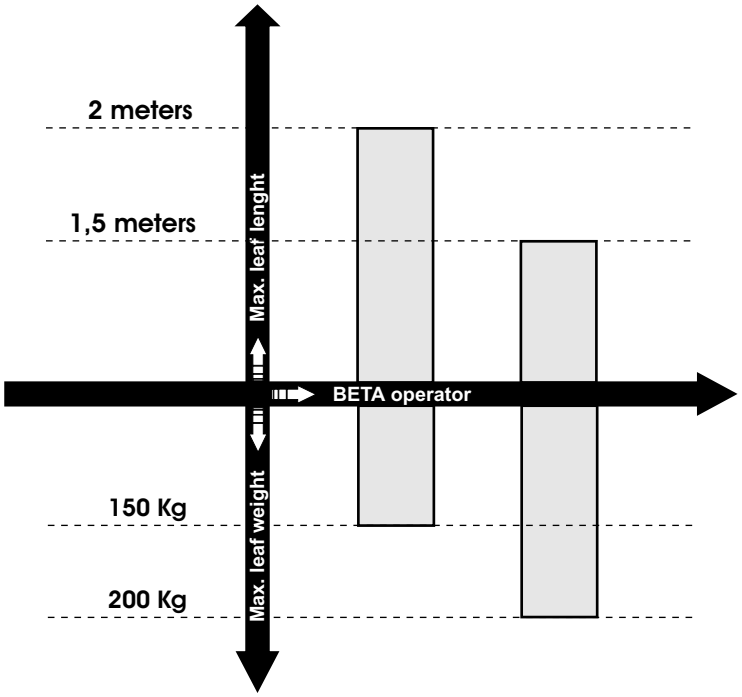
BETA

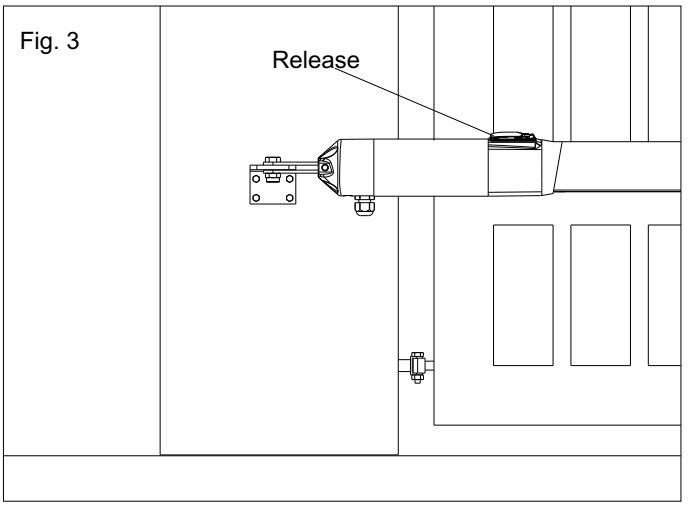
CE

GRAPHIC FOR USE OF BETA



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

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

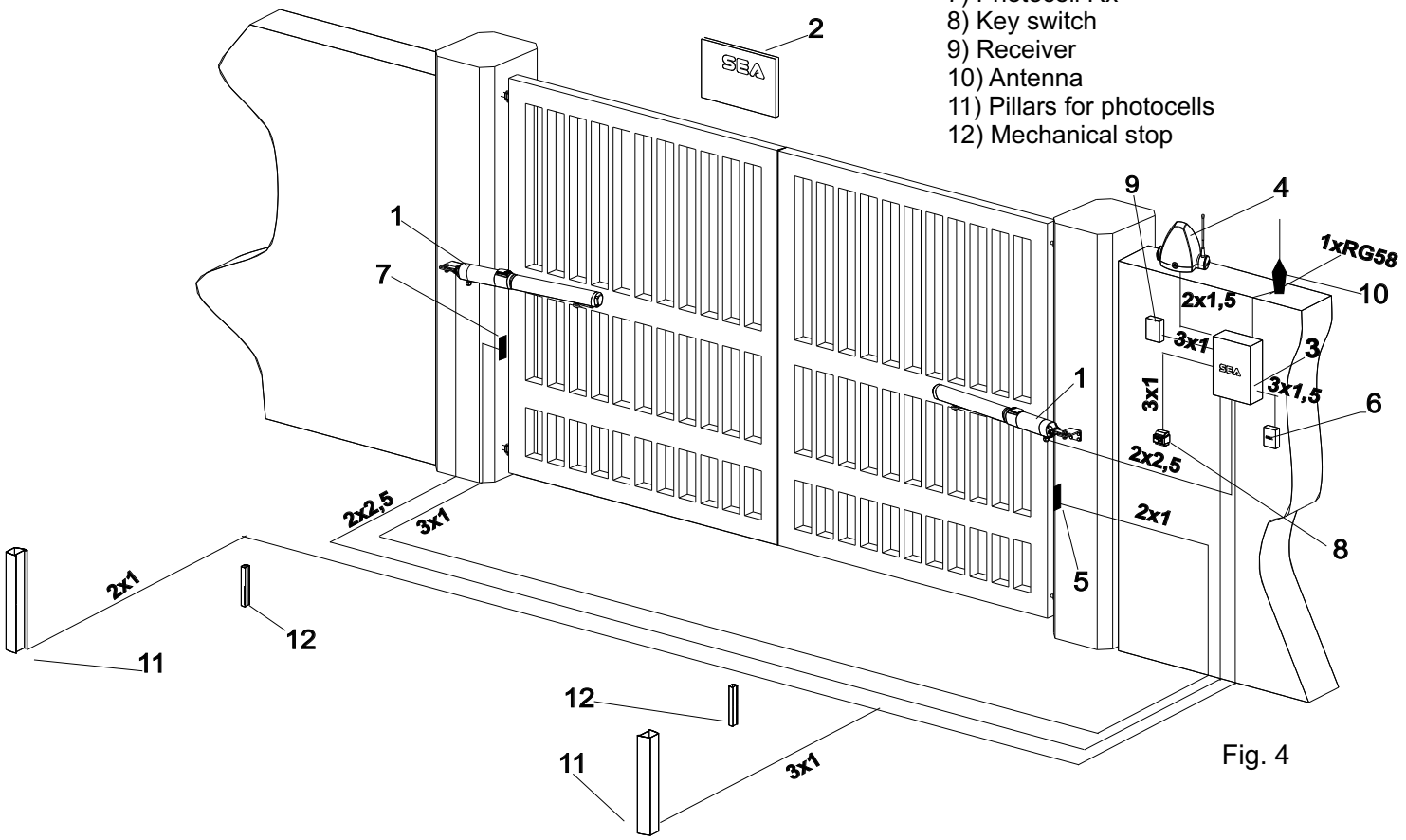


Fig. 4

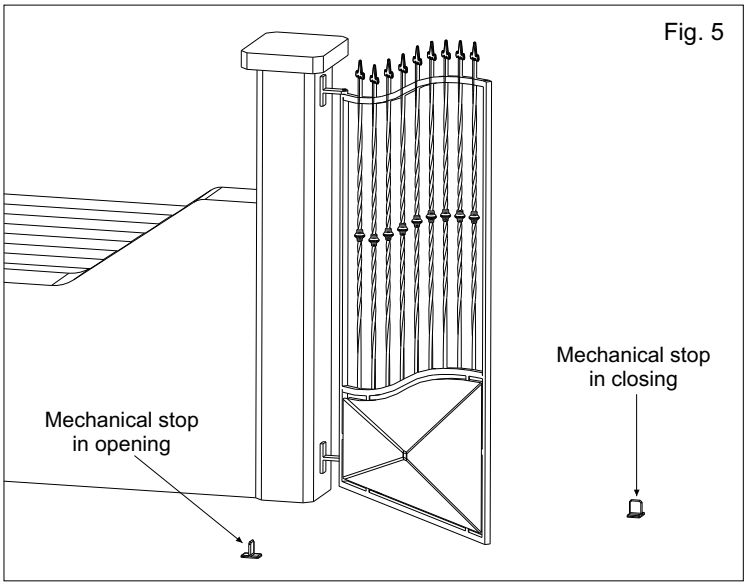
1. GATE ARRANGEMENT

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 lenght of each gate leaf must not exceed 2,0 meters;
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.

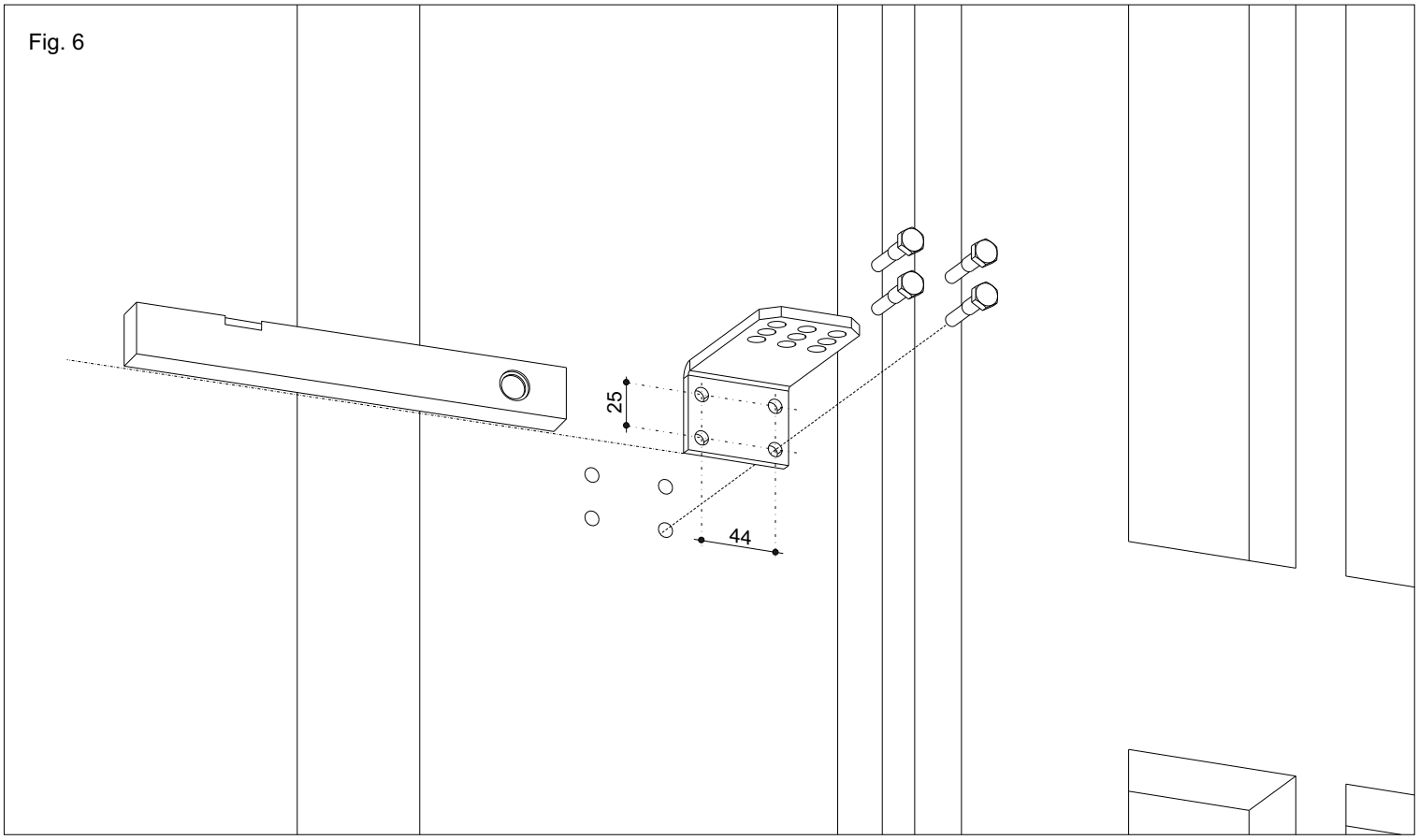
Fig. 5



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,

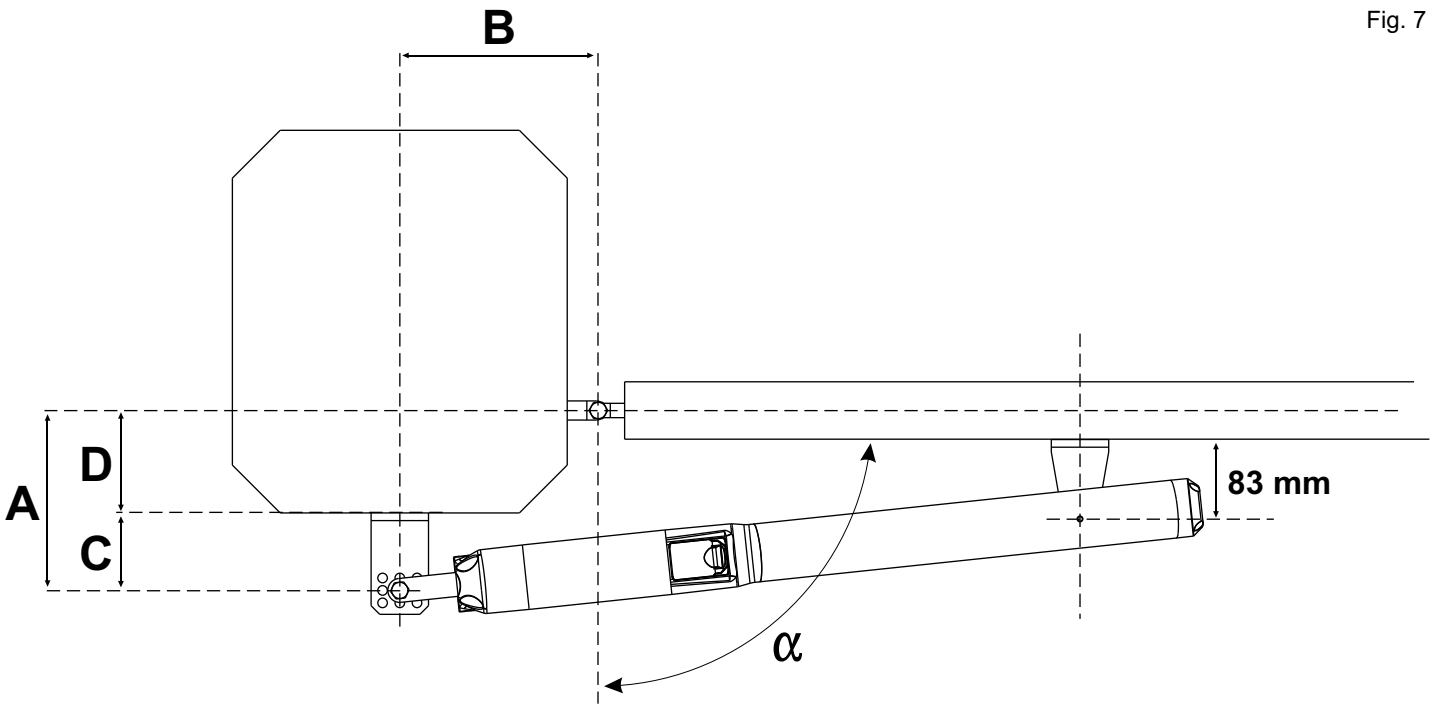
Fig. 6



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

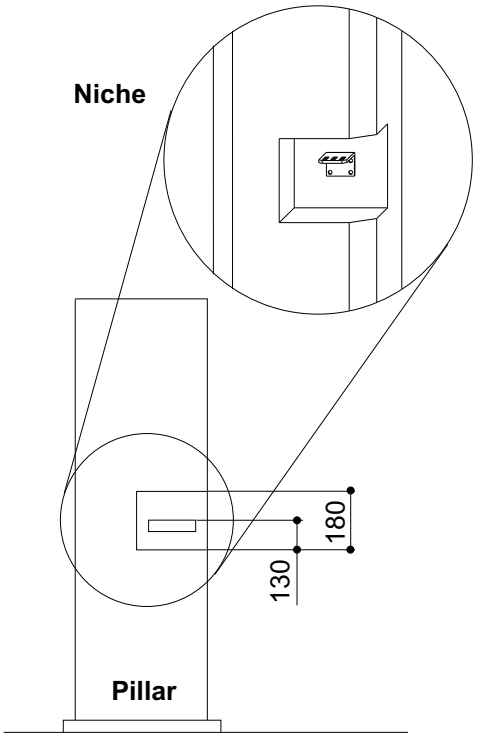
Total run mm

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 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

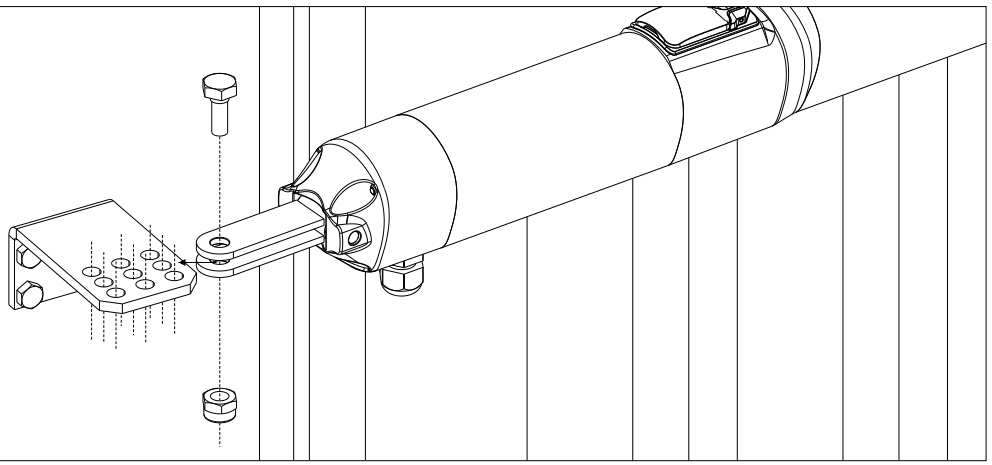
If you don t have to respect any angle or dimension limits of the column we suggest to apply the biggest possible values of A and B using the mounting plate holes

A mm	B mm	maxD	Maximum opening angle (α)	Maximum run (mm)	Run for ° 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)

Fig. 9



2.4. Release the arm (see paragraph 3)

2.5. Fix the front support (Fig. 10)

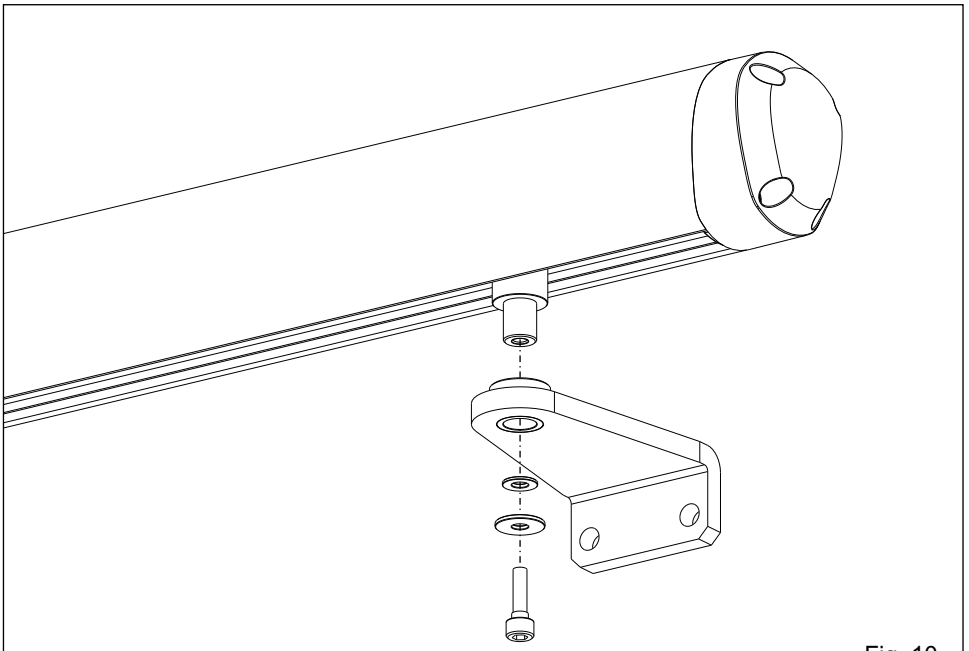


Fig. 10

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. 11

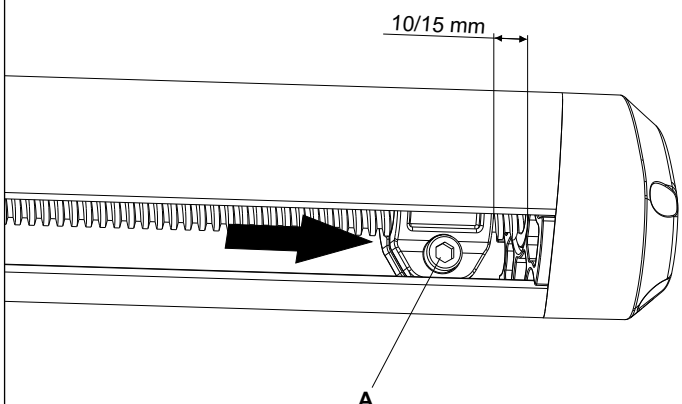
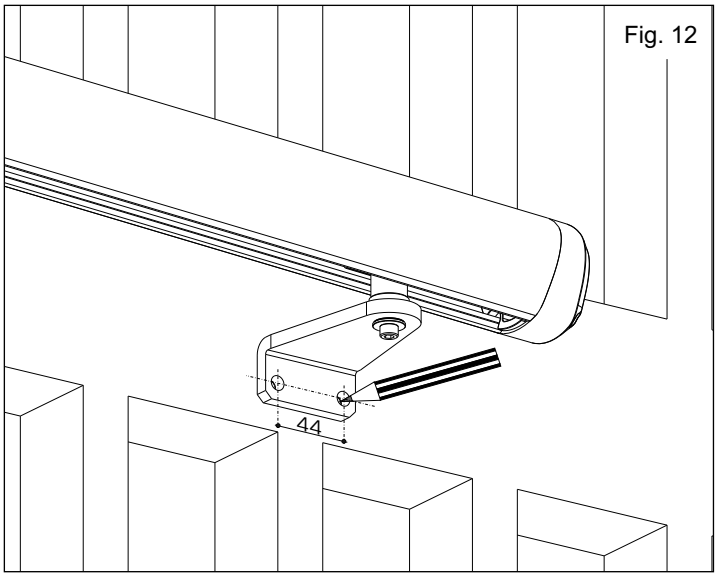


Fig. 12



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)

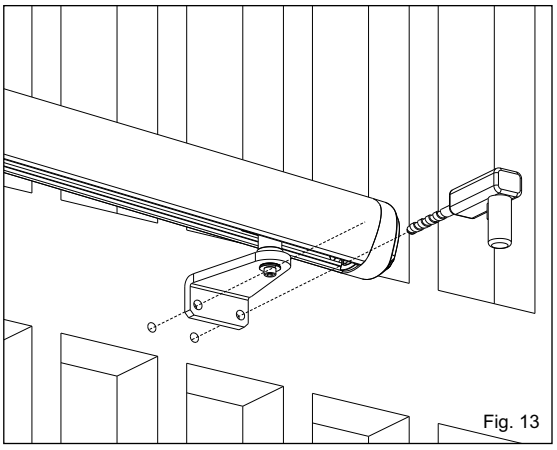


Fig. 13

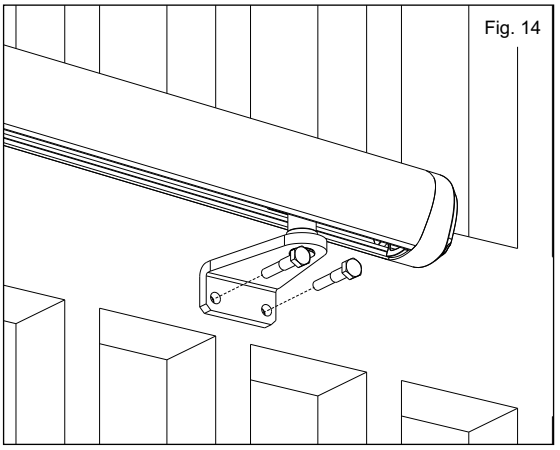


Fig. 14

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)

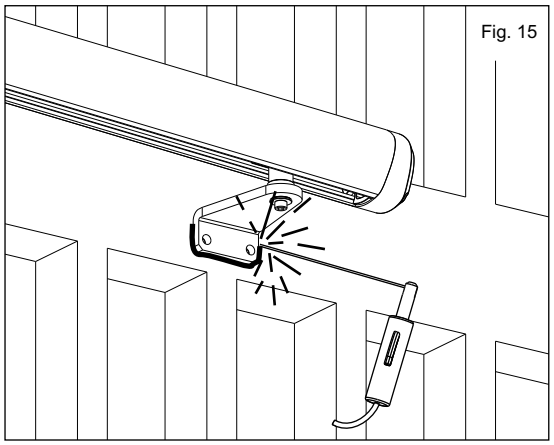


Fig. 15

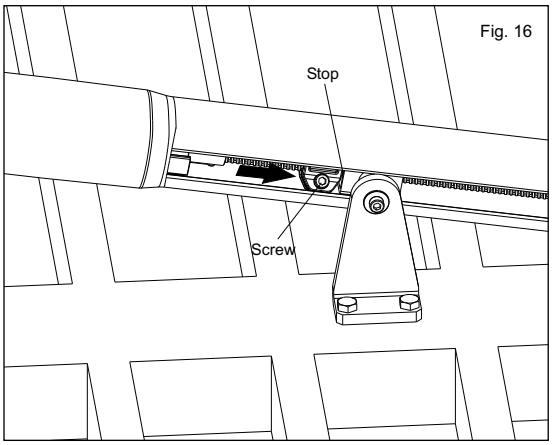


Fig. 16

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

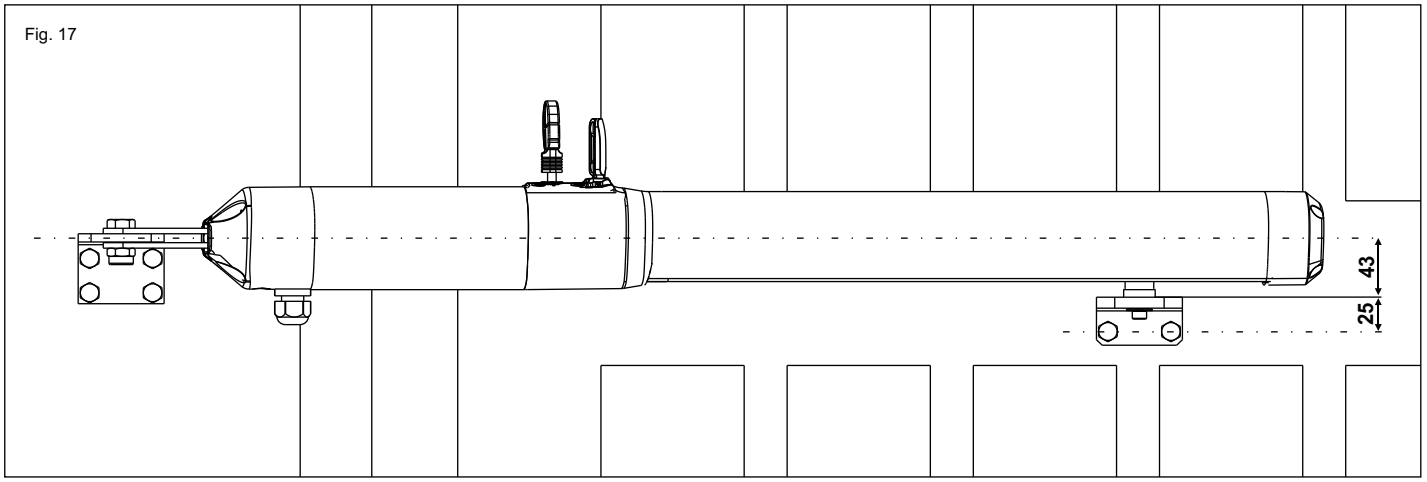


Fig. 17

3. RELEASE SYSTEM

3.1. To release the motor operate as follows:

1. Insert the release key into the fissure as in Fig. 17
2. Turn the release key about 180° in clockwise direction until reaching the stop, without over forcing (Fig. 18).

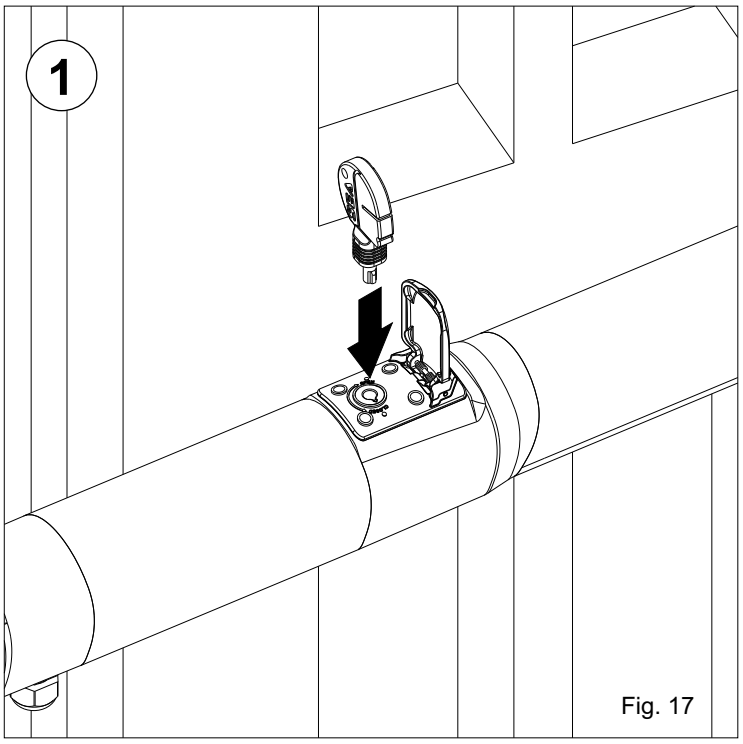


Fig. 17

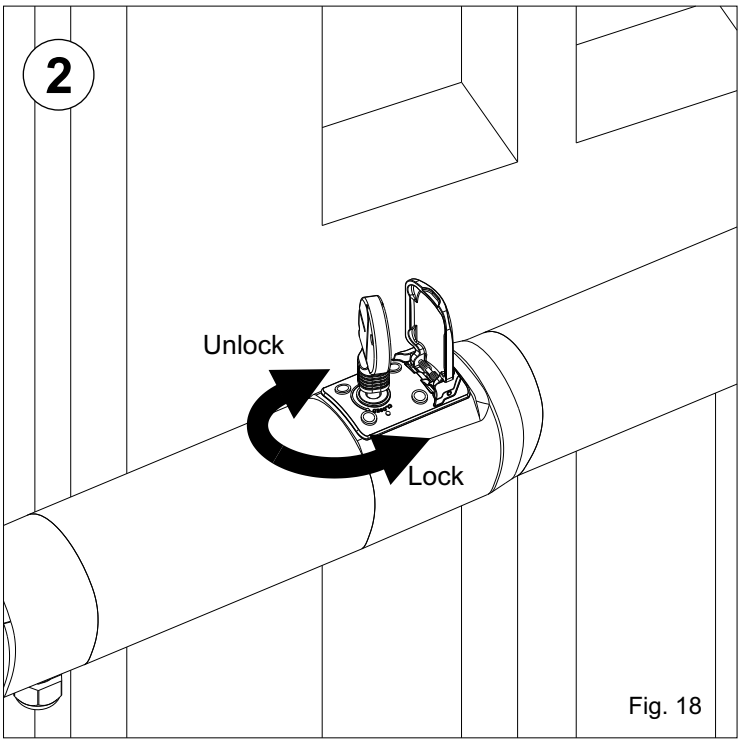


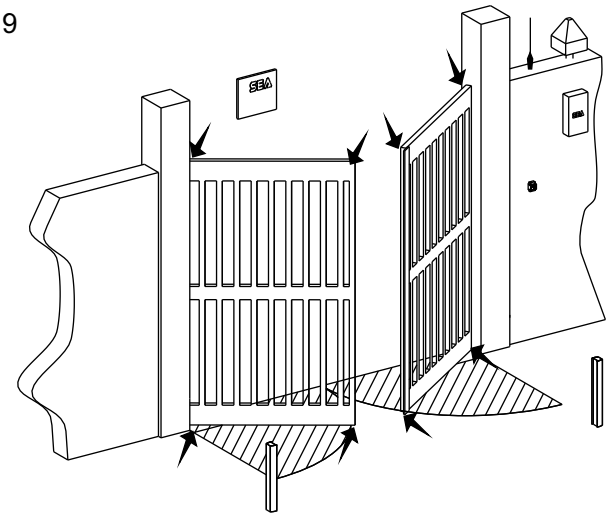
Fig. 18

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. 19 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).

Fig. 19



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.

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 functionally 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 valuated 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.**

DECLARATION OF CONFORMITY

SEA declares under its responsibility that the products
BETA
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 Mini Tank and Mark Tank operators are been designed to be solely used for the automation of swing gates.

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.

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.

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