



SEA[®]

Sistemi Elettronici
di Apertura Porte e Cancelli
International registered trademark n. 804888

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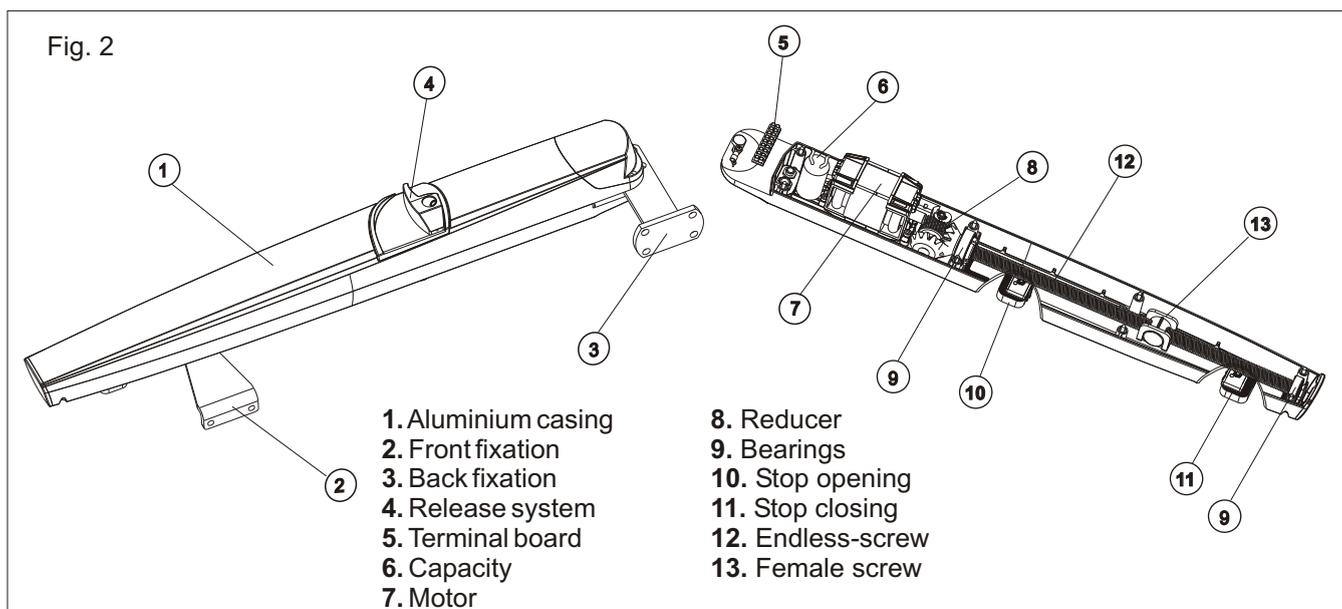
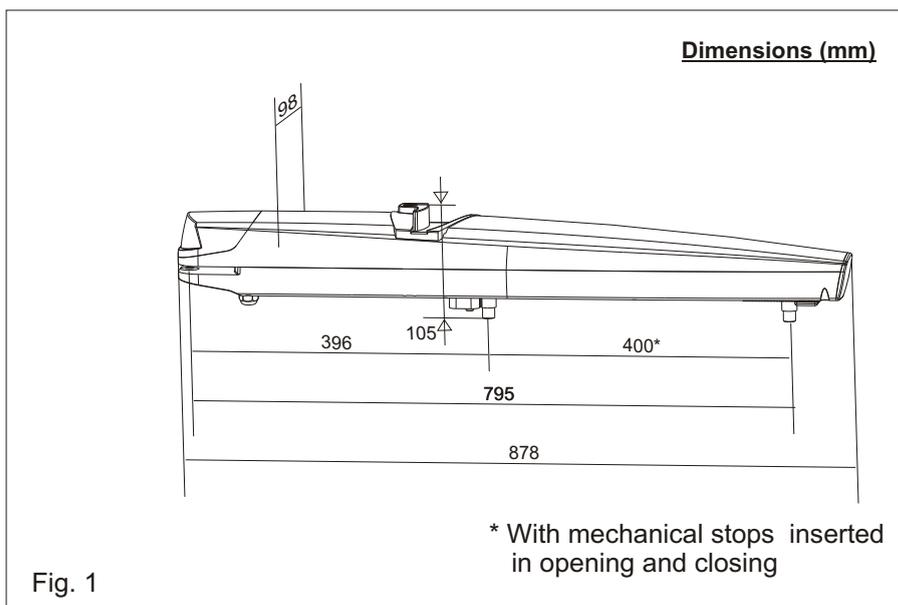
English

SURF



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TECHNICAL DATA	<i>SURF 250 - SURF 350</i>	<i>SURF 350 24V</i>
Power supply	230 V~ 50/60 Hz	24V ===
Motor power supply	230 V~ 50/60 Hz	24V ===
Max. Power	180 W	70 W
Max. Absorbed current	0,90 A	2,5 A
Stroke	400 mm	
Speed	1,6 cm/s	Adjustable
Cycle/hour (operating temp. 20°C)	35	70
Operating temperature	-20°C / +50°C	
Motor thermal protection	130°C	/
Max. thrust	2000 N	
Capacitor	6,3 uF	/
Operator weight	7,5 kg	7,8 kg
Protection	Ip44	
Max. Leaf length	2,5 m - 3,5m	3,5 m
Leaf opening degree	90° - 120°	

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

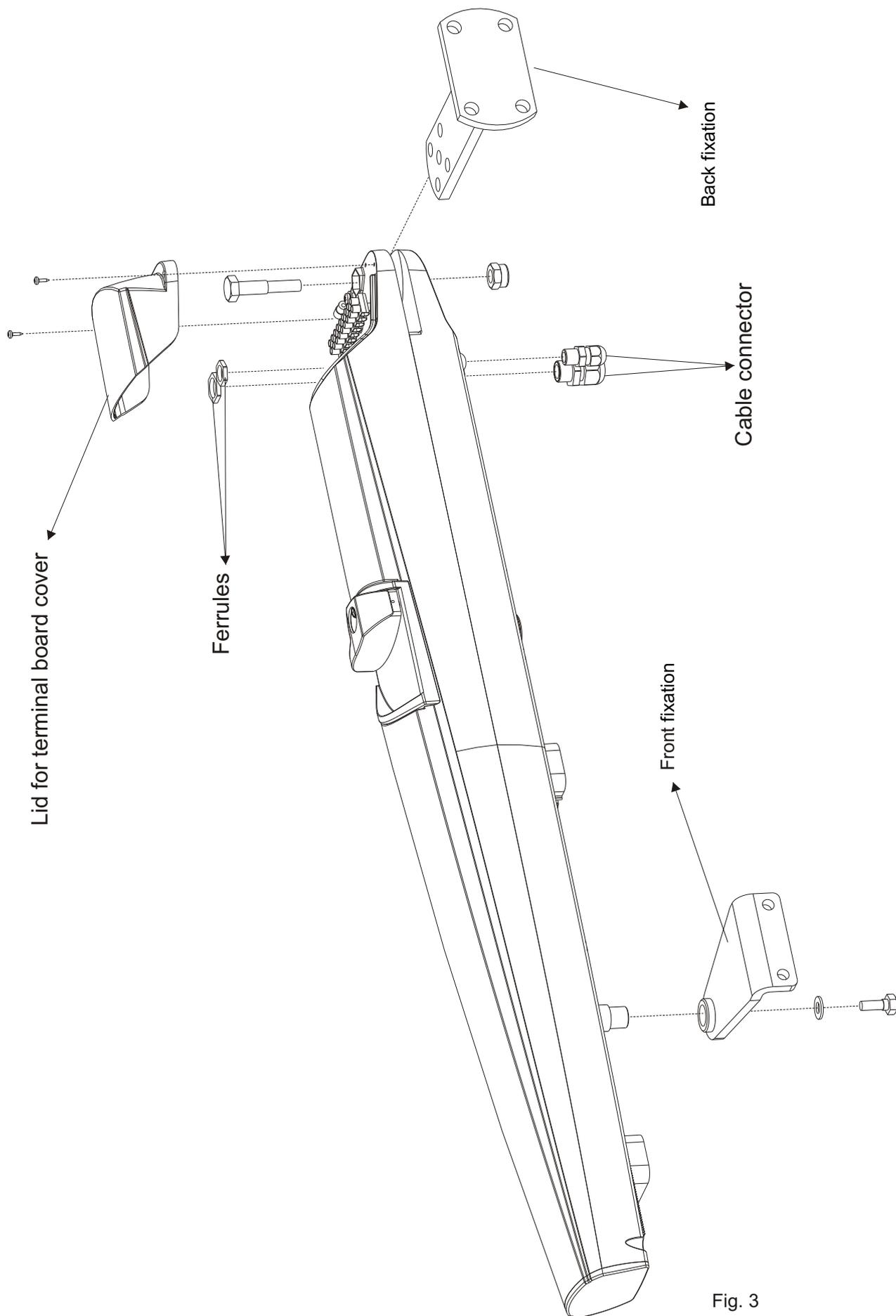


Fig. 3

STANDARD INSTALLATION Model SURF 230V

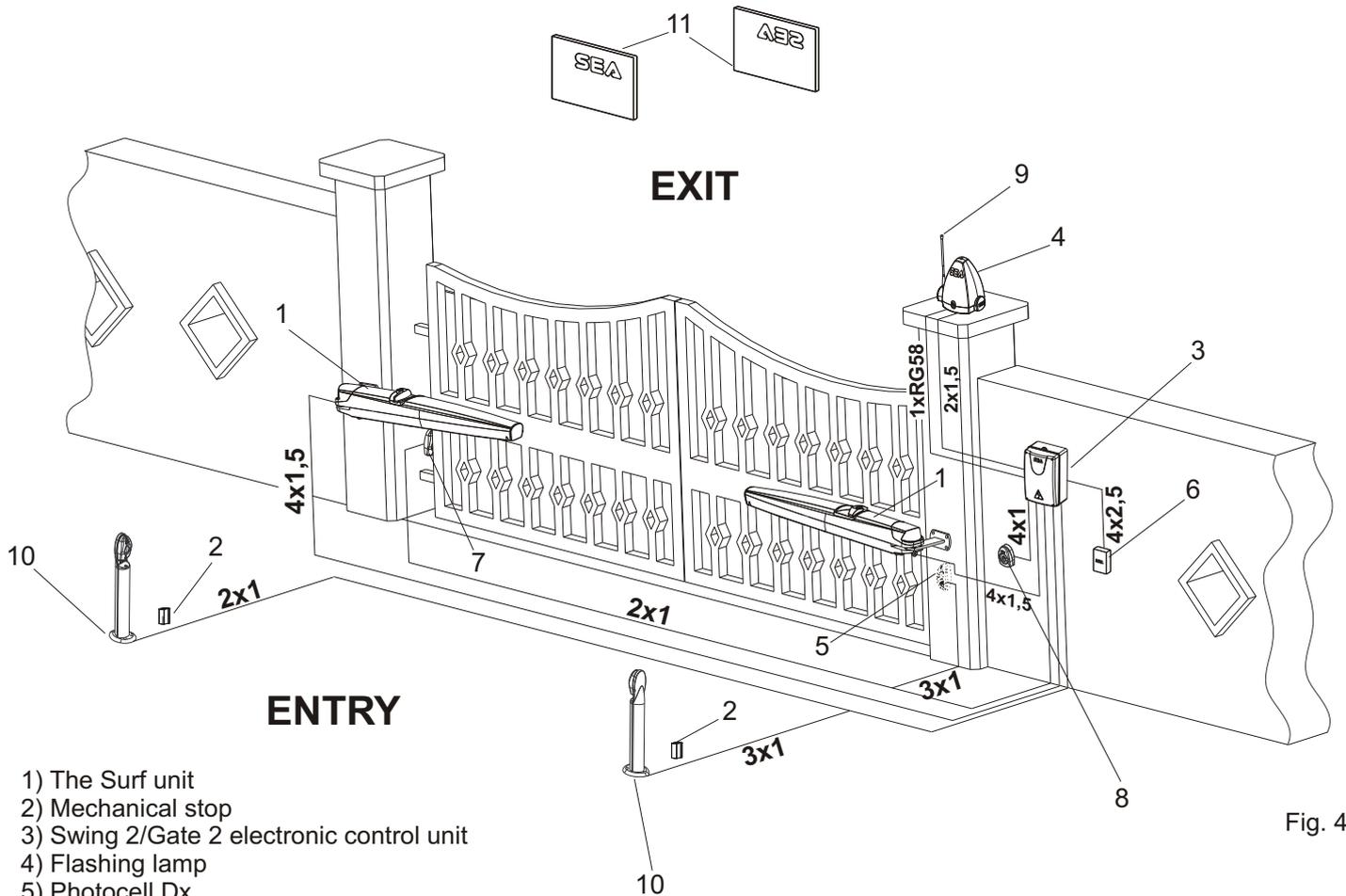


Fig. 4

- 1) The Surf unit
- 2) Mechanical stop
- 3) Swing 2/Gate 2 electronic control unit
- 4) Flashing lamp
- 5) Photocell Dx
- 6) Differential switch 16A - 0,03A
- 7) Photocell Sx
- 8) Start - stop push button with key
- 9) Antenna
- 10) Support for photocells with photocells
- 11) Warning notice

Note:
The motor must be mounted with the release turned up (Fig. 5)

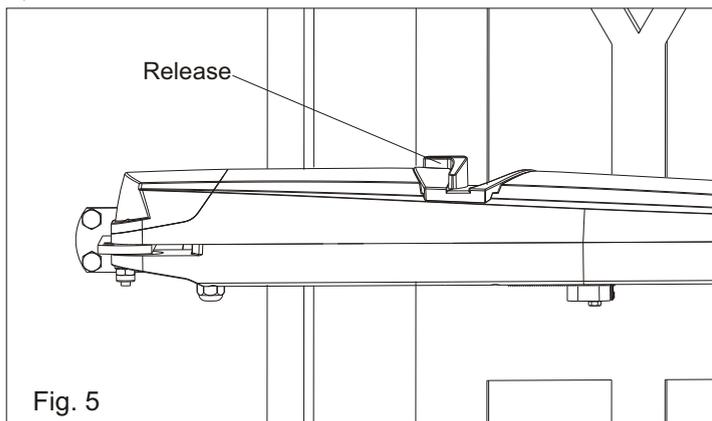
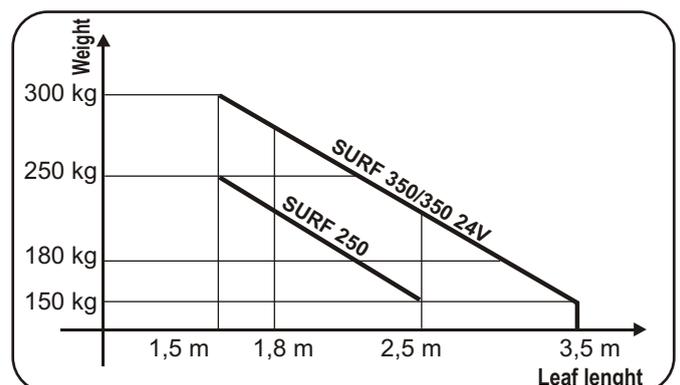


Fig. 5

SURF 250 - SURF 350/350 24V

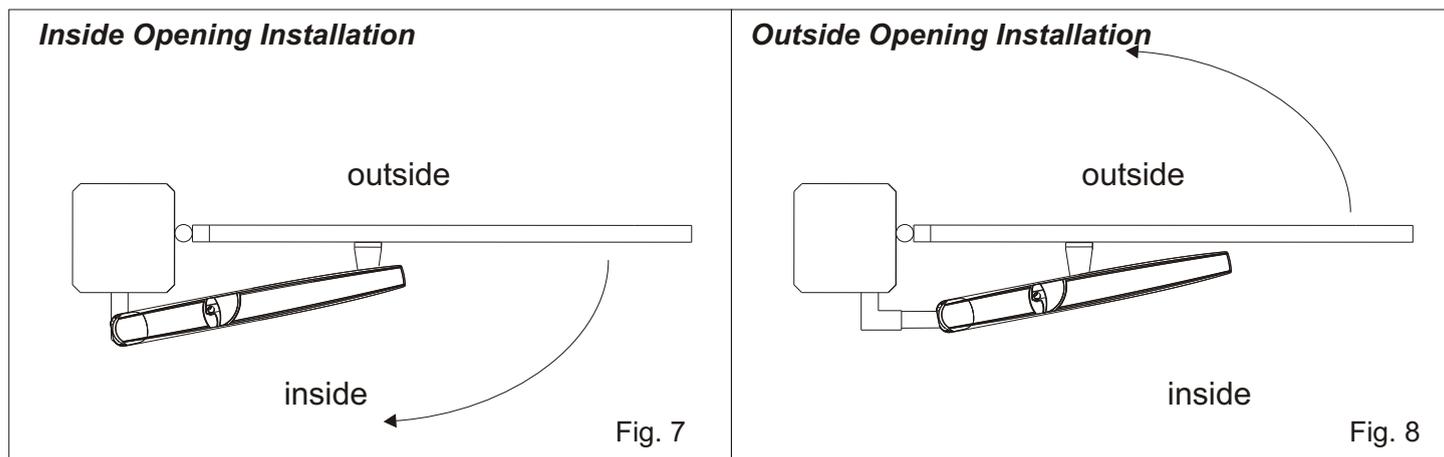
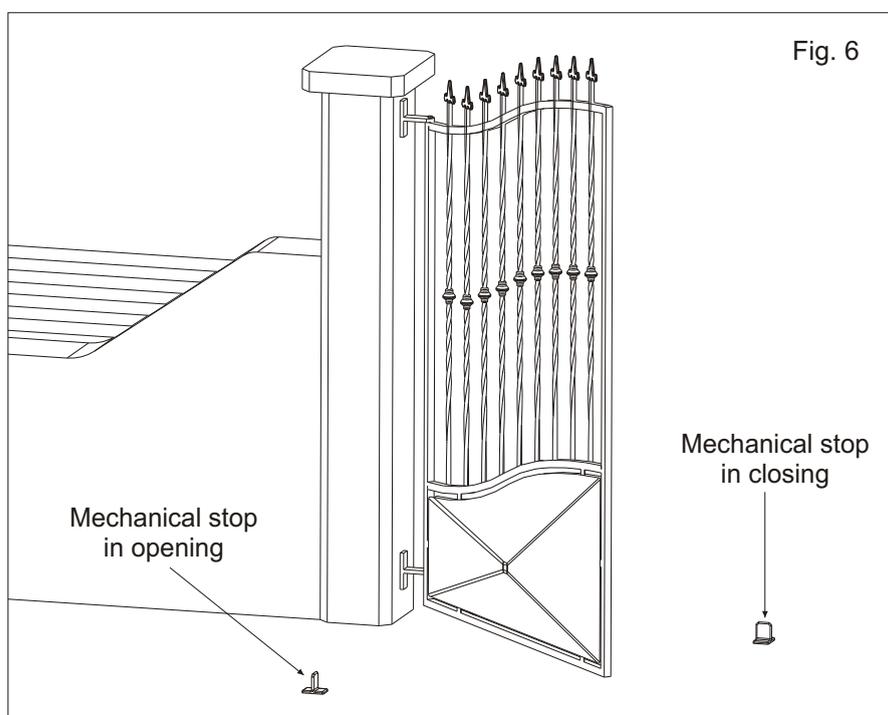


GATE ARRANGEMENT

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 length of each gate leaf must not exceed 3,5 m for SURF 350/350 24V and 2,5 m for SURF 250, always respecting the graph;
- C.** the weight of each gate leaf must not exceed 300 kg for SURF 350/350 24V and 250 kg for SURF 250 always respecting the graph;
- D.** The hinges and general structure must be in good conditions and the gate must move smoothly throughout its whole travel;

The SURF operator already comes with adjustable mechanical stops. Where possible, it is advisable to install limit switch stops on the ground for a good functioning of the operator.



INSIDE OPENING INSTALLATION

Total stroke 400 mm - max. recommended stroke 380 mm

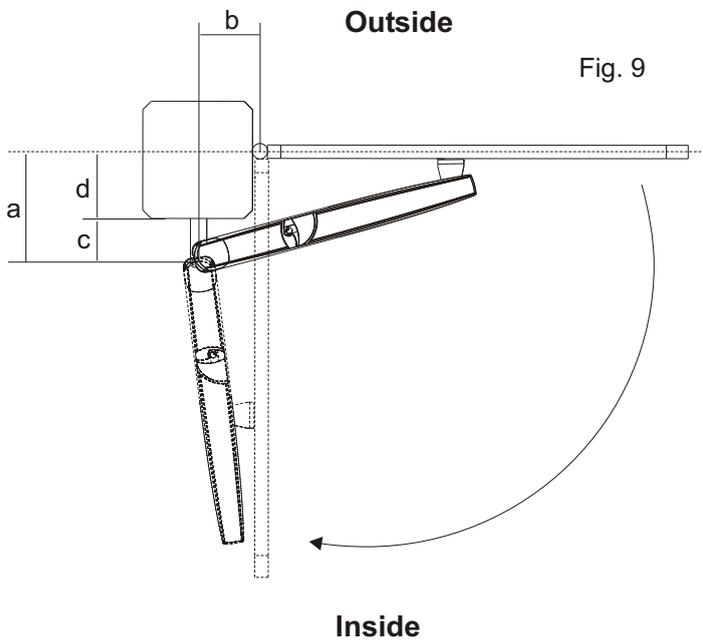


Fig. 9

a (mm)	b (mm)	d _{max} (mm)	Max. Opening Angle	Max. Stroke (mm)	Stroke for 90°(mm)
180	160	50	115°	390	340
130	170	50	130°	370	300
200	140	70	110°	370	340
140	160	70	120°	360	300
210	130	80	105°	365	340
150	150	80	115°	345	300
230	110	100	100°	360	340
170	130	100	110°	330	300
250	100	120	98°	365	355
190	110	120	105°	320	300
260	100	140	95°	375	370
210	100	140	100°	320	310
260	100	160	90°	380	
230	100	160	95°	340	335
280	90	180	90°	380	
250	90	180	95°	355	350
280	90	200	90°	380	
270	90	200	92°	375	370
300	70	220	90°	380	
290	70	220	91°	375	370
310	60	240	90°	380	
310	60	240	90°	380	

OUTSIDE OPENING INSTALLATION

Total stroke 400 mm - max. recommended stroke 380 mm

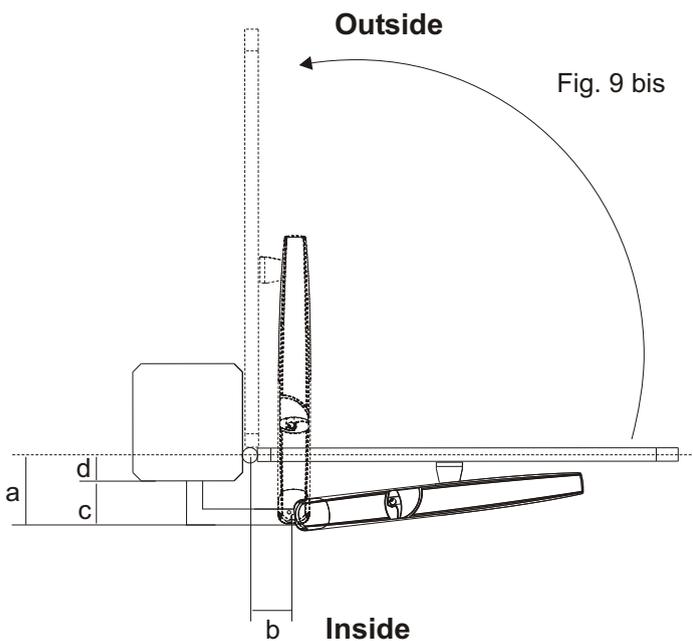
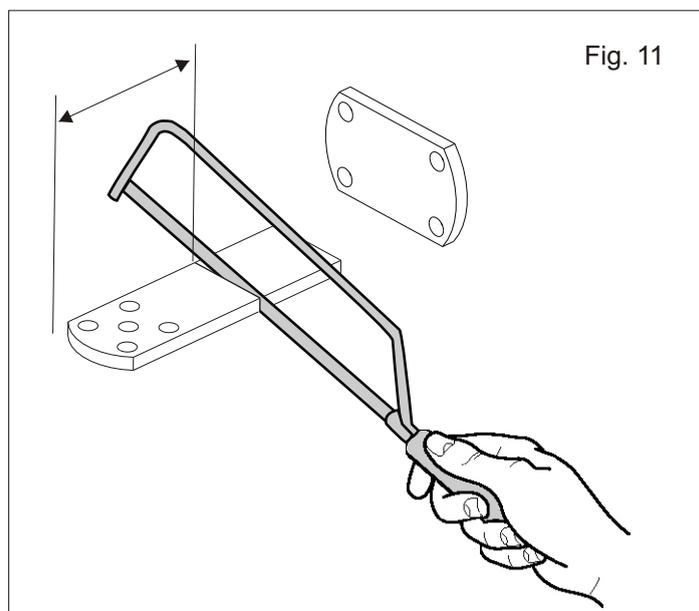
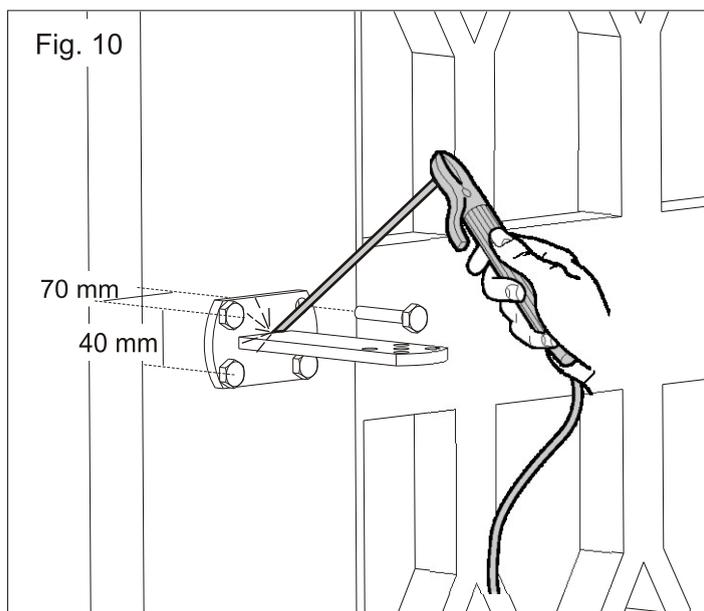


Fig. 9 bis

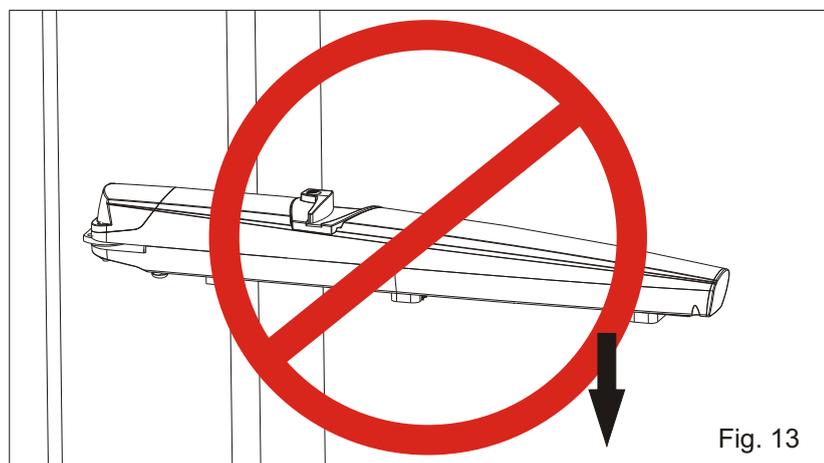
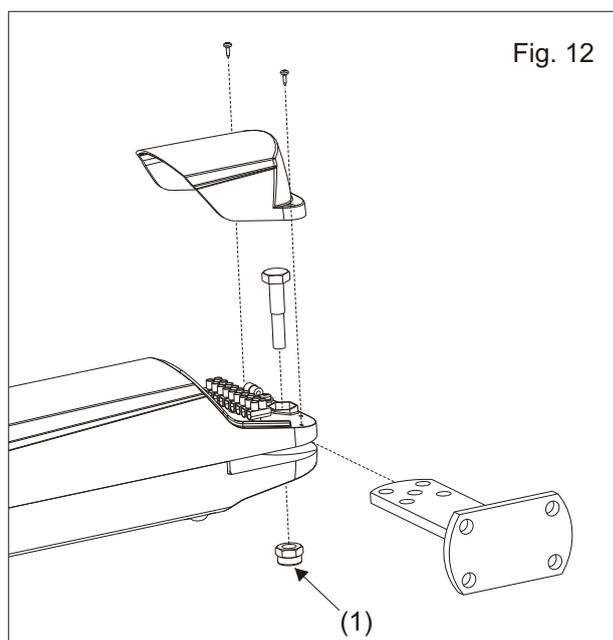
a (mm)	b (mm)	Max. Opening Angle	Max. Stroke (mm)	Stroke for 90°(mm)
130	70	90°	210	
130	80	95°	225	220
130	90	98°	240	230
130	100	100°	255	240
150	70	90°	230	
150	80	94°	245	240
150	90	97°	260	250
150	100	100°	275	260
180	70	90°	260	
180	80	93°	272	267
180	90	95°	285	275
180	100	98°	300	285
200	70	90°	275	
200	80	93°	290	285
200	90	95°	300	290
200	100	97°	315	300

INSTALLATION OF THE OPERATORS

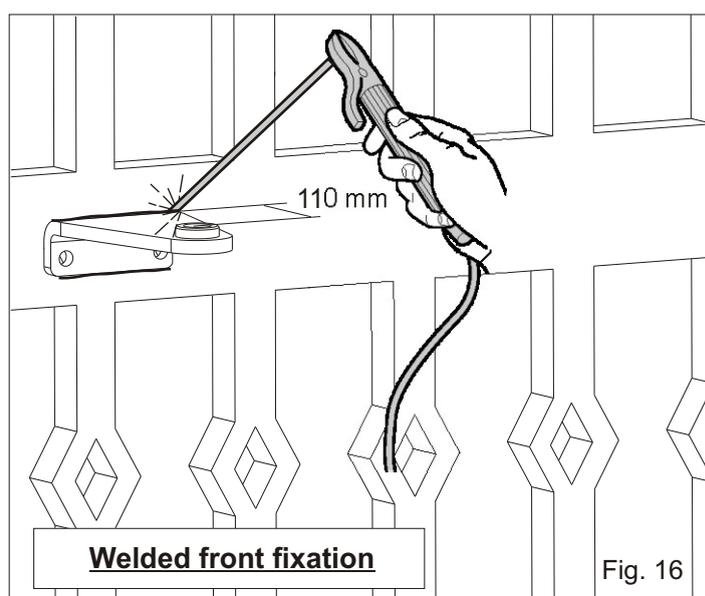
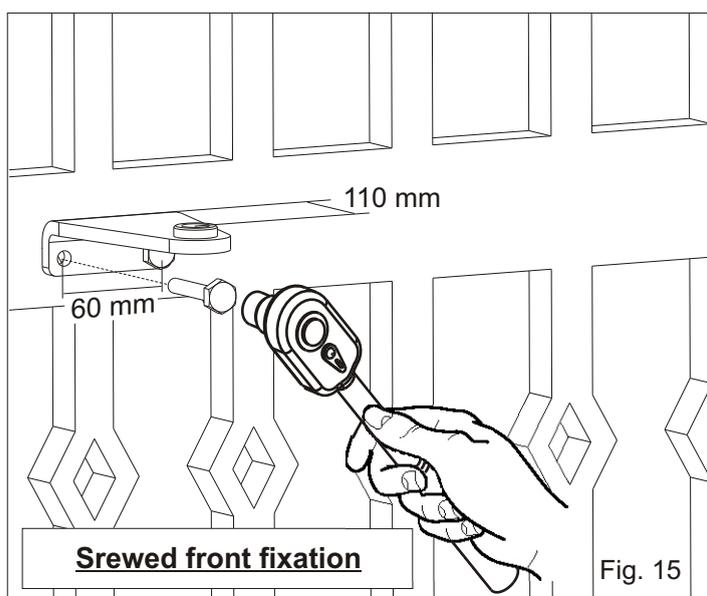
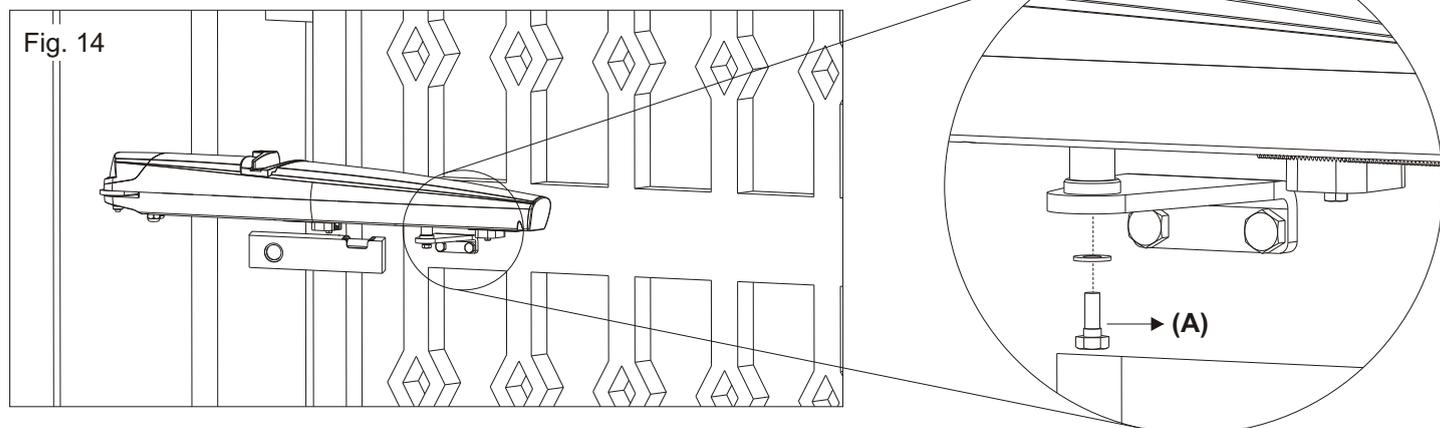
N.B.: During assembling the back and front fixations lubricate with water-repellent grease. Cut the back fixation as in fig.11 on the base of the chosen fixations A and B.



When tightening the nut (1) make sure to not lock the rotation of the operator on the back fixation.

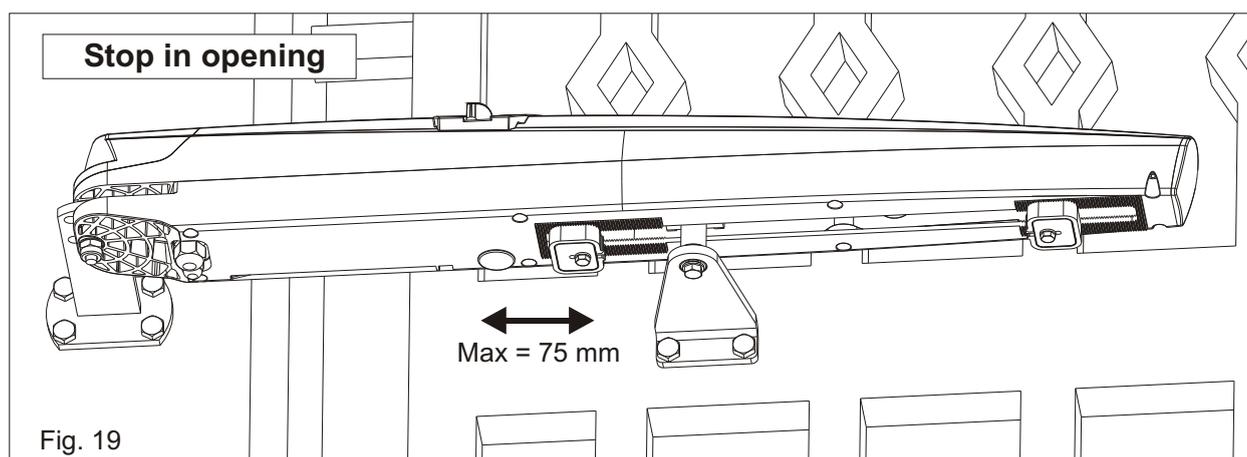
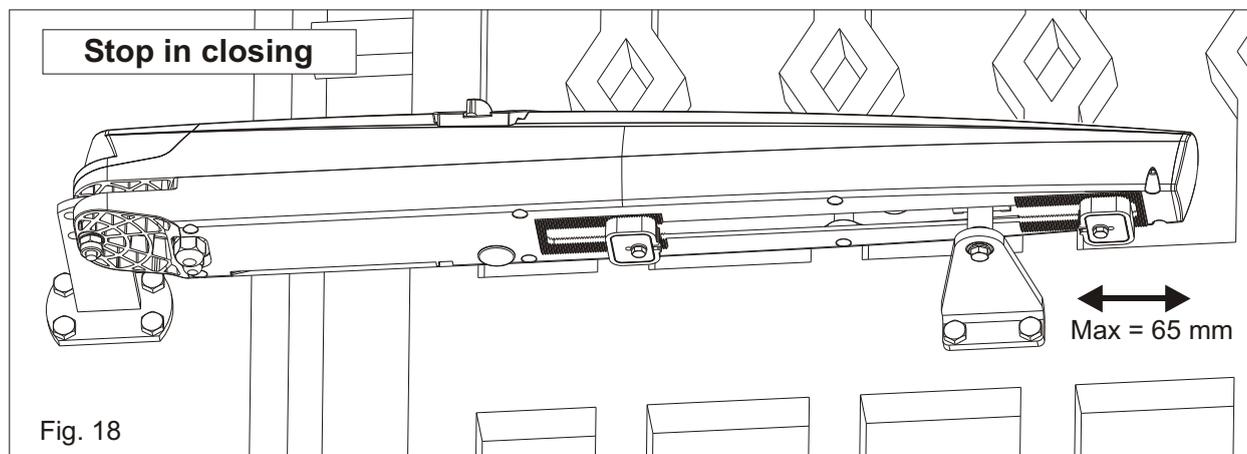
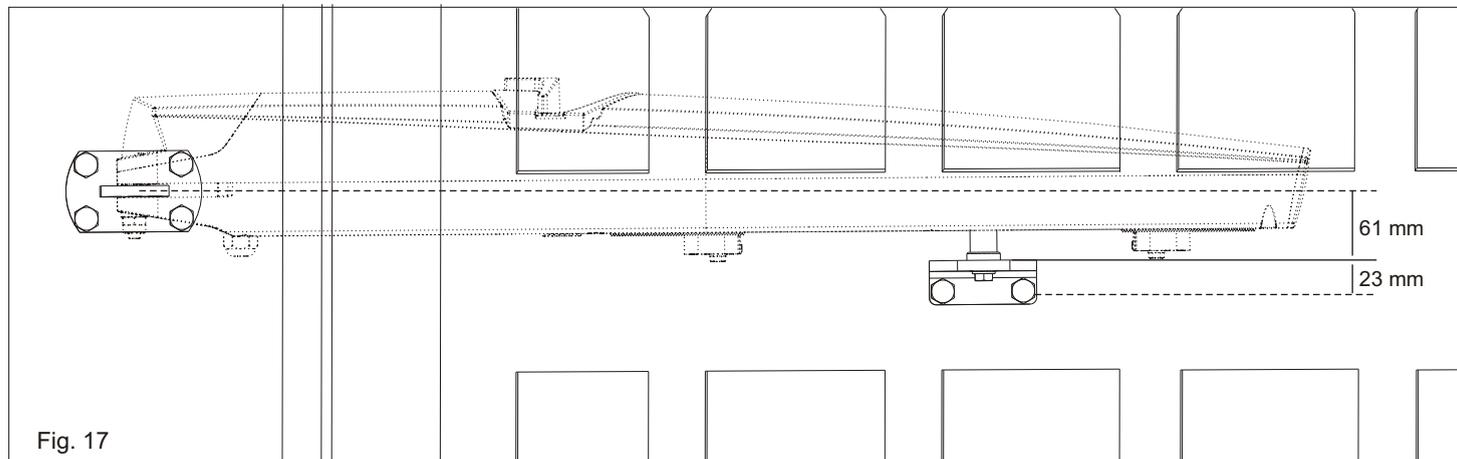


Release the operator.
 Assembling of the motor on the front fixation.
 Tighten the screw (A) at max 8,5 Nm.



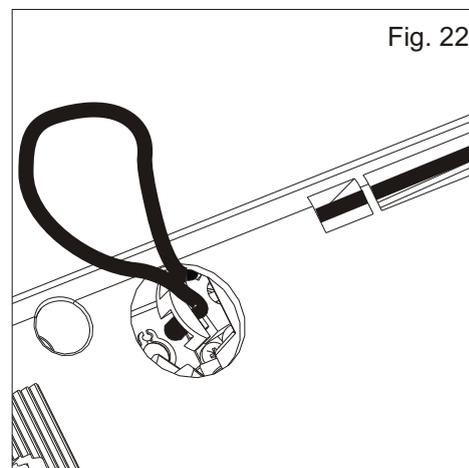
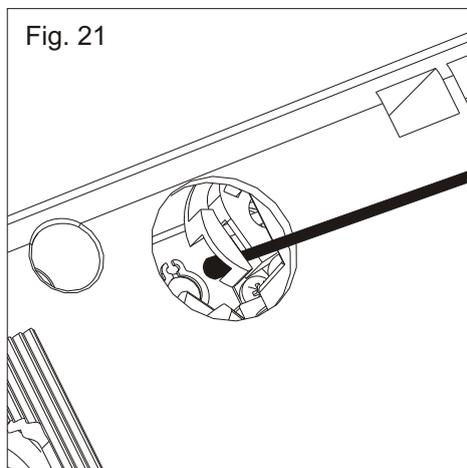
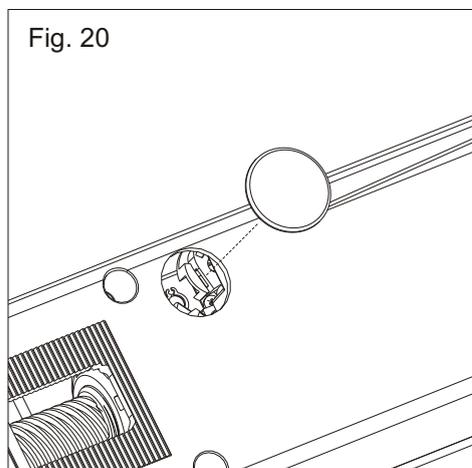
NOTE:

When placing the front fixation on the gate, consider the shift in comparison to the central axle of the operator (Fig. 17).

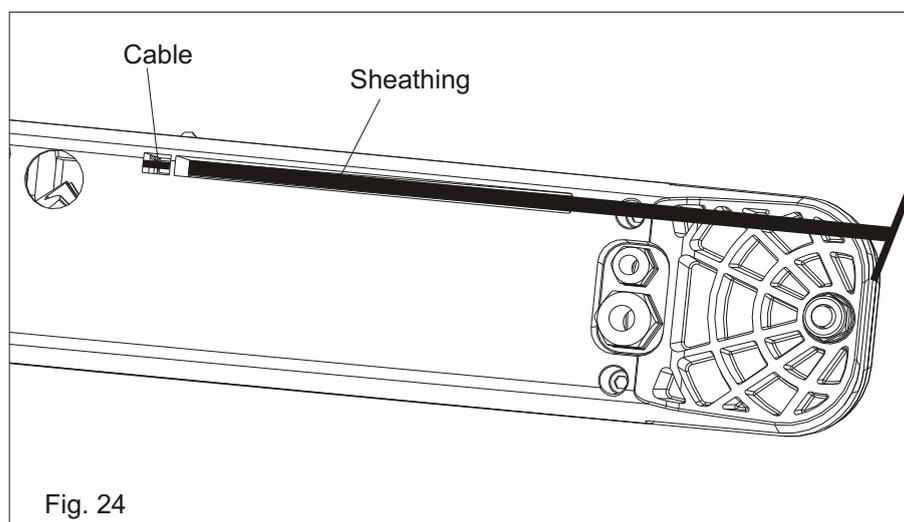
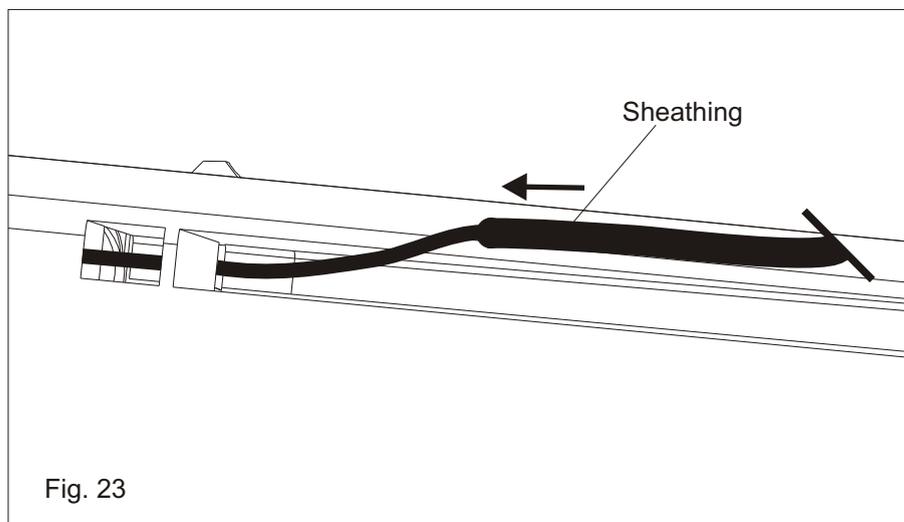


EXTERNAL RELEASE SYSTEM

- Open the cap (fig.20)

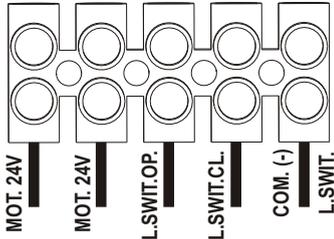


- Insert the release cable through the cam fissure (as in fig.21)
- Insert the opposite end of the cable inside the cable passage and make it come out from the opening on the inferior part of the Surf casing (fig.22).
- Insert the sheathing on the cable (fig.23)
- Connect the cable with the external security box.



CONNECTIONS

24V With mech. and elect. limit switch



⚠ ATTENTION:
The limit switches must be used only for the connection to the control units and not directly connected to the electric motor.

250 Without limit switch/ Without Encoder

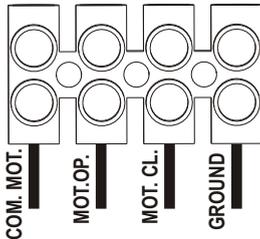
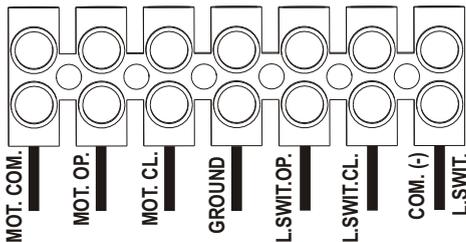


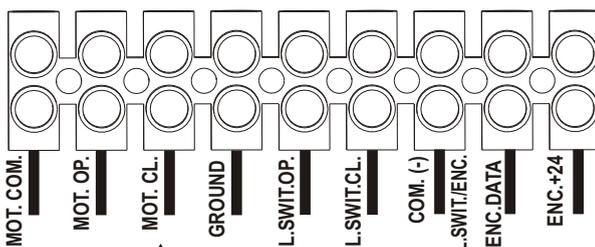
Fig. 25

350 With limit switch

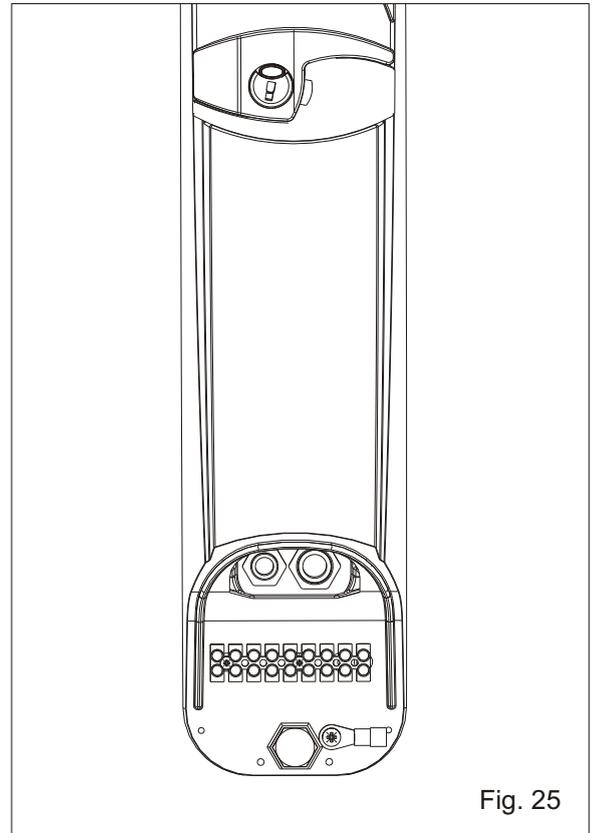


⚠ ATTENTION:
The limit switches must be used only for the connection to the control units and not directly connected to the electric motor.

350 With limit switch/ Encoder



⚠ ATTENTION:
The limit switches must be used only for the connection to the control units and not directly connected to the electric motor.

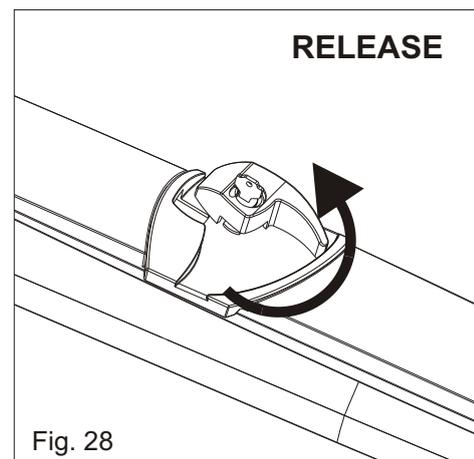
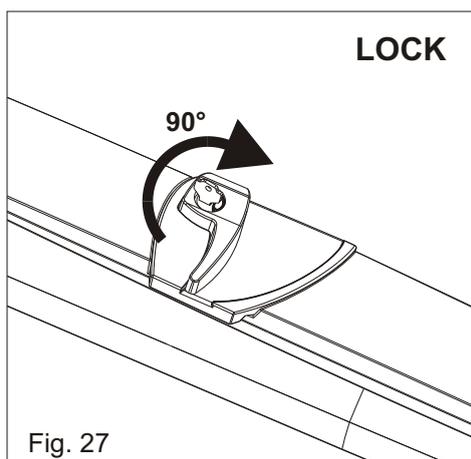
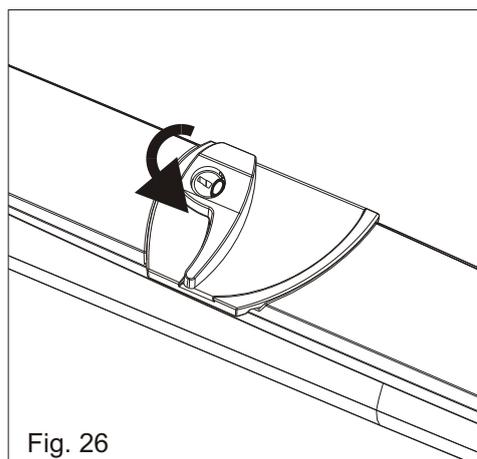


To the attention of users and technicians

INSIDE RELEASE SYSTEM

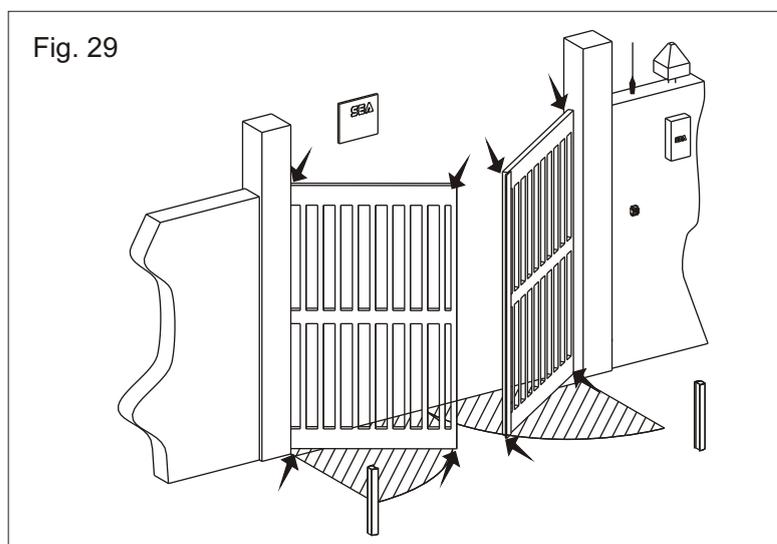
- Open the cap of lock protection (fig.26);
- Insert the key and turn about 90° clockwise (fig.27);
- Turn the lever anti-clockwise to release the operator (fig.28).

N.B.: When locking the operator again re-insert the cap of release protection.



RISK EXAMINATION

The points pointed by arrows in Fig. 29 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

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.

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 SURF 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**.

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 SURF operator is 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.

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.