

SEA
Automazione Porte
e Cancelli

English

HYDRAULIC SWING GATE OPERATOR

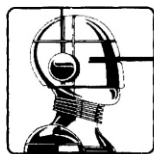
HALF TANK



INSTALLATION MANUAL and security information

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CHARACTERISTICS AND SPECIFICATIONS

The **HALF TANK 100** and **HALF TANK 200** products are two high quality hydraulic operators for condominium use for leaf lengths up to respectively 6 and 7 meters with electric lock.

Available in the following versions:

AC (with lock in opening and closing)

SC (with lock only in closing)

SA (with lock only in opening)

SB (without lock)

Hydraulic locking is guaranteed on gates with length up to 1.80 m with the Half Tank 100 operator while for lengths up to 2.20 m use the Half Tank 200. An electric lock should be used for leaves (in all versions) exceeding those lengths.

Both products Half Tank 100 and 200 are provided with by pass valves for the force adjustment in both opening and closing. The slowdown in opening and closing is electronically carried out by the GATE 2 control unit. Following the rules and normatives valid in the European countries it is strongly recommended to use a Safety Gate. (Device for the reading of the exact gate position), necessary for the inversion of the leaf in case of obstacles.

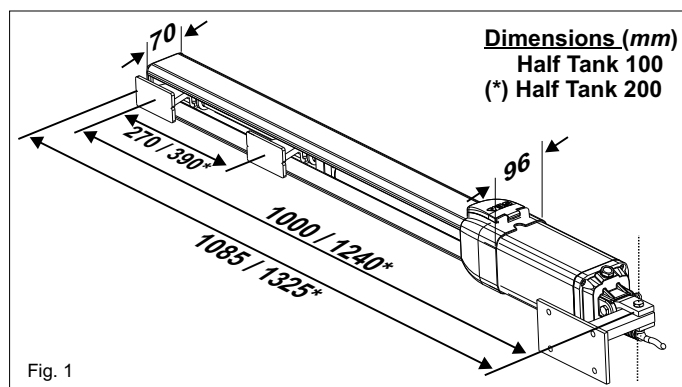
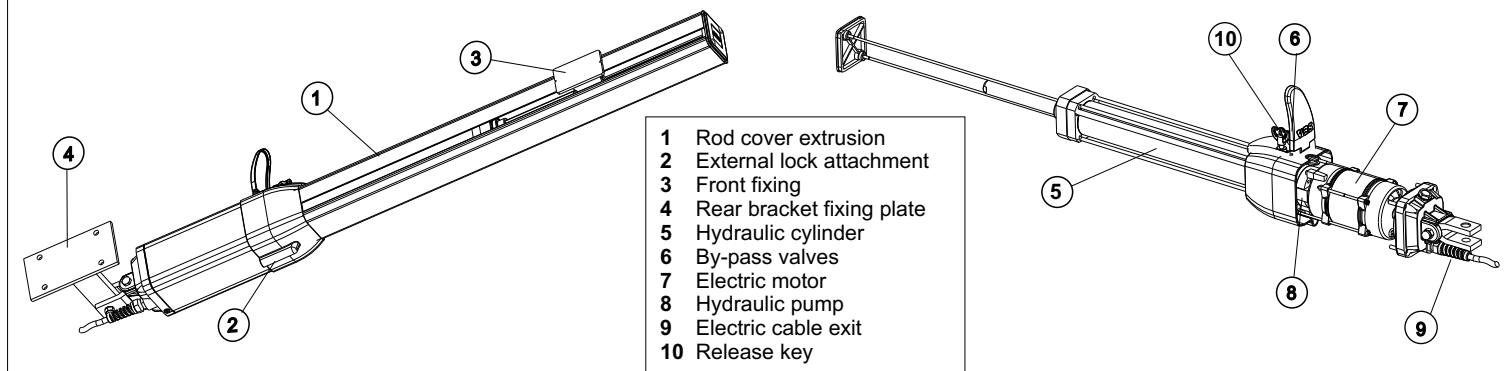
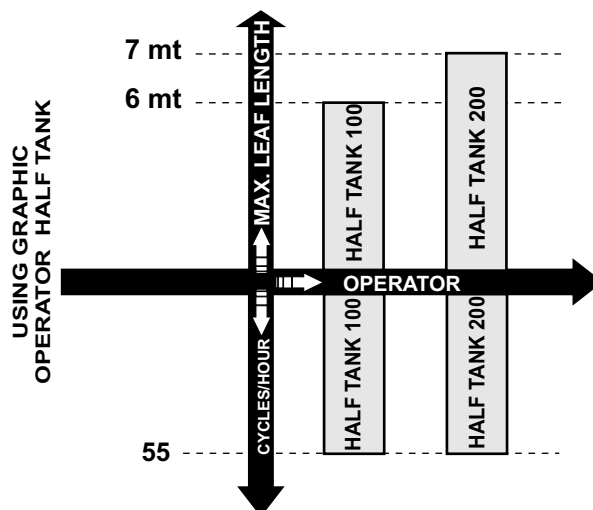


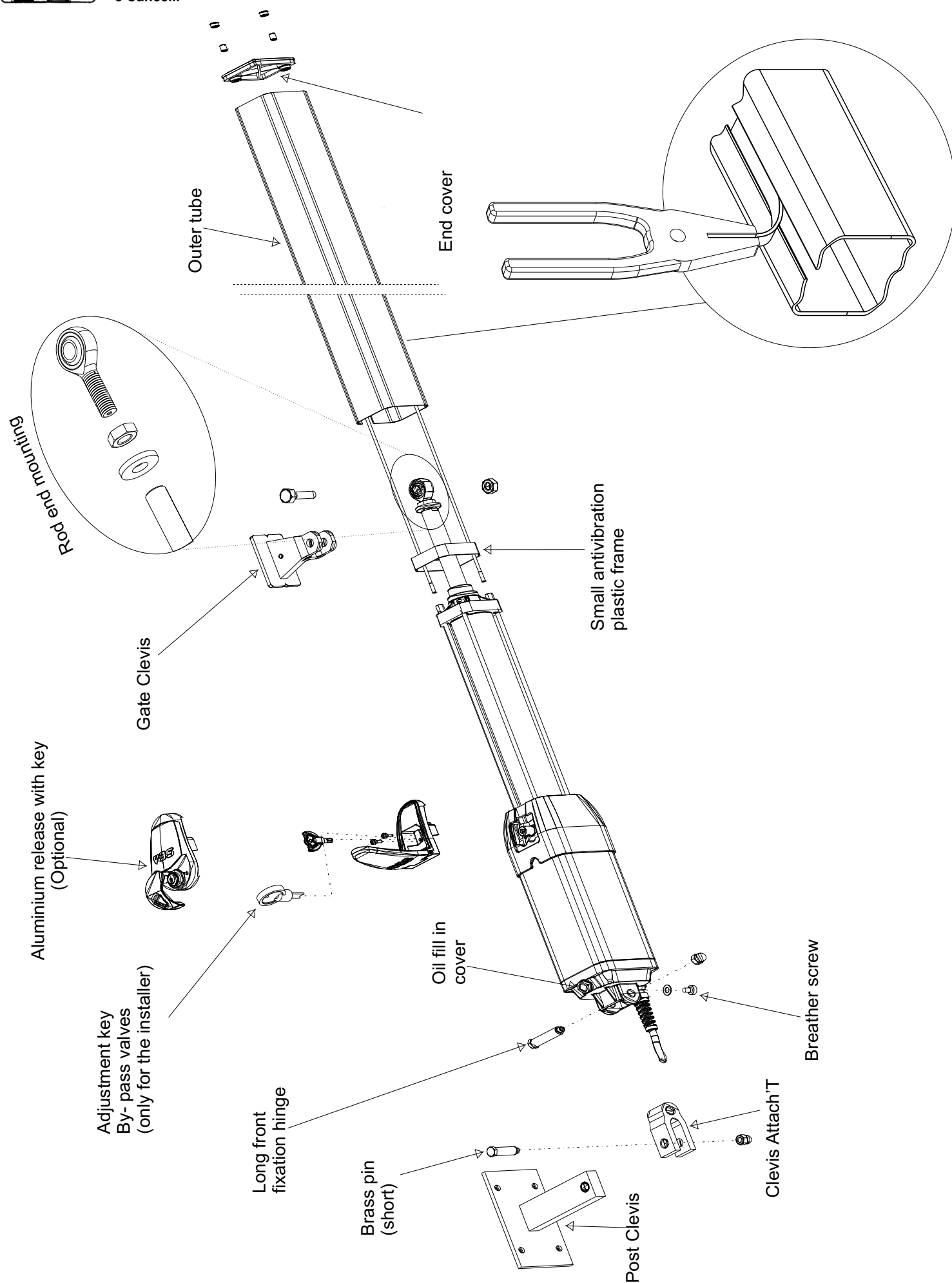
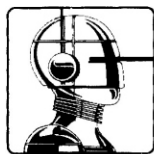
Fig. 1

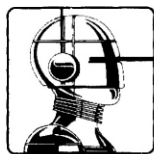
Fig. 2



TECHNICAL DATA	HALF TANK 100	HALF TANK 200
Power supply	230 V (±5%) 50/60 Hz	
Force	220 W	
Absorbed current	1 A	
Stroke	270 mm	390 mm
Cycle/hour (temp. of 20°C)	55	
Max working pressure	40 bar	30 bar
Operating temperature	-40°C +60°C	
Motor thermal protection	130°C	
Max. thrust	640 daN	470 da N
Capacity	12,5uF	
Weight	11,4 Kg	13,6 Kg
Protection	Ip55	
Max. Leaf length	6 mt	7 mt
Leaf opening degree	90° - 125°	





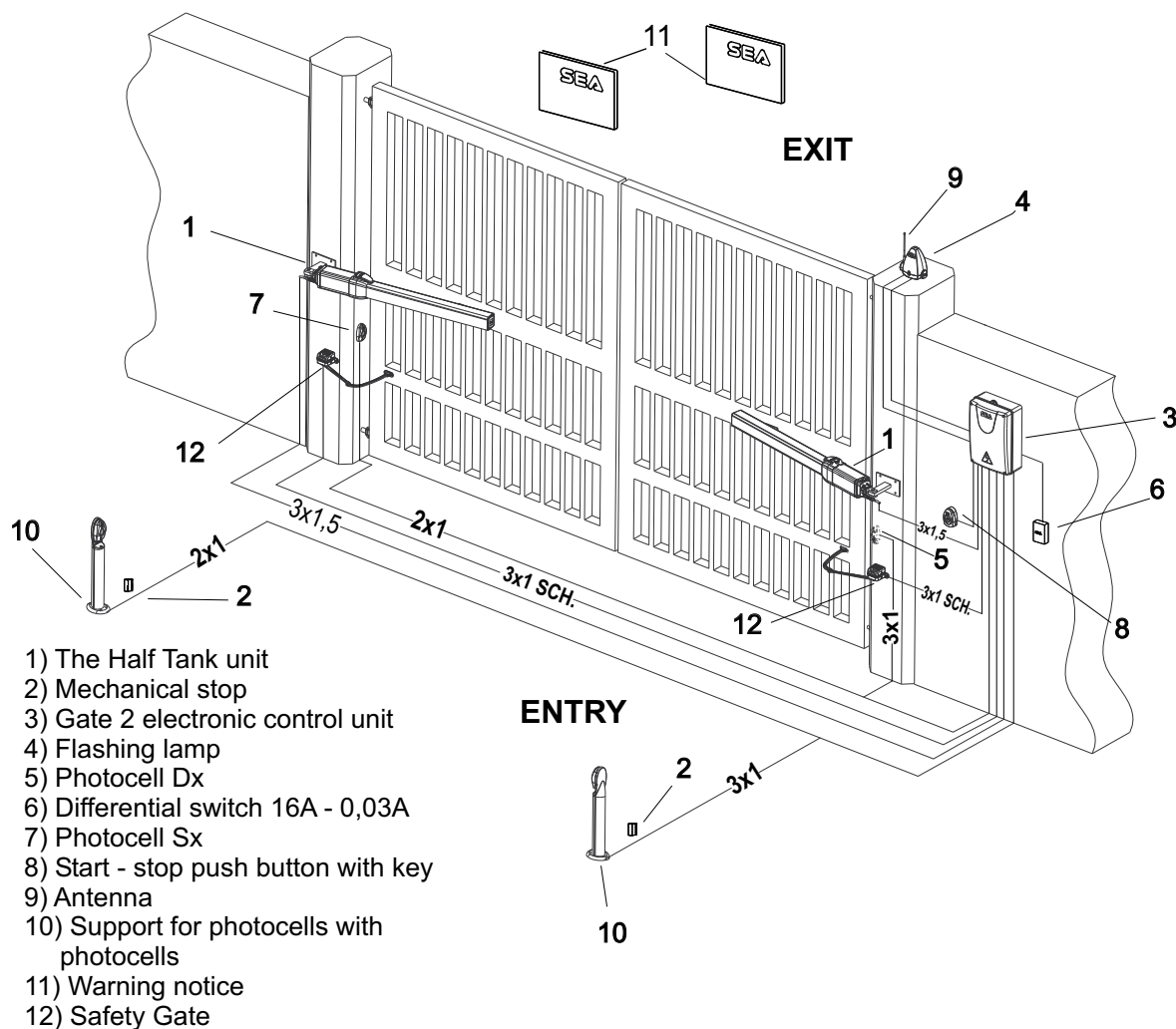


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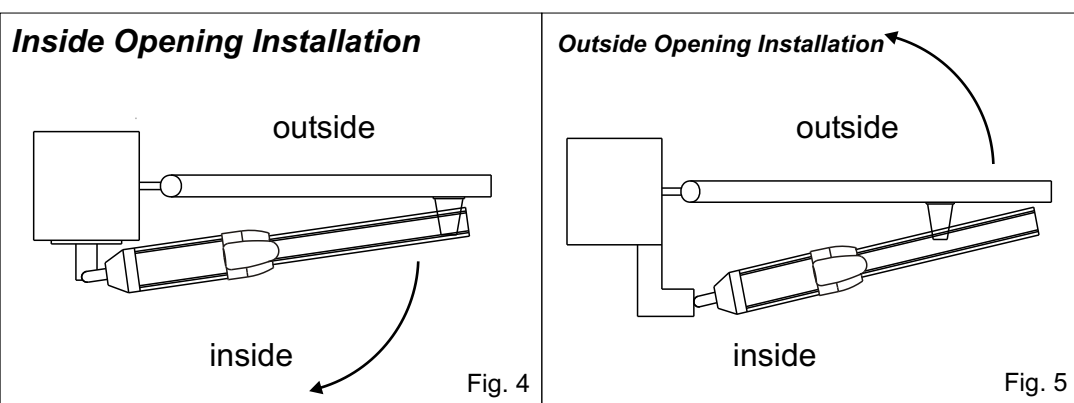
HALF TANK

STANDARD INSTALLATION

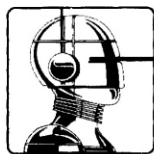


INSTALLATION TYPE

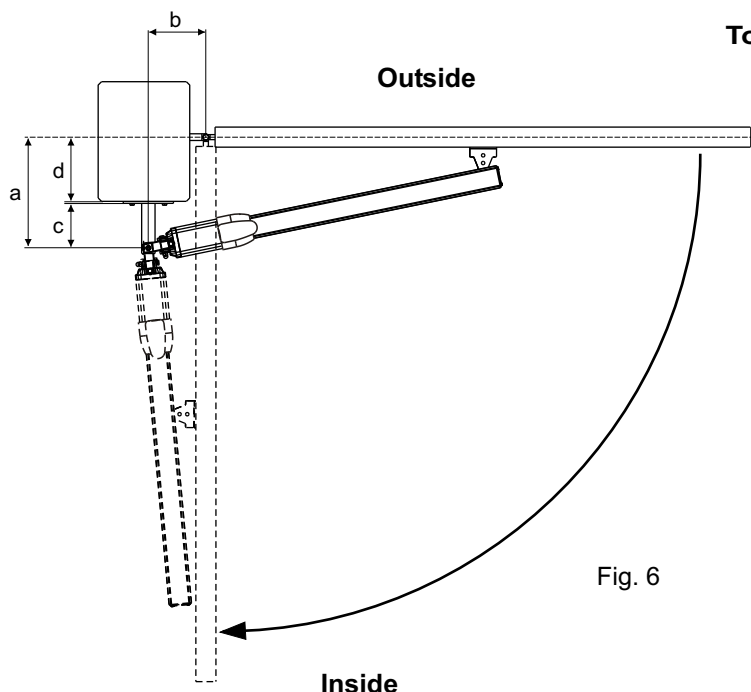
It is possible to install the Half Tank with the opening towards the inside (Fig. 14) or towards the outside (Fig. 15).



Install the operator always
on the inside of the
property



INSIDE OPENING INSTALLATION

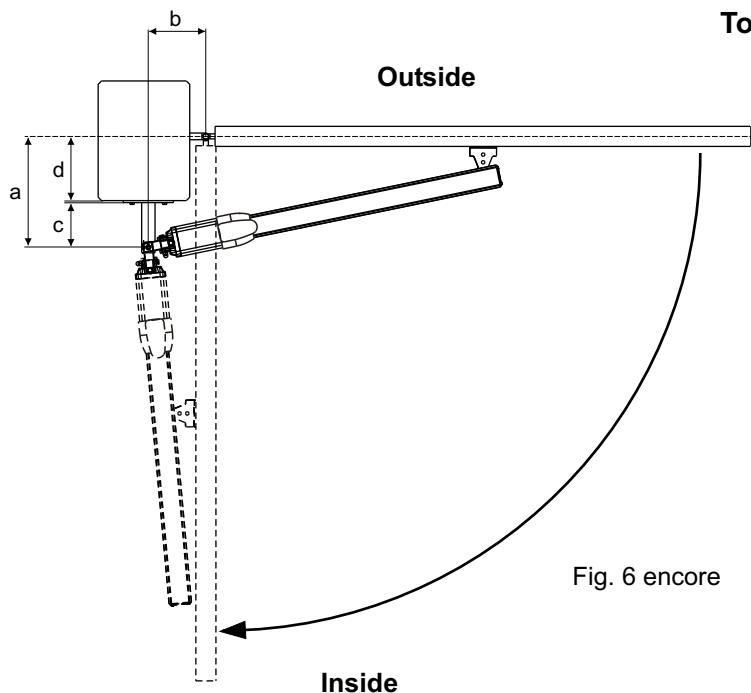


Total stroke 270 mm - max. recommended stroke 250 mm

a (mm)	b (mm)	d _{max} (mm)	Max. Opening Angle	Max. Stroke (mm)	Stroke for 90°(mm)
100	115	50	110°	250	215
100	150	50	90°	250	
105	110	55	110°	245	215
105	145	55	90°	250	
120	105	70	106°	250	225
120	130	70	90°	250	
125	125	75	90°	250	
140	95	90	100°	250	235
140	110	90	90°	250	
145	95	95	100°	255	242
145	105	95	90°	250	
150	100	100	90°	250	
155	85	105	96°	250	242
160	90	110	90°	253	
170	75	120	92°	250	
180	65	130	92°	250	

To obtain 110° with d > 55 mm it is necessary to make a niche in the gate.

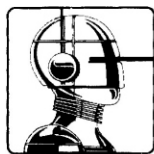
INSIDE OPENING INSTALLATION



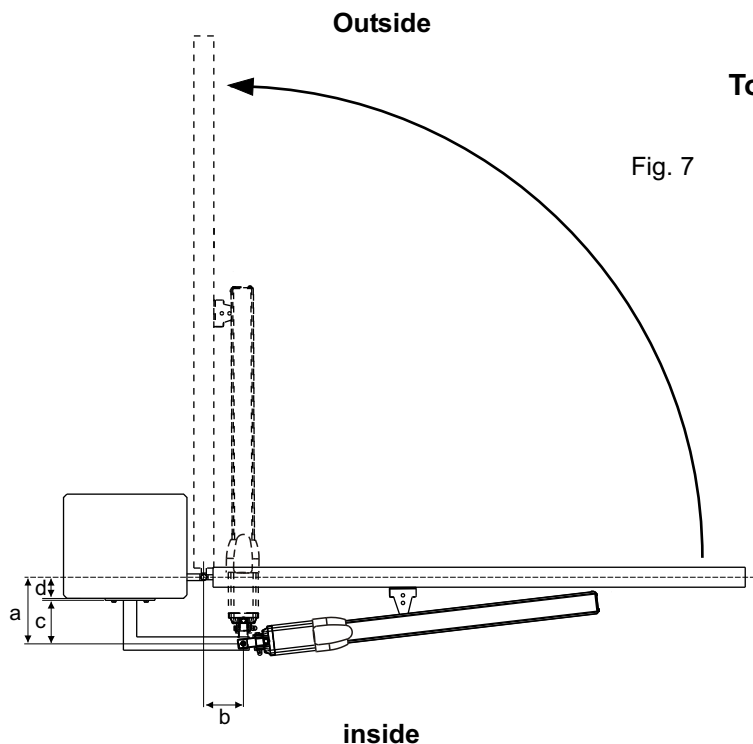
Total stroke 390 mm - max. recommended stroke 370 mm

a (mm)	b (mm)	d _{max} (mm)	Max. Opening Angle	Stroke max (mm)	Stroke for 90°(mm)
125	170	75	125°	368	295
130	170	80	125°	372	300
140	235	90	90°	370	
145	165	95	120°	372	310
145	230	95	90°	370	
160	210	110	90°	370	
175	195	120	90°	370	
185	145	130	110°	370	330
185	190	130	90°	370	
195	140	140	110°	371	355
195	175	140	90°	370	
240	110	185	100°	370	355
240	125	185	90°	370	
250	105	195	95°	370	360
250	115	195	90°	370	
260	95	205	95°	369	365
260	100	205	90°	370	
270	90	215	90°	370	
280	80	230	90°	370	
295	65	245	90°	369	

To obtain 125° with d > 55 mm it is necessary to make a niche in the gate.



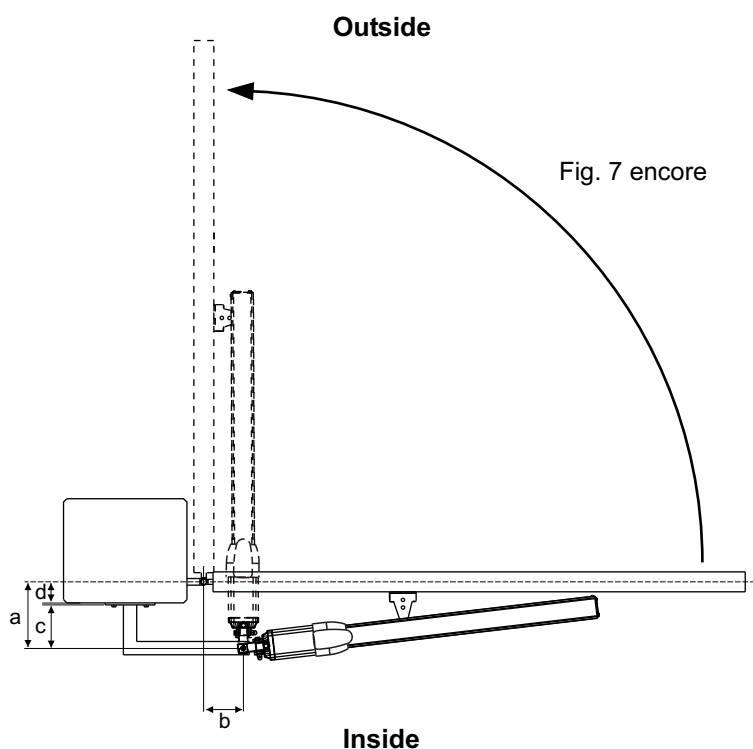
OUTSIDE OPENING INSTALLATION



Total stroke 270 mm - max. recommended stroke 250 mm

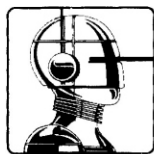
a (mm)	b (mm)	Max. Opening Angle	Stroke max (mm)	Stroke for 90°(mm)
150	90	95°	250	240
160	90	90°	250	
165	80	95°	249	243
175	80	90°	250	
180	70	90°	250	
180	65	90°	241	

OUTSIDE OPENING INSTALLATION



Stroke 390 mm - max. recommended stroke 370 mm

a (mm)	b (mm)	Max. Opening angle	Max. Stroke (mm)	Stroke for 90°(mm)
250	100	100°	356	342
255	95	95°	345	336
265	95	95°	342	335
270	90	90°	330	
275	90	90°	325	
275	90	90°	319	



OSCILLATING FORK INSTALLATION

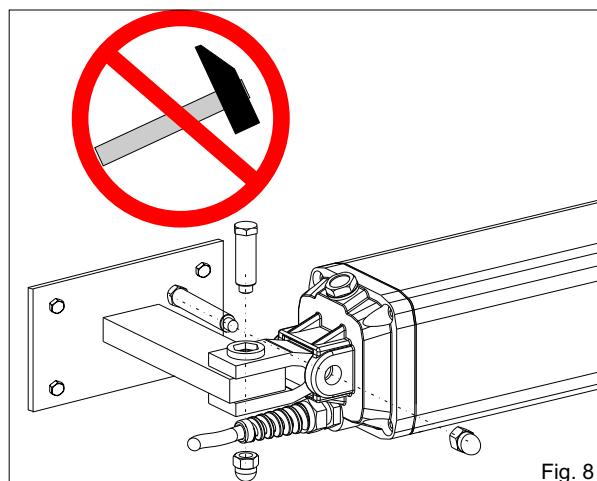


Fig. 8

PRELIMINARY

- Open the package carefully, paying attention to not lose the parts reported in fig.3
- Fix the oscillating fork as in fig.9

Attention: do not use the hammer to insert the short brass pivot; the insertion of the pivot into the fork and bracket must be made simply by hand pressure.

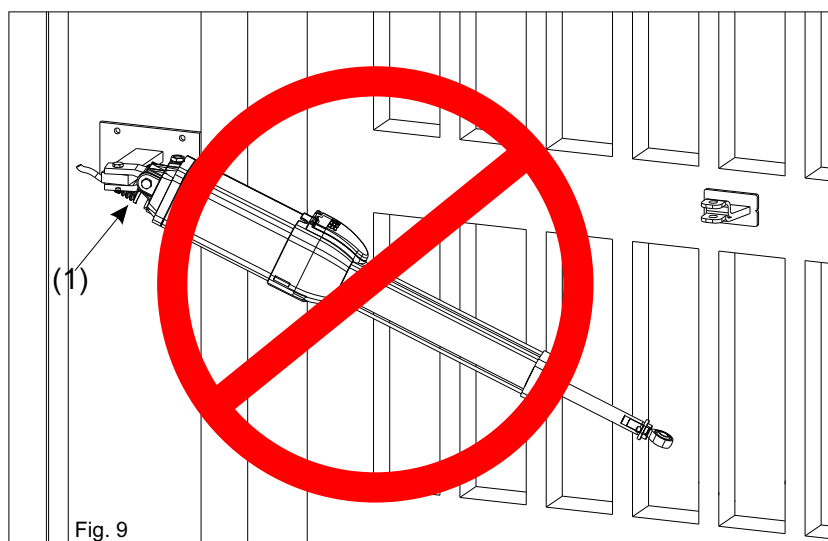


Fig. 9

Attention

Do not incline the hydraulic operator further than the allowed angle from the oscillating fork (1), could cause the braking of it (1)

BACK FIXATION MOUNTING

According to the chosen opening type (inside or outside) and according to the chosen max. rotation of the leaf (see page 5) the bracket must be first cut respecting the mesurment "a" on pag.5 and than welded as in fig.10.

The support must be positioned so that the operator is in perfect horizontal position (Fig. 10, Fig.12).

Adjustable back fixation (with screw)
(Accessories on request)

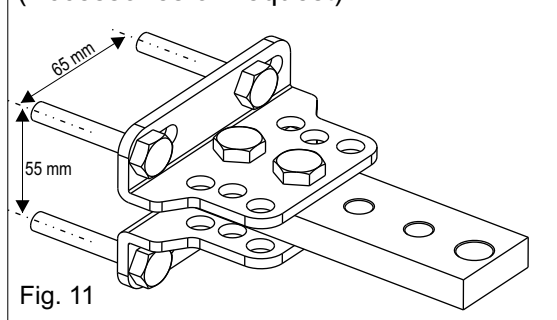


Fig. 11

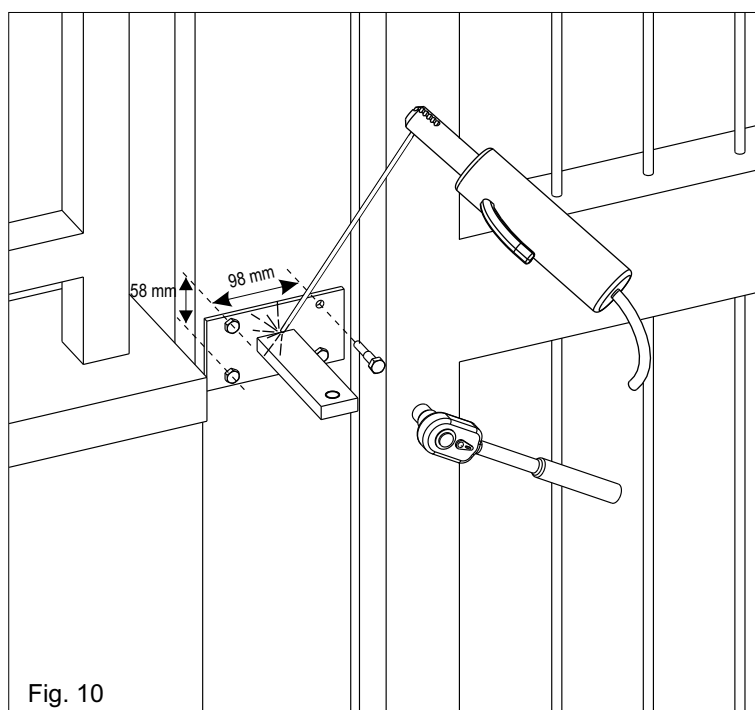
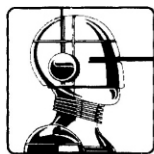


Fig. 10



POSITIONING OF THE FRONT FIXATION

Once the operator has been mounted on the back fixation close the leaf and do as follows:

- 1) Release the operator (as in Fig. 23 of page 11)
- 2) Pull out completely the chromium plated rod, afterwards bring it back about 1 cm
- 3) Fix the rod on the front fixation (Fig. 13)
- 4) Position the operator perfectly horizontal and mark the position of the front fixation (Fig. 12)

Attention: Avoid the welding of the front fixation to the rod of the hydraulic operator already fixed as the welding residual (squirt) could ruin the chromium -plating of the rod.

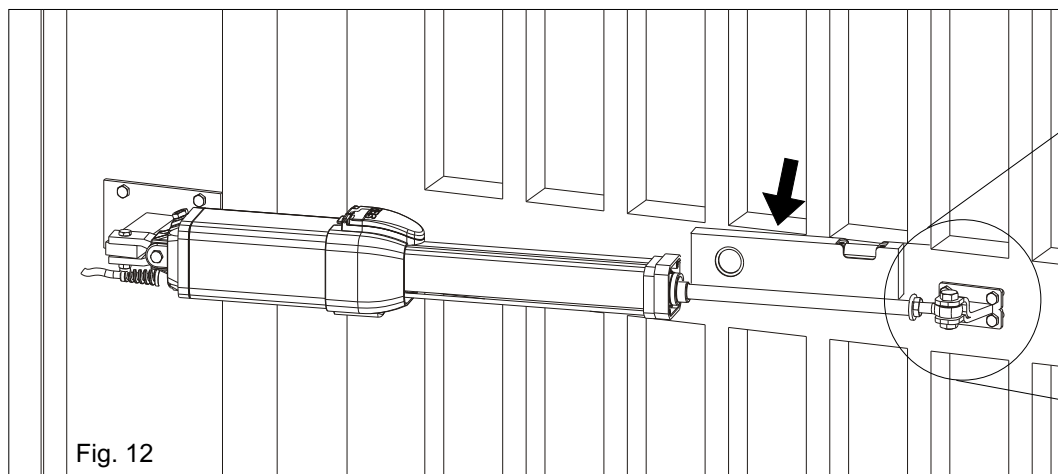


Fig. 12

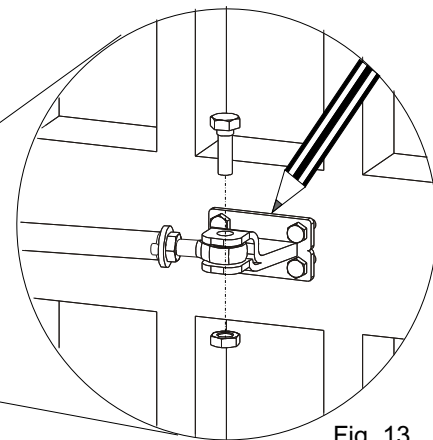


Fig. 13

WELDING OF THE FRONT FIXATION TO THE GATE

Mount the front fixation so that it guarantees the perfectly horizontal position of the operator. .

Depending on the type of the gate (wood, iron, aluminium) the front fixation can be welded or screwed

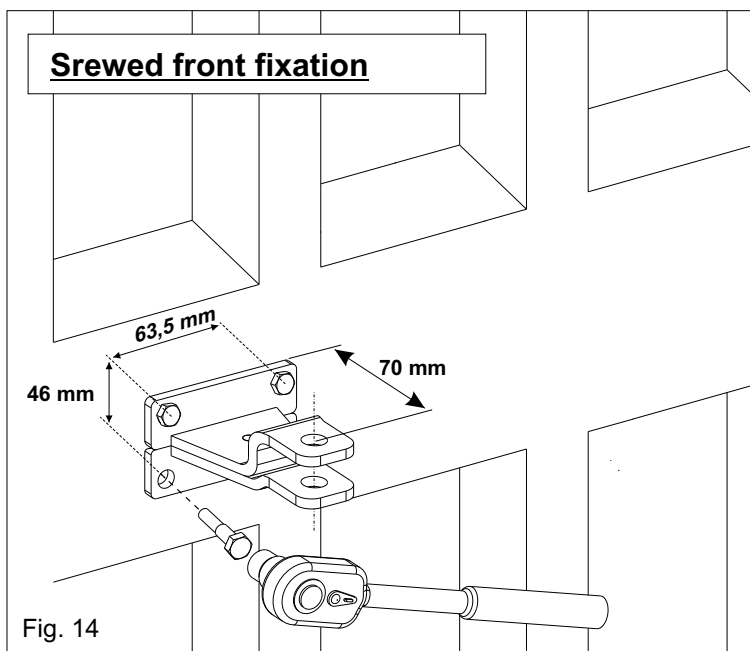


Fig. 14

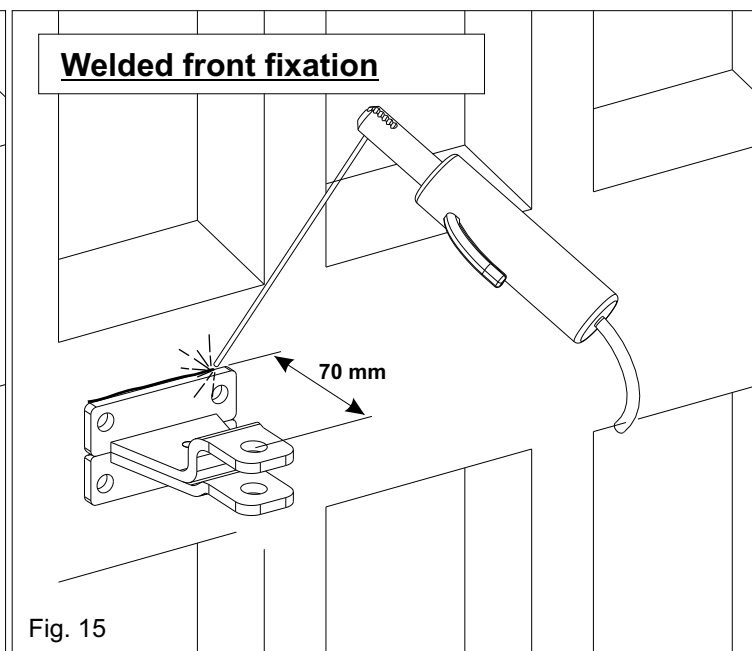
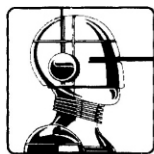


Fig. 15



INSTALLATION OF THE MECHANICAL LIMIT SWITCH STOPS (Accessories on request)

- Release the unit (as in Fig. 23 of page 10)
 - Let the rod come out about 3/4 of its run
 - Put the limit switch stops on the front flange of the unit with the two rods (of the three which are present on the stop) which are in parallel to the gate (Fig. 16)
 - Fix the stop with the two included screws .
- At this point hook the rod on the front fixation
- To adjust the stop in opening act on disc, and in closing on disc 2.

Attention : the mounting of the mechanical stop does not cause the reduction of the stroke

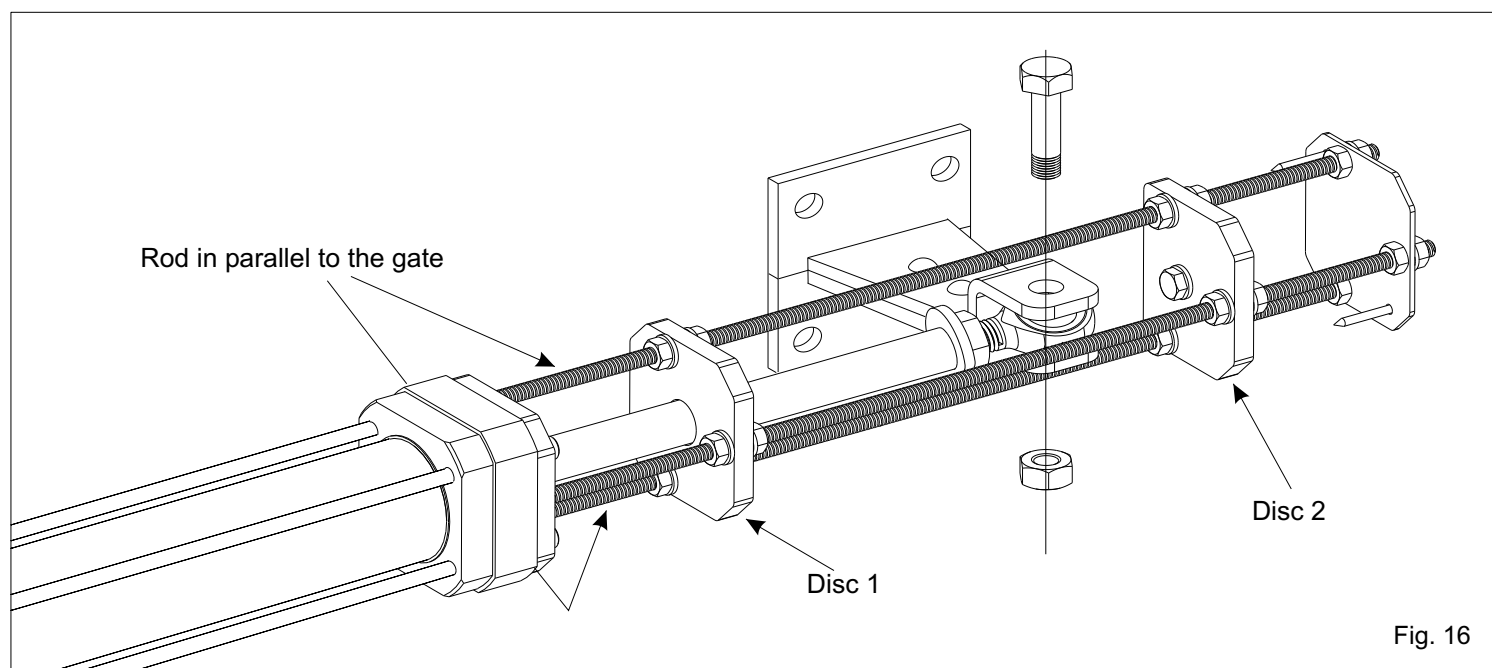


Fig. 16

BREATHER SCREW

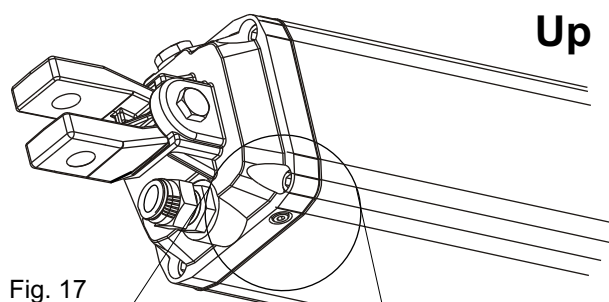
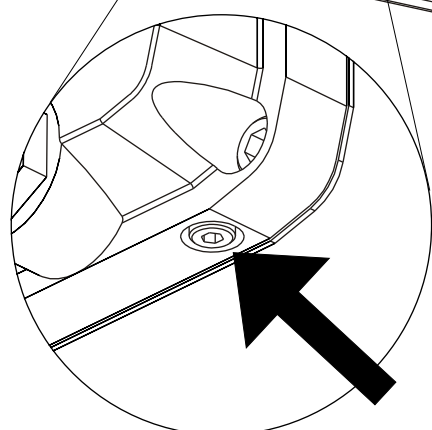


Fig. 17



VERY IMPORTANT

Take off the breather screw (lower part of the operator) after installation



Down

**Unscrew and take off
at the end of the
installation**

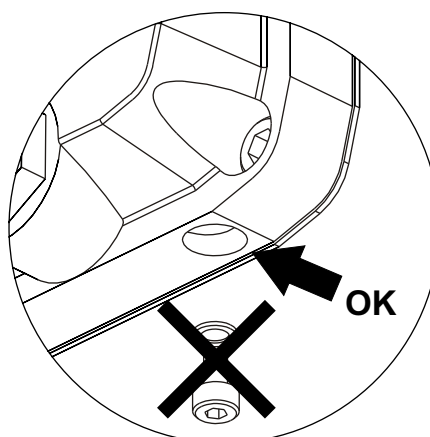
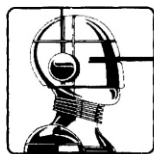


Fig. 18



INSTALLATION OF THE CHROMIUM-PLATED ROD PROTECTION

Make sure to have inserted the antivibration plastic frame (A) before inserting the rod cover extrusion (Fig. 19)

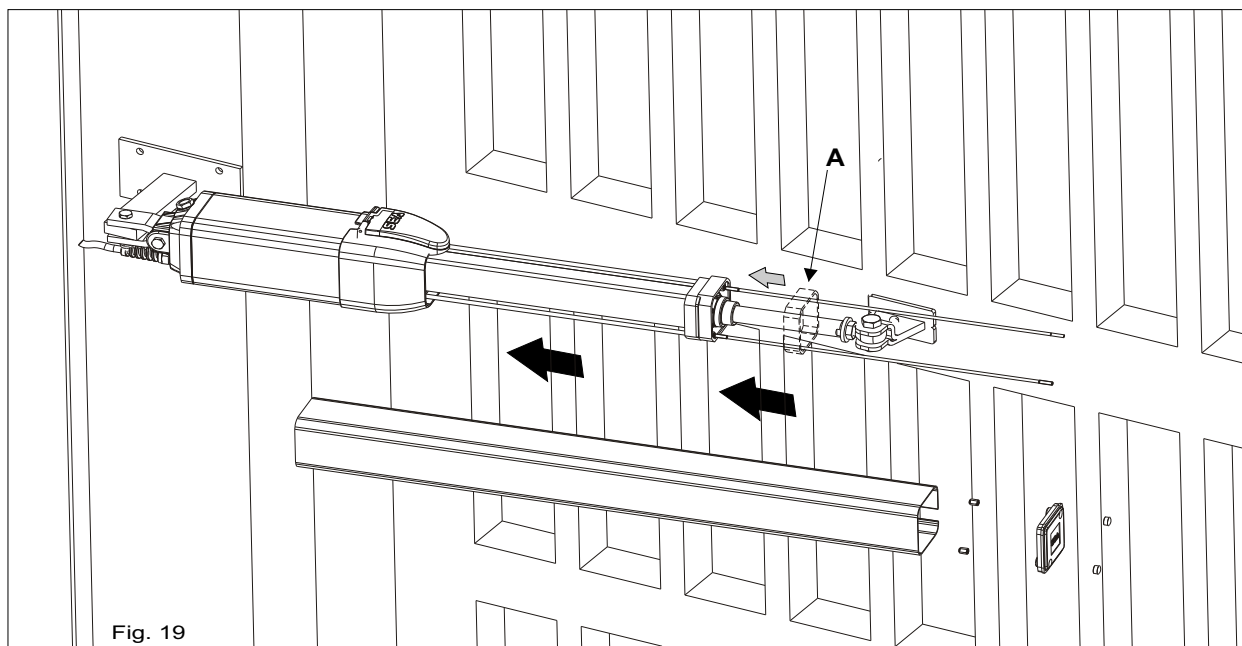


Fig. 19

TORQUE ADJUSTMENT (By-Pass Valves)

In case of first installation both, the cover of the release and the cover of the by pass valves must not yet be inserted. In this case refer to fig. 20 and fig.22. Should the by-pass valves adjustment be made in a second moment, because of periodical maintenance or other, take off the screw which locks the by-pass cover (fig. 21), take off the by-pass cover and adjust the pressure of the by-pass valves with the special key given to the installer free of charge (Fig. 22).

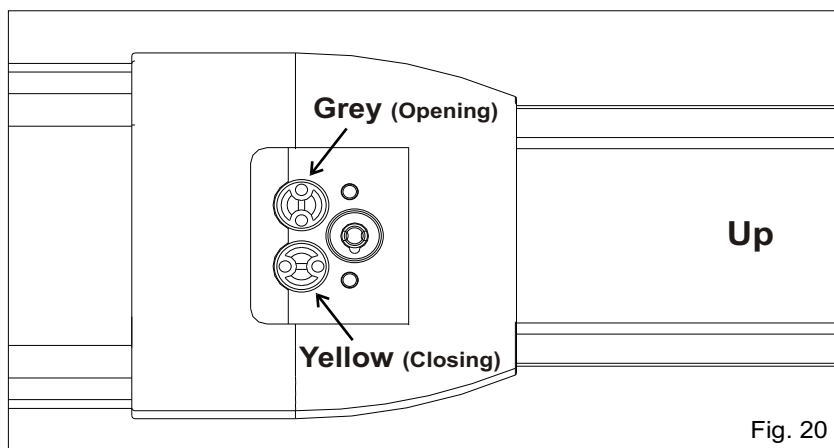


Fig. 20

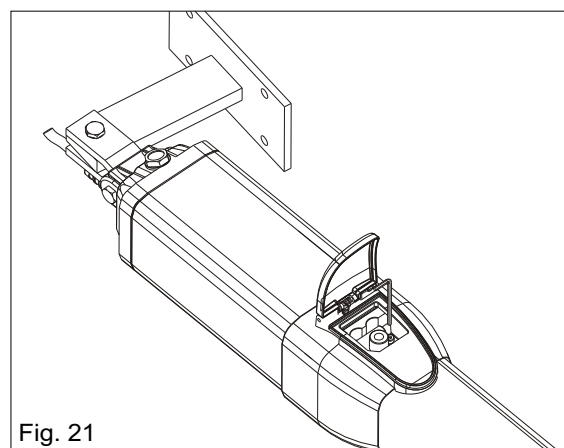
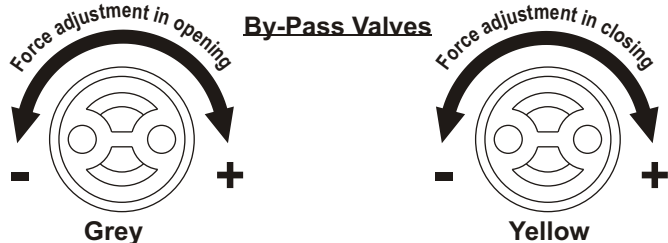


Fig. 21



Regulate the opening and closing forces of the gate respecting the force diagram (included in the En12453 normative); the thrust force however must not be superior then 15KgF.

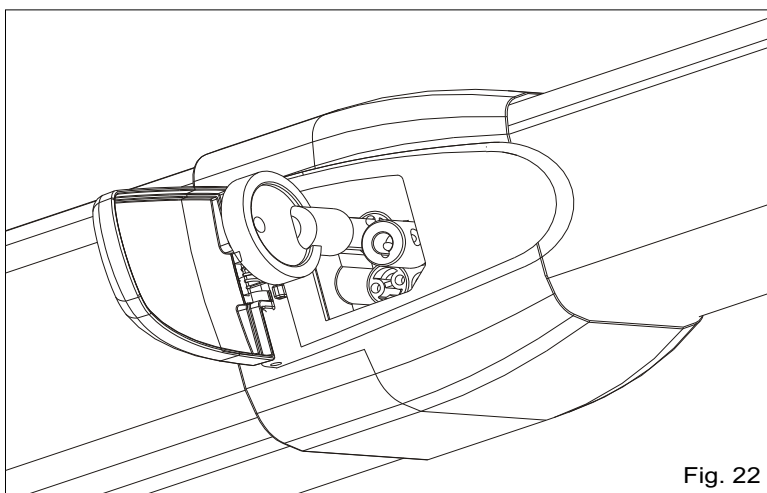
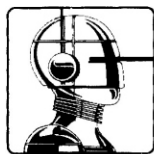


Fig. 22



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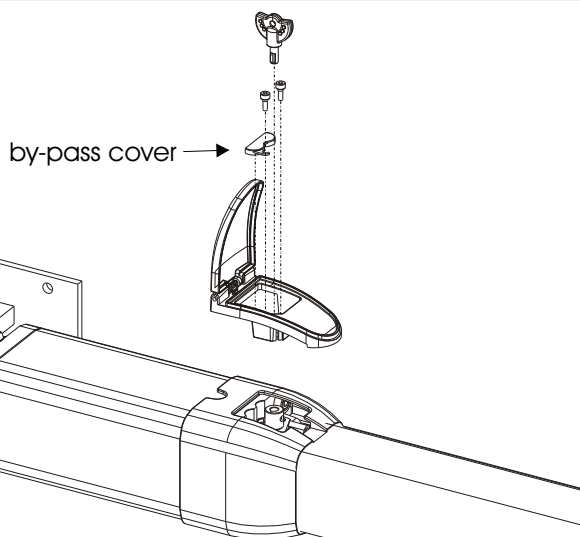


Fig. 23

PLASTIC RELEASE MOUNTING

ATTENTION: the mounting of the plastic release must be effectuated as shown in fig. 23 only and exclusively after having finished all the instalation operations, mounting of the rod cover and calibration of the by-pass valves.

ALUMINIUM RELEASE WITH KEY MOUNTING (accessory on request)

ATTENTION: The mounting of the aluminium release must be executed as shown in figure 24 only and exclusively after having finished all installation operations, the rod cover mounting and the calibration of the by pass valves.

The release key is kept in the inside of the aluminium release cover (see fig. 25)

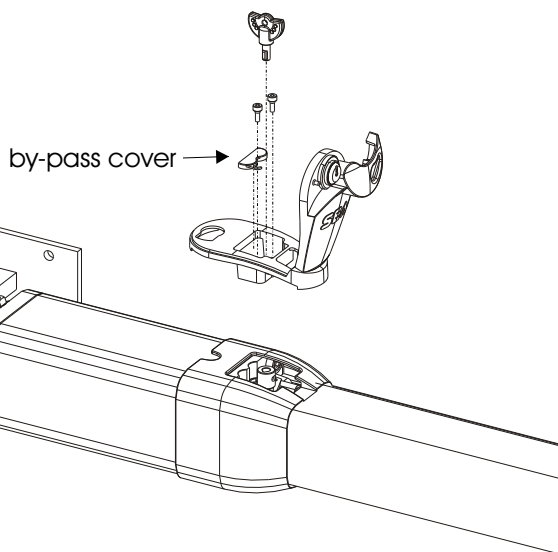


Fig. 24

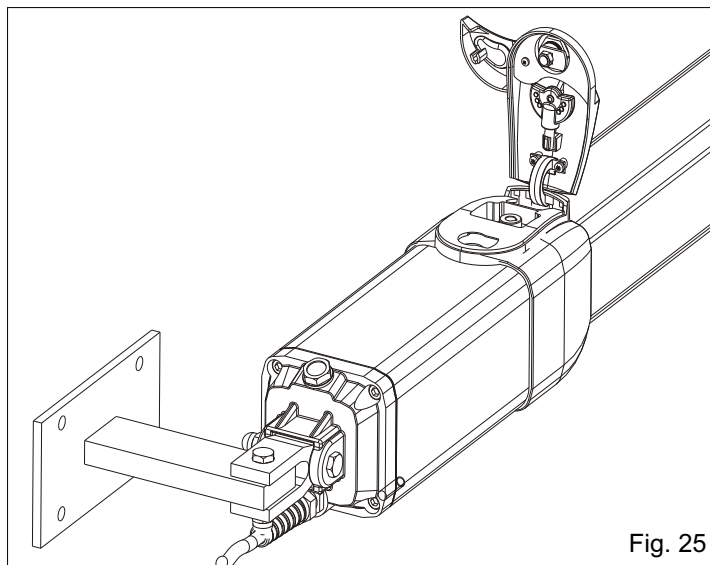


Fig. 25

EXTERNAL RELEASE MOUNTING (accessory on request)

ATTENTION: The mounting of the external release **must be executed as shown in the figures** 26 and 27. For more details refer to the mounting instructions in the external release mounting Kit for Half Tank.

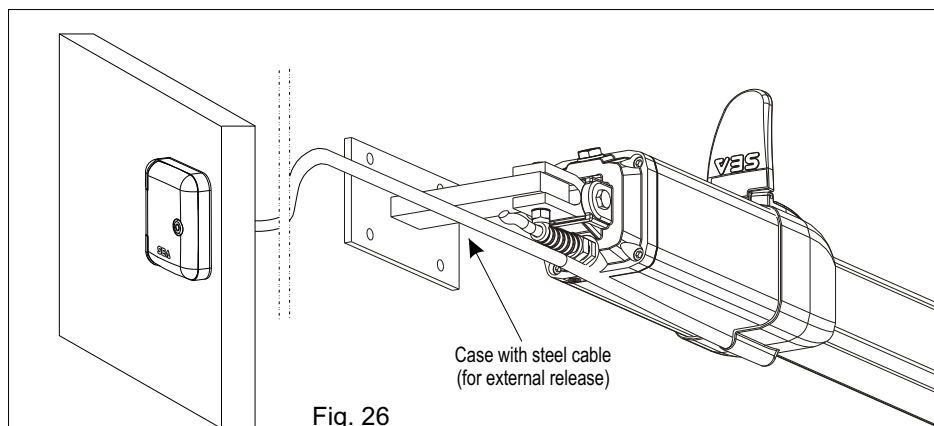


Fig. 26

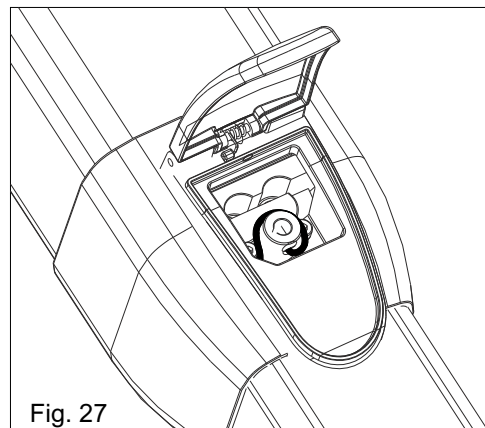
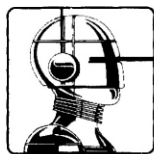


Fig. 27



RELEASE SYSTEM

To release operate as follows:

-Insert the key and turn it about 180° anti-clockwise (Fig.28).

To relock the operator do as follows:

-Insert the key and turn it clockwise until it stops (Fig.28).

Attention: To release cut current supply

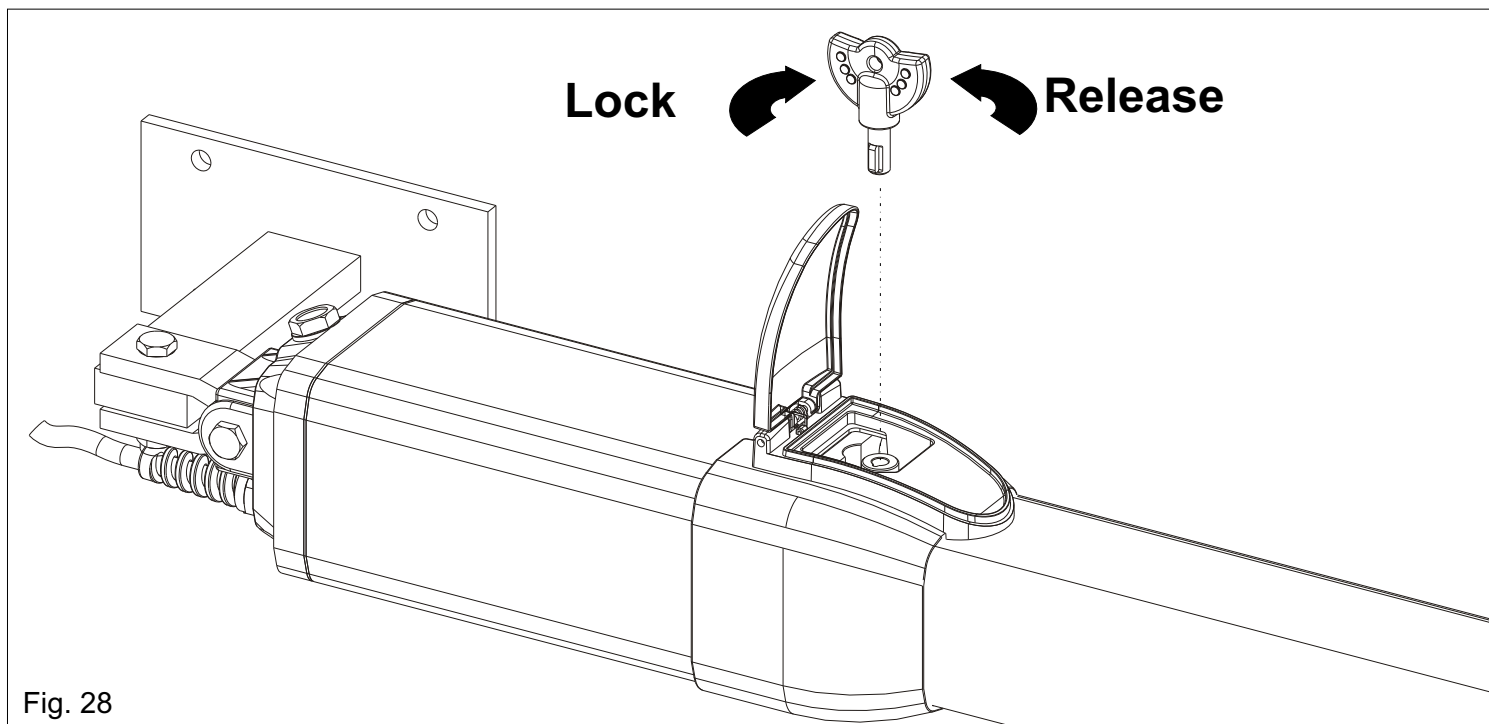
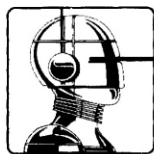


Fig. 28

PERIODICAL MAINTENANCE

1) Check the robustness and the stability of the gate; particularly the leaning and/or rotation points of the gate (hinges).	Annual
2) Check the oil level in the hydraulic/in oil bath operators (cap on the back cover of the Half Tank operator)	Annual
3) Replace the hydraulic oil with the oil recommended by the producer	4 Years
4) Check the function of the release	Annual
5) Check the function of the by-pass valves	Annual
6) Check and grease the fixation pivots	Annual
7) Check the integrity of the connecting cables	Annual
8) Check the function and the conditions of the limit switch stops in opening and closing (where the mechanical stop accessory is present)	Annual
9) Check the good status of all the apparatus which are subject to efforts (back fixation, oscillating fork, and front fixation)	Annual
10) Check the functionality of all the accessories especially the function of all security devices and of the Safety Gate.	Annual
11) After having executed the periodical maintenance it is neccessary to repeat the test and to reactivate the automation.	Annual

All the above mentioned operations must be executed by an authorised installer only.



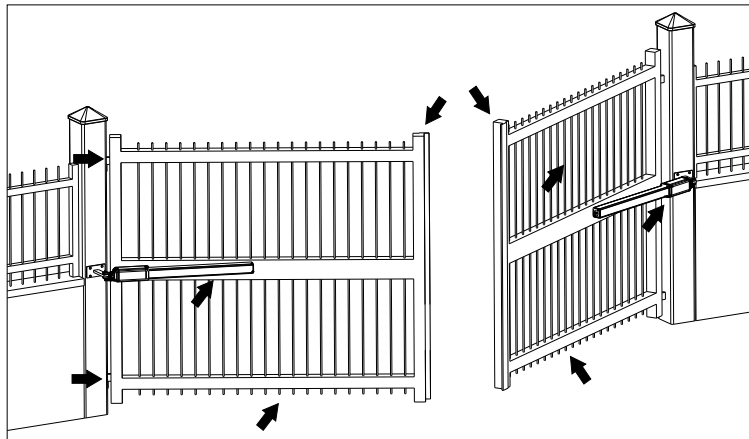
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HALF TANK

RISK EXAMINATION

The points indicated by arrows in Fig. 38 are potentially dangerous. The installer must take a thorough risk examination to prevent crushing, conveying, cutting, grasping, trapping so as to guarantee a safe installation for people, animals and things.



As for misunderstandings that may arise refer to area distributor or call our help desk. These instructions are part of the device and must be kept in a well known place. The installer shall follow the provided instructions thoroughly. SEA S.r.l. products must only be used for the automation of doors, gates and wings. Any initiative taken without SEA S.r.l. explicit authorization will preserve the manufacture from whatsoever responsibility. The installer shall provide warning notices on not assessable further risks. SEA S.r.l. in its relentless aim to improve the production, is allowed to make whatsoever adjustment without giving notice. This does not oblige SEA S.r.l. to up-grade the past productions. SEA S.r.l. can not be deemed responsible for any damage or accident caused by product breaking, being damages or accident due to a failure to comply with the

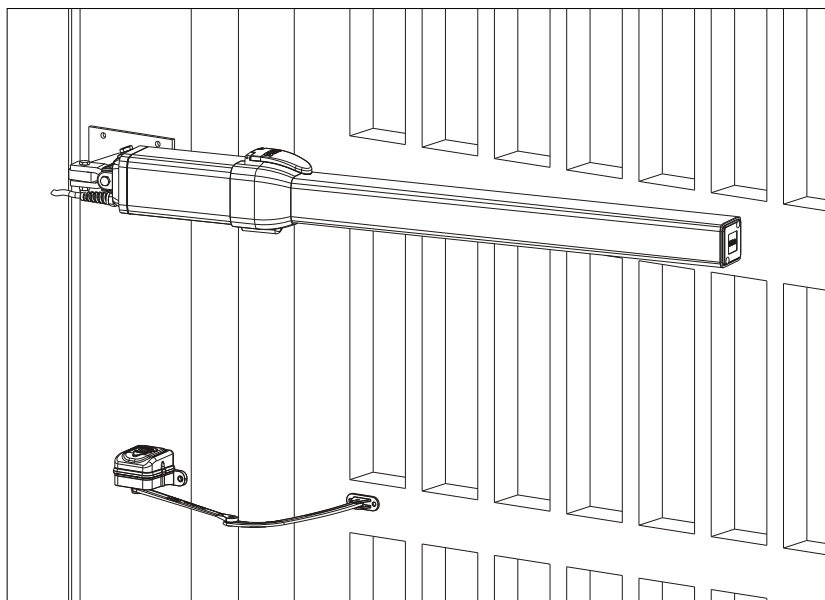
instructions herein. The guarantee will be void and the manufacturer responsibility will be nullified if SEA S.r.l. original spare parts are not being used. The electric installation shall be carried out by a professional technician who will release documentation as requested by the laws in force. Packaging materials such as plastic bags, foam polystyrene, nails etc. must be kept out of children's reach as dangers may arise.

INITIAL CHECK AND PUTTING IN SERVICE

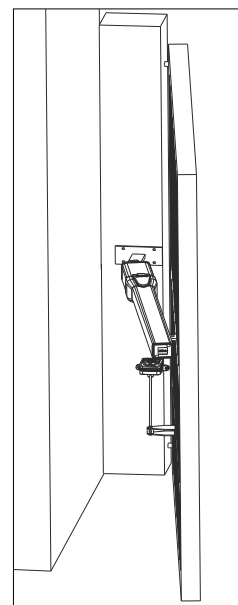
After having completed all necessary operations, for the correct installation of the product HALFTANK, described in the present manual and after having valued all resting risks which could arise in whatever installation is necessary **to test the automation to guarantee the max. security and in particular way** to guarantee the respect of what foreseen by the law and the normatives in force. In particular the test must be executed following the **EN12445** ruel which establishes the testing methods for the testing of the gate operators respecting the established limits by the **EN 12453** law.

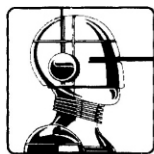
SAFETY GATE

For a correct and safe installation it is strongly recommended to install the Safety Gate, which allows the fulfilment of the force diagram included in the **EN 12453** ruel and the testing of the putting in service and of the whole installation.



NOTE: In case of installations as shown in the figure on the right it is possible to use the Safety Gate with a straight rod (solving the dimensions problem of the arm, see drawing on the left)





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HALF TANK

ACCESSORIES FOR HALF TANK



KEY SWITCH



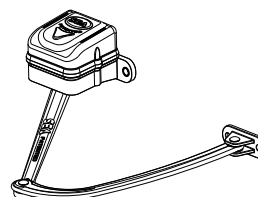
PHOTOCELLS



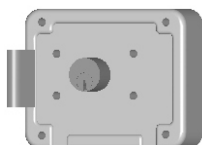
RADIO RECEIVER



RADIO TRANSMITTER



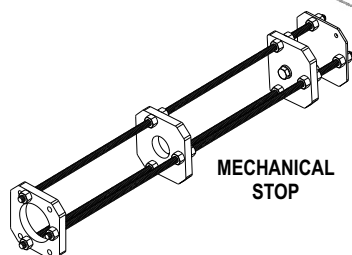
SAFETY GATE



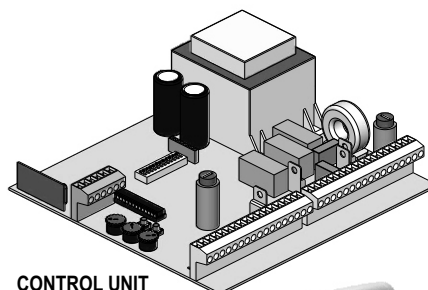
ELECTRIC LOCK



EXTERNAL MAGNETIC
LOOP DETECTOR
READER



MECHANICAL
STOP



CONTROL UNIT
GATE 2



WARNING LAMP



EXTERNAL RELEASE KIT



SUPPORT
FOR PHOTOCELLS

CONFORMITY DECLARATION

SEA declares under its own responsibility that the product

Half Tank in all its versions

conforms to the following European rules and successive modifications (where applicable):

98/37/CE (Machine directive)

89/336/CEE (Electromagnetic compatibility directive)

73/23/CEE (Low tension directive)

SAFETY PRECAUTIONS

All electrical installation work should conform to current regulations.

A 16A - 0,030A differential switch must be incorporated into the source of the gate main electrical supply and the entire system must be properly earth bonded. Remember to separate mains (230/115 V) carrying cables from low voltage control cables.

INTENDED USE

The Half Tank in all his versions has been planned to be used exclusively 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

Please dispose of the product and circuit packing materials in a responsible and appropriate way.

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

MAINTENANCE AND DECOMMISSION

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

LIMIT OF GUARANTEE

The Half Tank is guaranteed for a period of 36 months. The guarantee period starts from the date printed on the unit. The Half Tank guarantee will be void if the operator has been incorrectly installed, not used for the purpose intended, tampered or modified in any way.

The validity of this guarantee only extends to the original purchaser of the unit.

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.

