

CHARACTERISTICS AND SPECIFICATIONS

The **HALF TANK 270** and **HALF TANK 390** 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*)

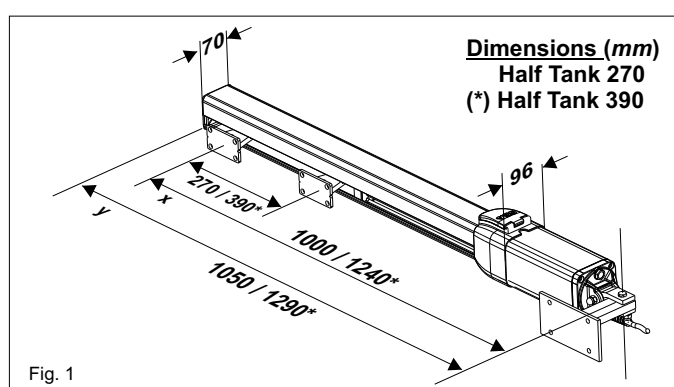
SC (*with lock only in closing*)

SA (*with lock only in opening*)

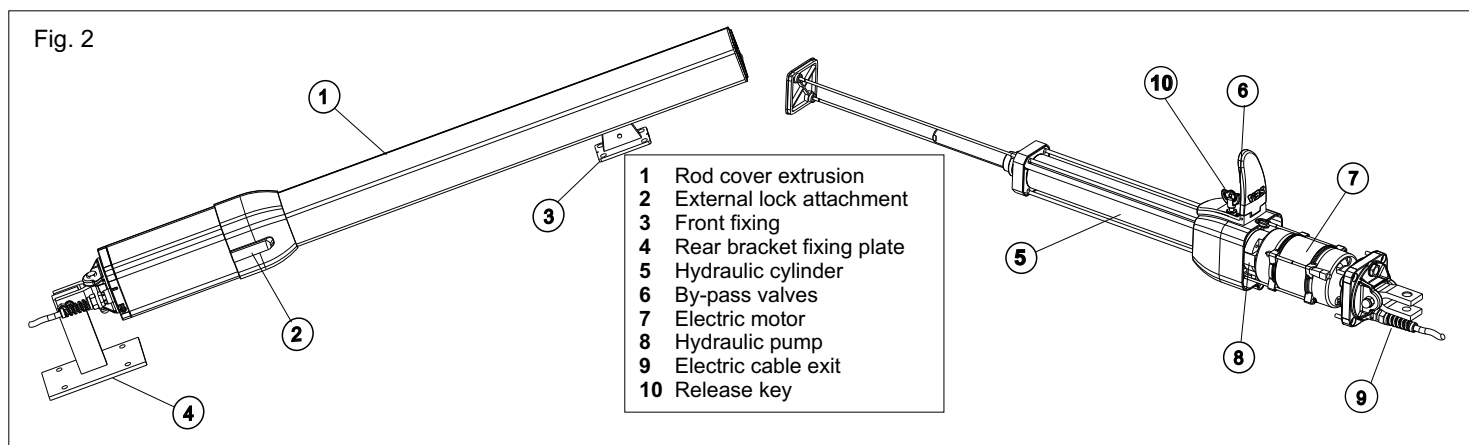
SB (*without lock*)

Hydraulic locking is guaranteed on gates with length up to 1.80 m with the Half Tank 270 operator while for lengths up to 2.20 m use the Half Tank 390. An electric lock should be used for leaves (in all versions) exceeding those lengths.

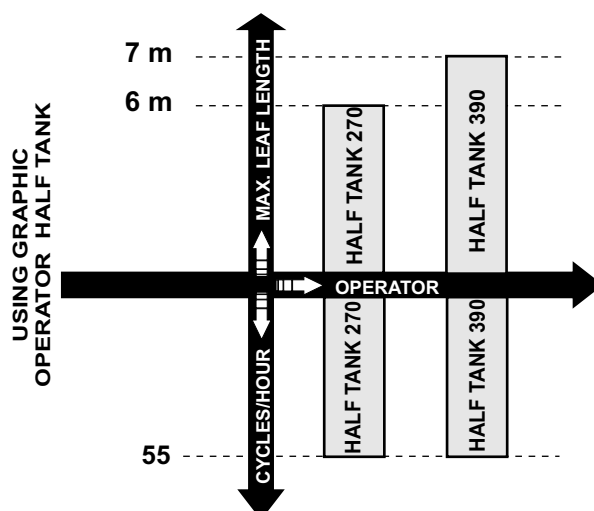
Both products Half Tank 270 and 390 are provided with by pass valves for the force adjustment in both opening and closing. The slowdown in opening and closing is electronically carried out by the GATE 2 control unit. Following the rules and normatives valid in the European countries it is strongly recommended 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.



NOTE: Version with slow down in closing. + 25 mm in x and y.



TECHNICAL DATA	HALF TANK 270	HALF TANK 390
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	
Capacity	12,5µF	
Weight	11,4 kg	13,6 kg
Protection	Ip55	
Max. Leaf length	6 m	7 m
Leaf opening degree	90° - 125°	



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

Note: in non-automatic logic, use operators without lock.

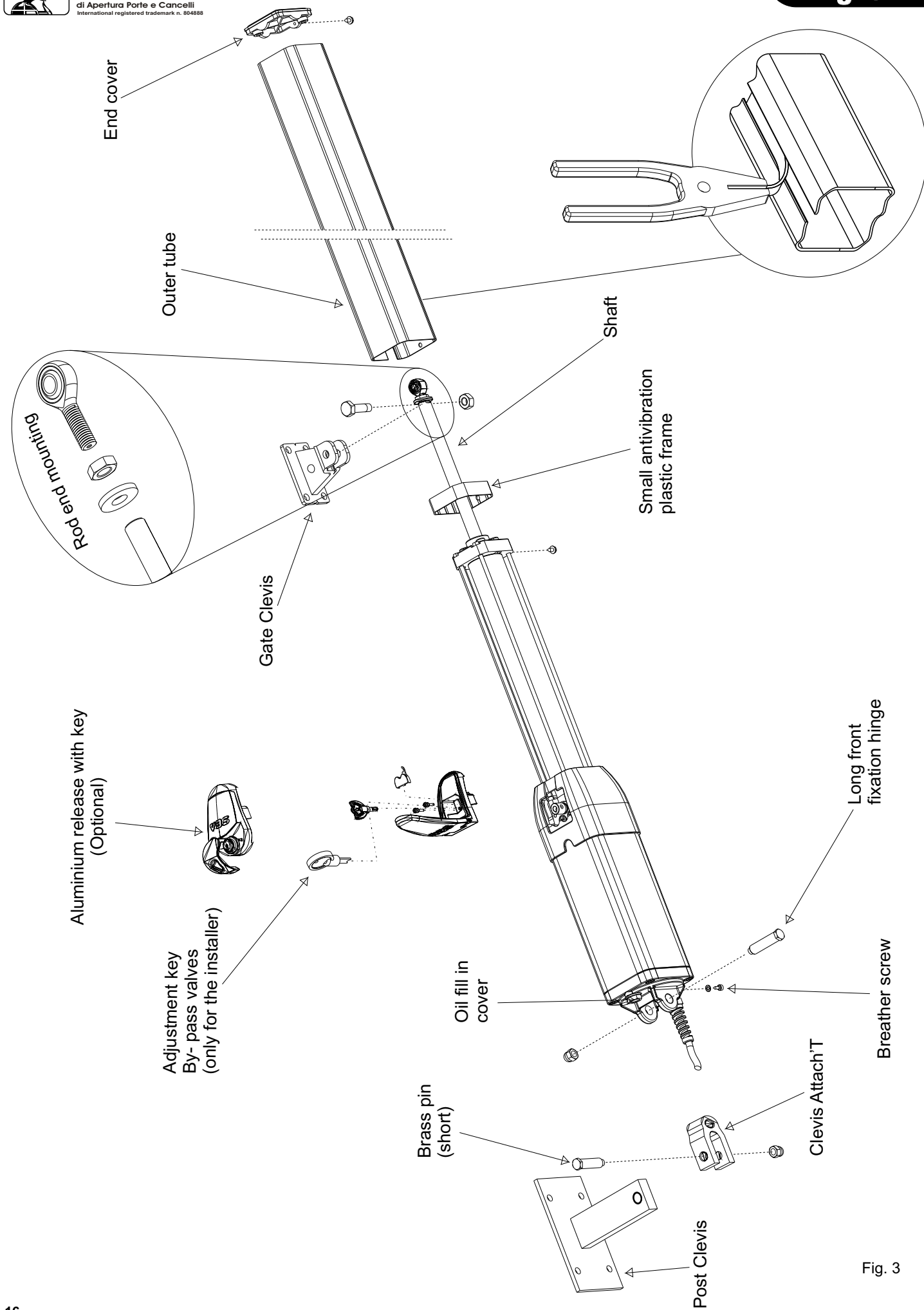
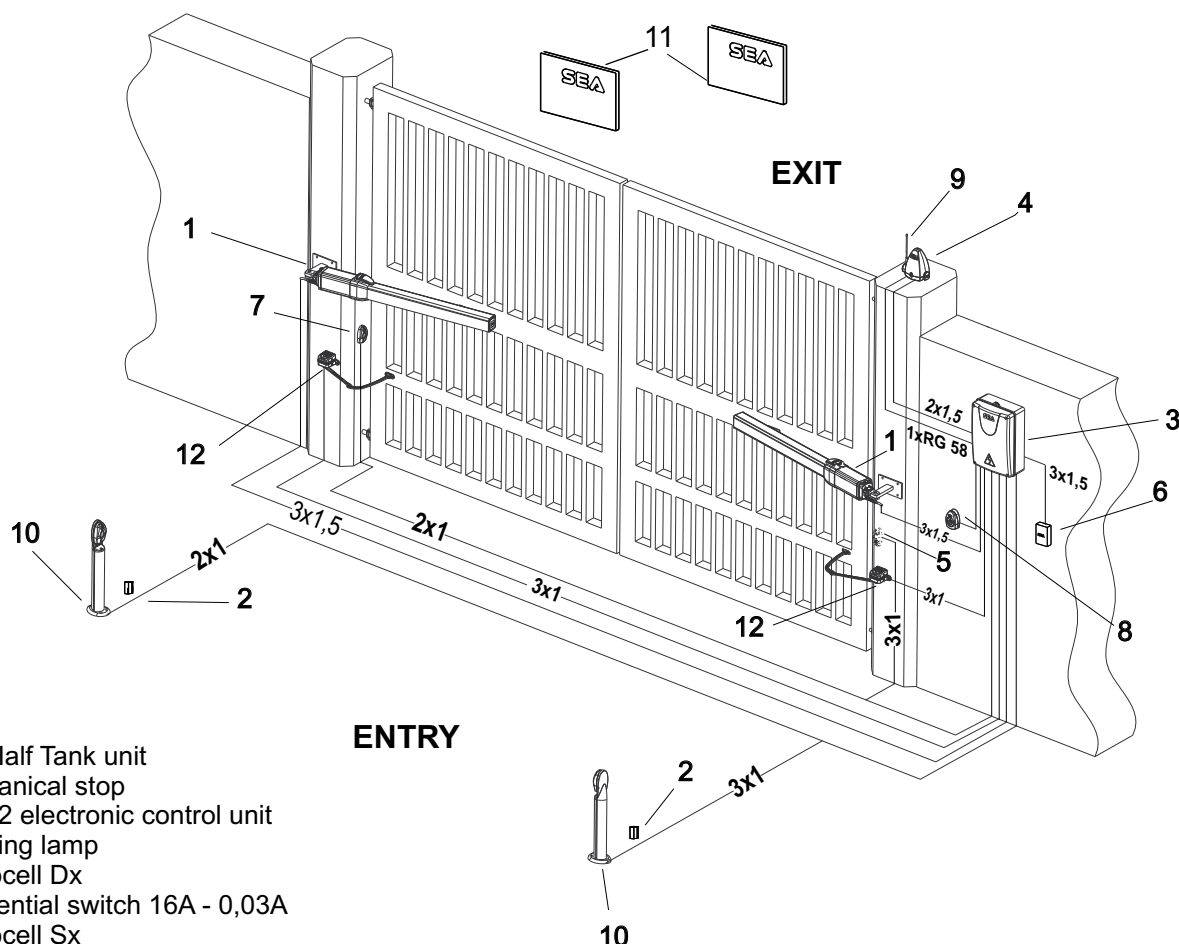


Fig. 3

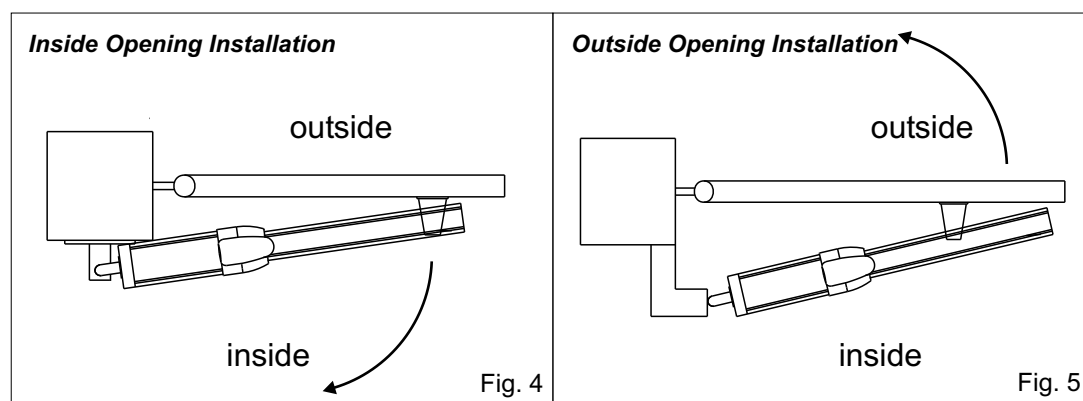
STANDARD INSTALLATION



- 1) The Half Tank unit
- 2) Mechanical stop
- 3) 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
- 12) Safety Gate

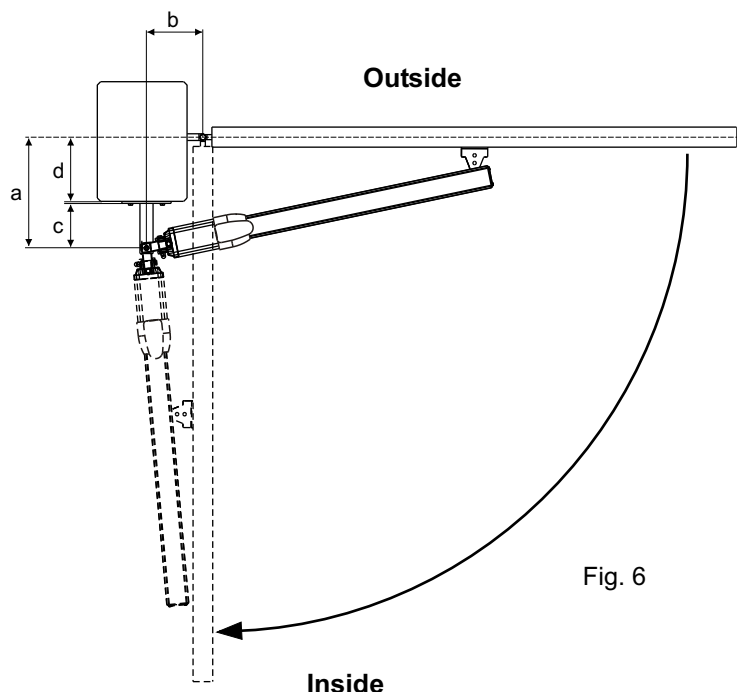
INSTALLATION TYPE

It is possible to install the Half Tank with the opening towards the inside (Fig. 4) or towards the outside (Fig. 5).



Install the operator always on the inside of the property

INSIDE OPENING INSTALLATION

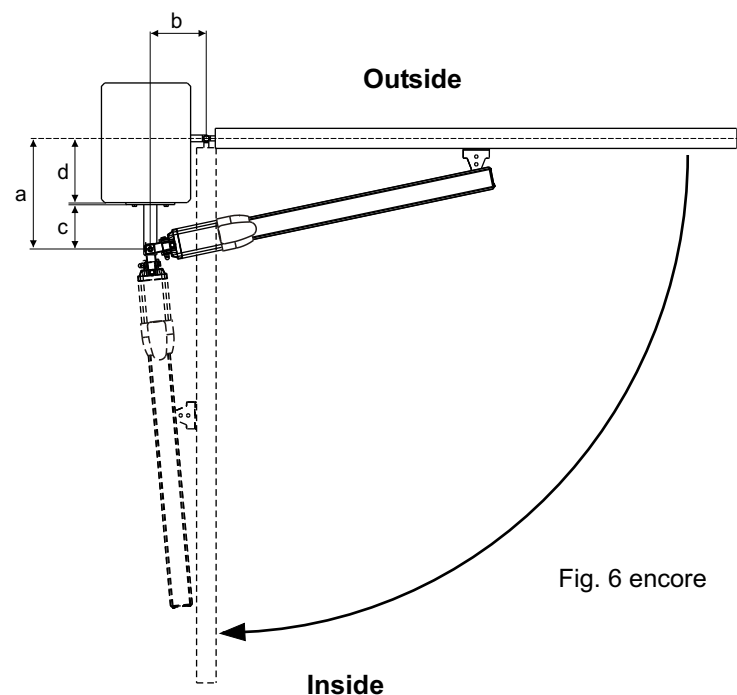


Total stroke 270 mm - max. recommended stroke 250 mm

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

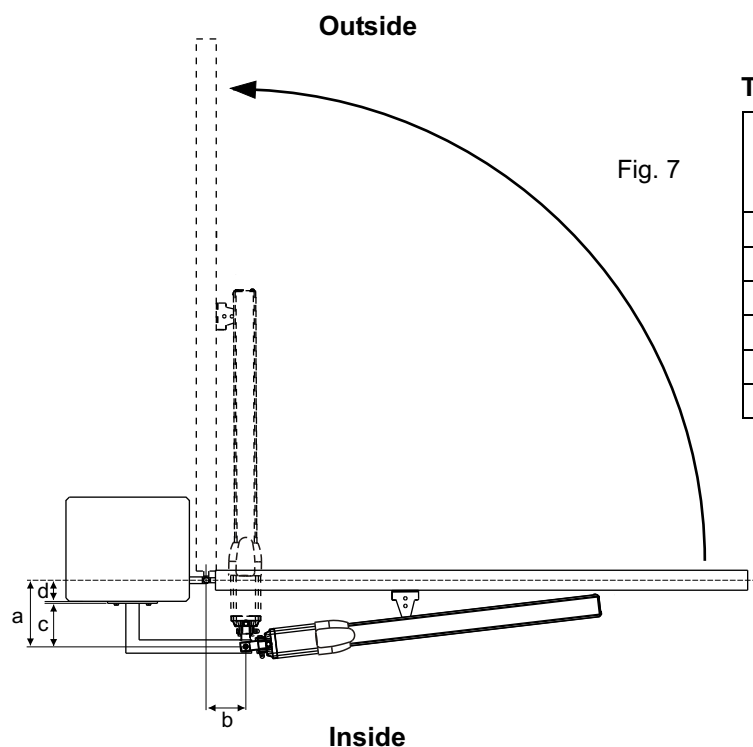


Total stroke 390 mm - max. recommended stroke 370 mm

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.

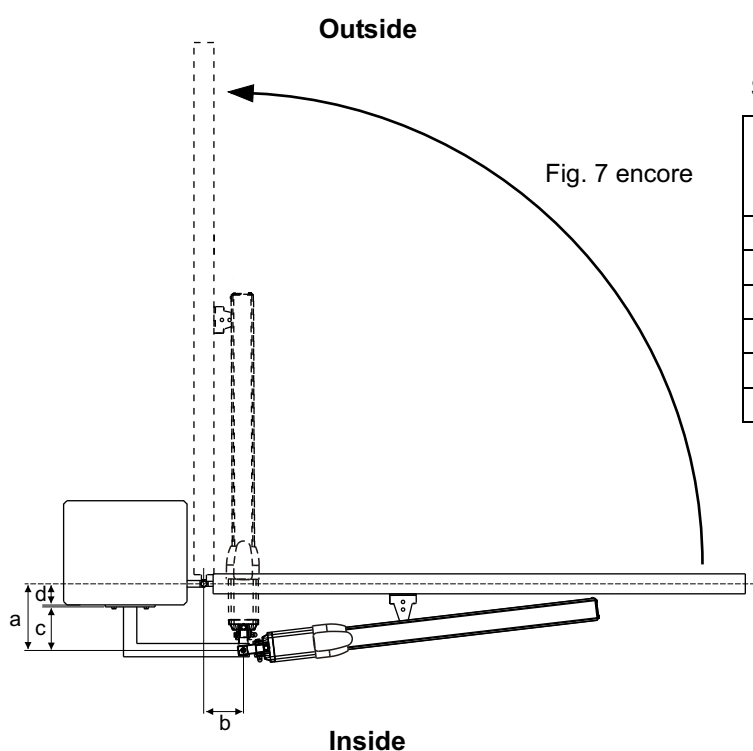
OUTSIDE OPENING INSTALLATION



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

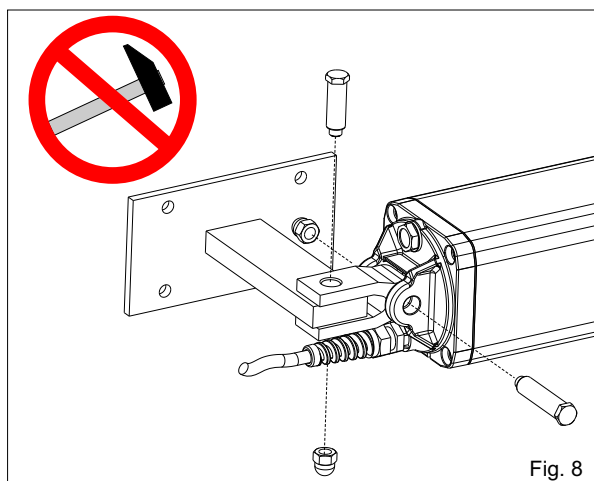


Fig. 8

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.

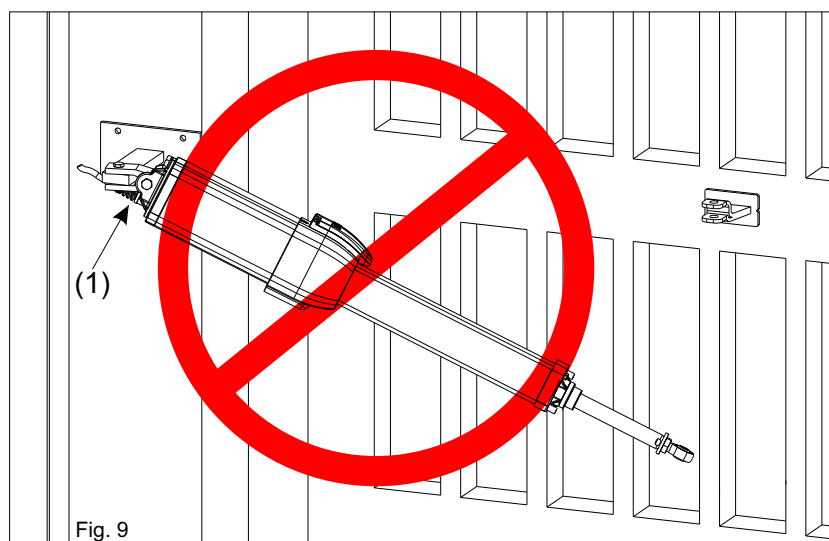


Fig. 9

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 18) the bracket must be first cut respecting the mesurment "a" on pag. 18 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).

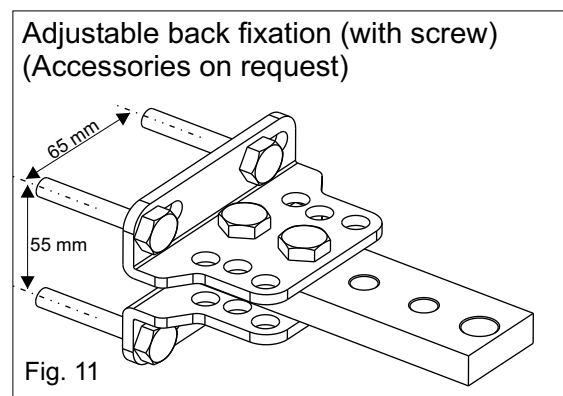


Fig. 11

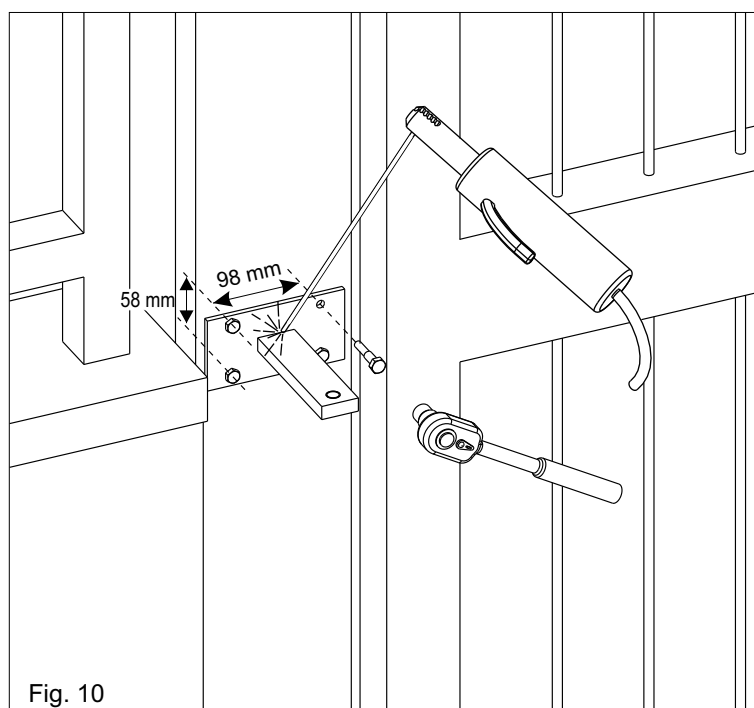


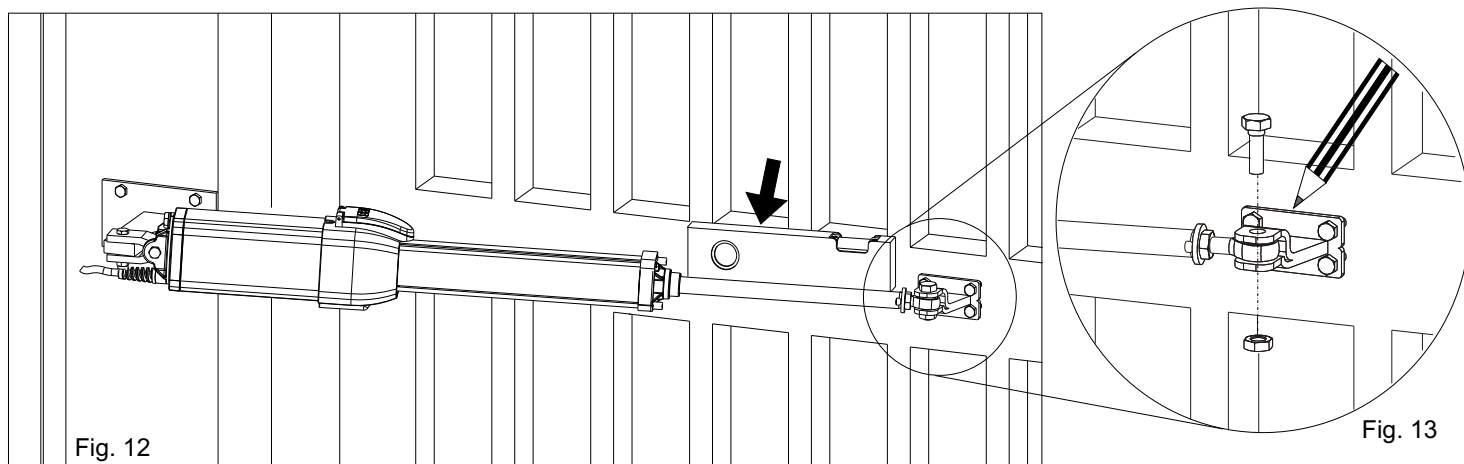
Fig. 10

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. 30)
- 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)

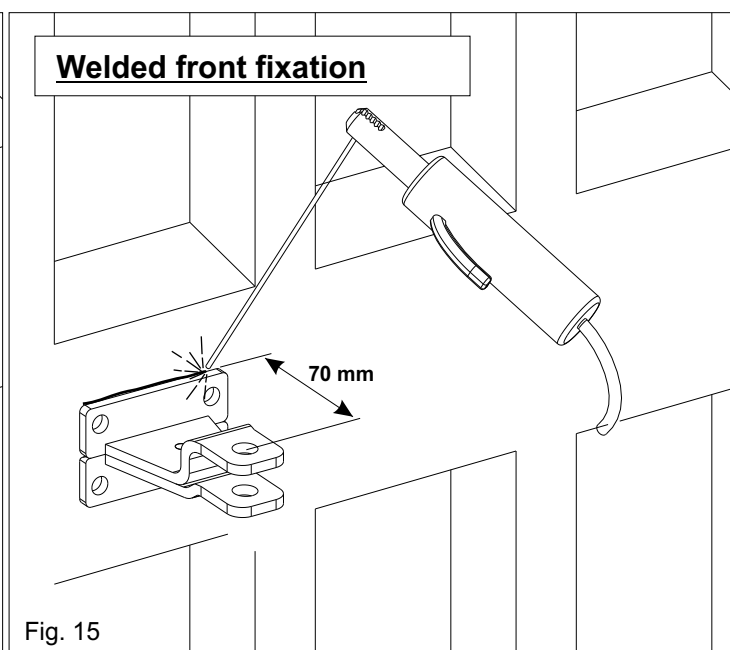
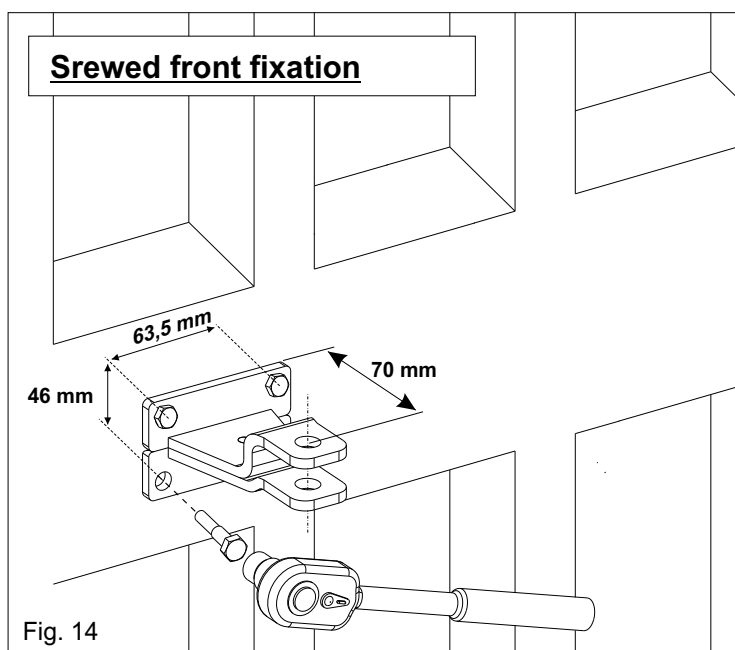
Attention: Avoid the welding of the front fixation to the rod of the hydraulic operator already fixed as the welding residual (squirt) could ruin the chromium -plating of the rod.



WELDING OF THE FRONT FIXATION TO THE GATE

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

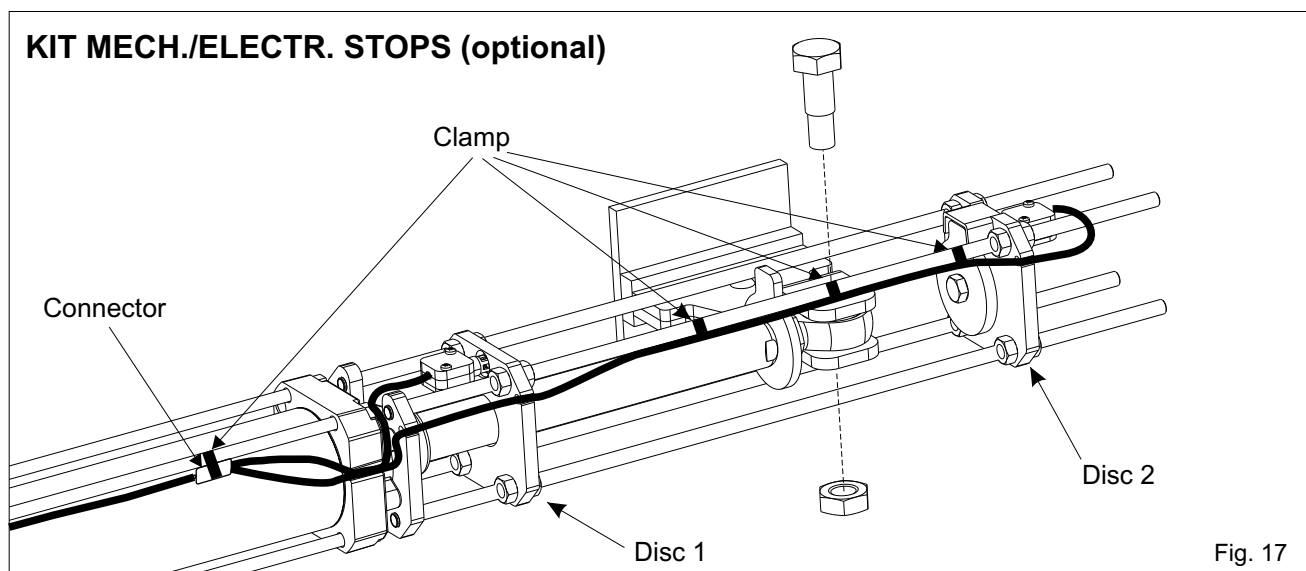
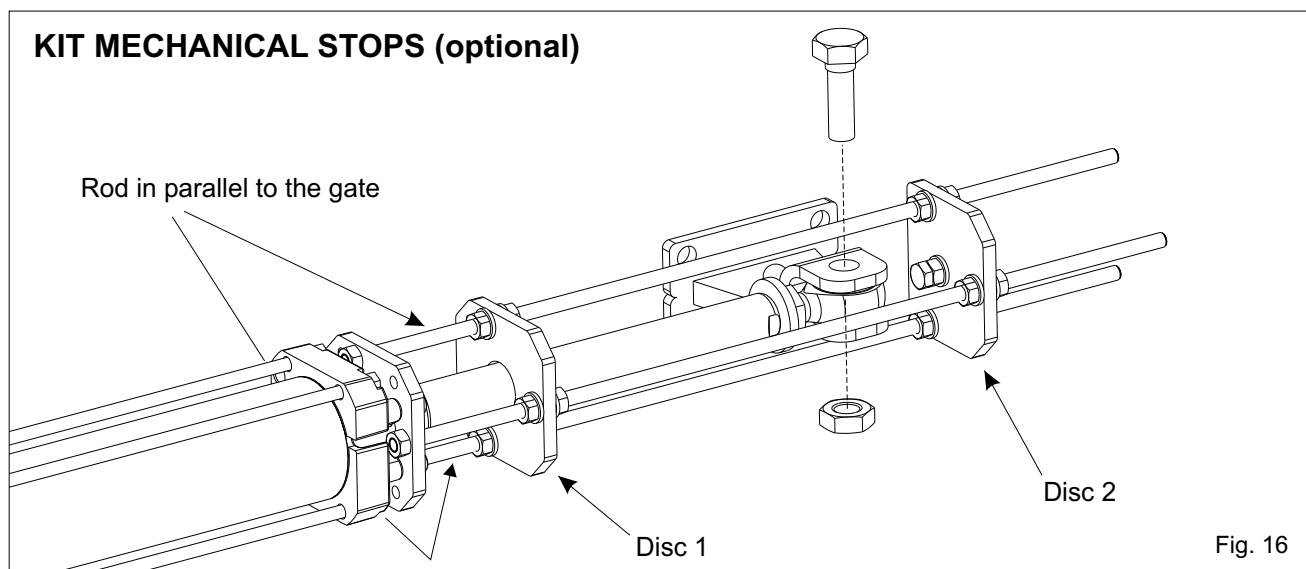
Depending on the type of the gate (wood, iron, aluminium) the front fixation can be welded or screwed.



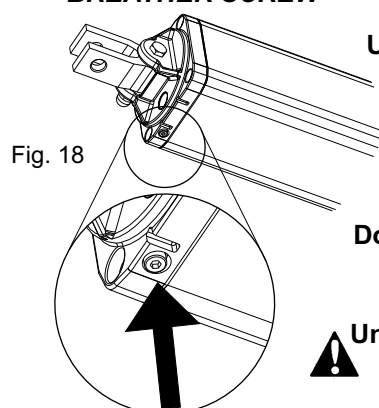
INSTALLATION OF THE MECHANICAL LIMIT SWITCH STOPS (Accessories on request)

- 1) Release the unit (as in Fig. 30)
 - 2) Let the rod come out about 3/4 of its run
 - 3) 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)
 - 4) Fix the stop with the two included screws.
- At this point hook the rod on the front fixation
- 5) 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

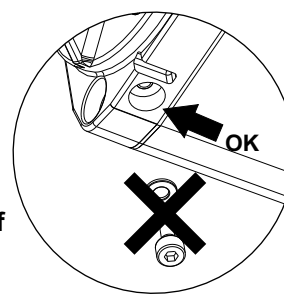


BREATHER SCREW



Up **! 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



INSTALLATION OF THE CHROMIUM-PLATED ROD PROTECTION

Make sure to have inserted the antivibration plastic frame (A) before inserting the rod cover extrusion (Fig. 20)

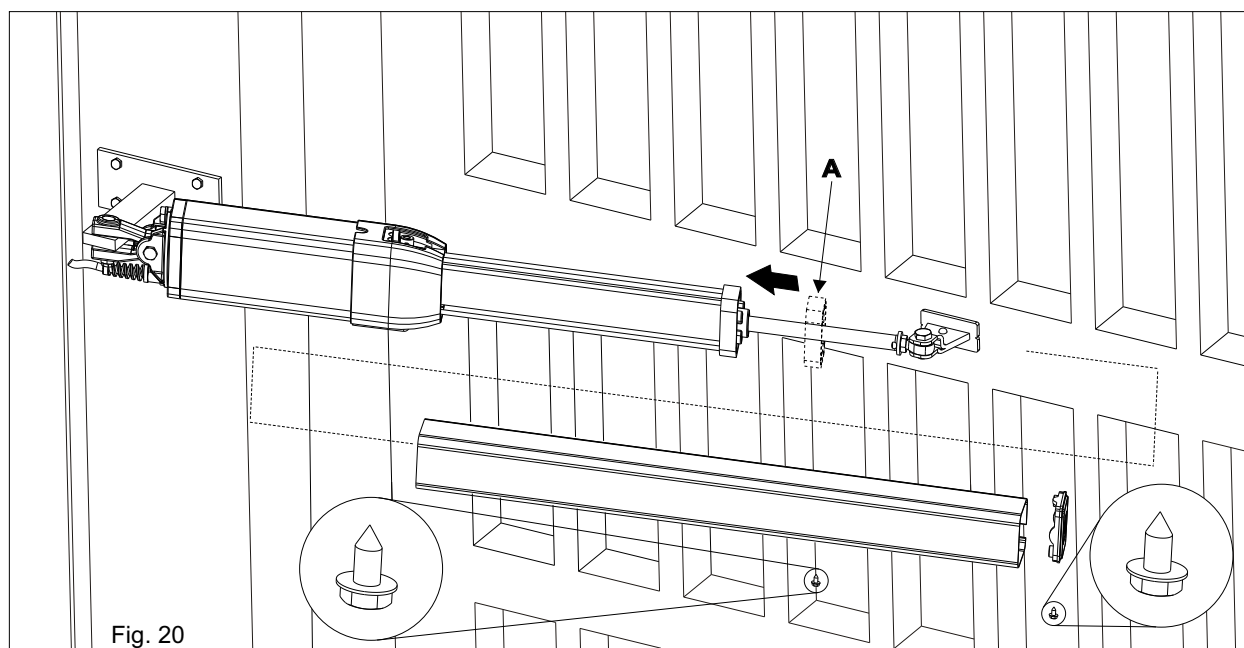


Fig. 20

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. 21 and fig.23. 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. 22), 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. 23).

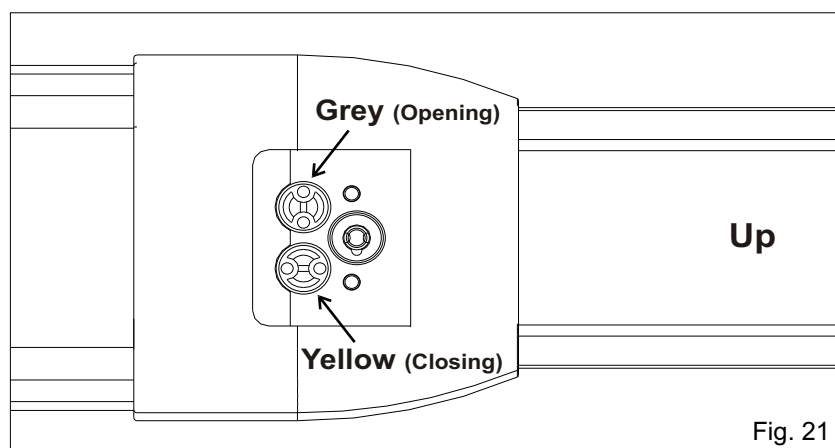


Fig. 21

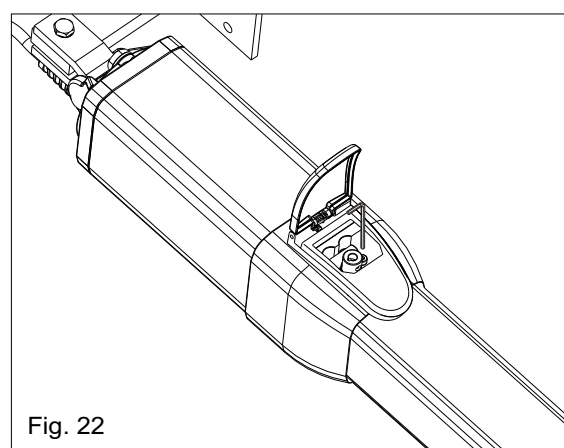
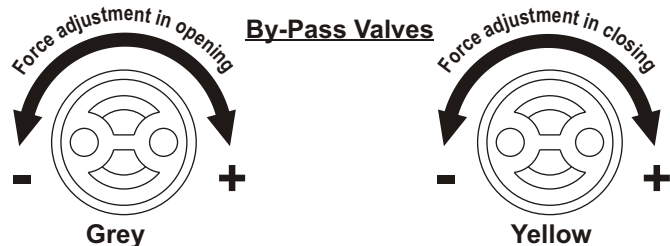


Fig. 22



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.

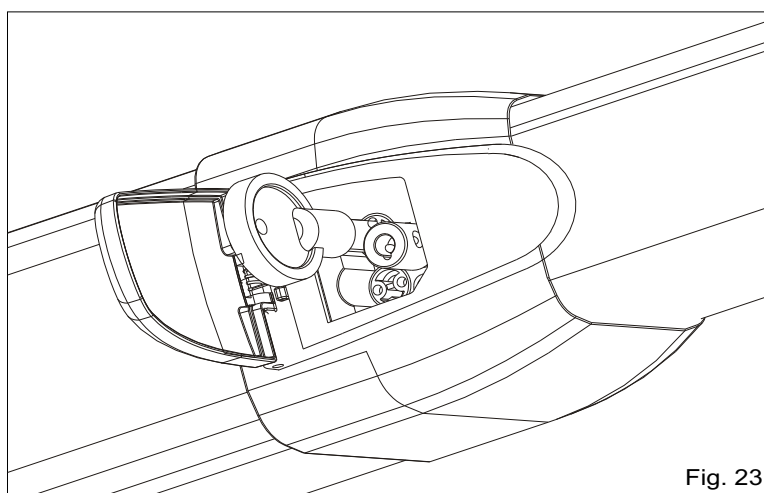


Fig. 23

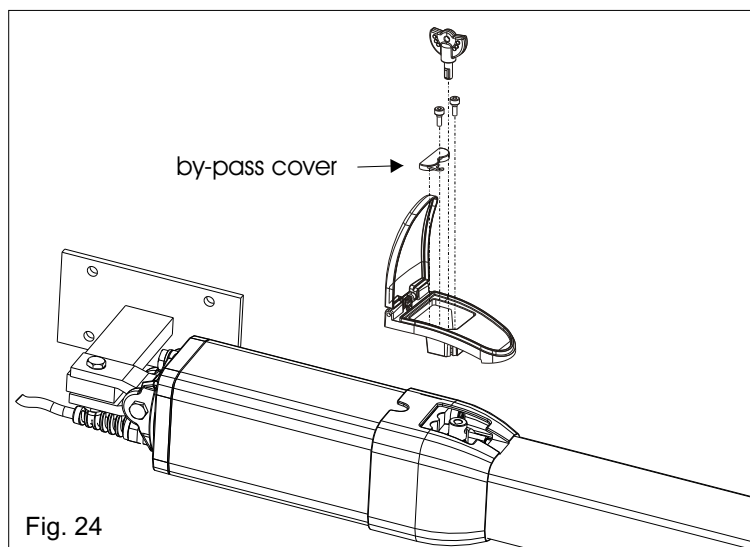


Fig. 24

PLASTIC RELEASE MOUNTING

ATTENTION: the mounting of the plastic release must be effectuated as shown in fig. 24 **only and exclusively** after having finished all the installation 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 25 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. 26)

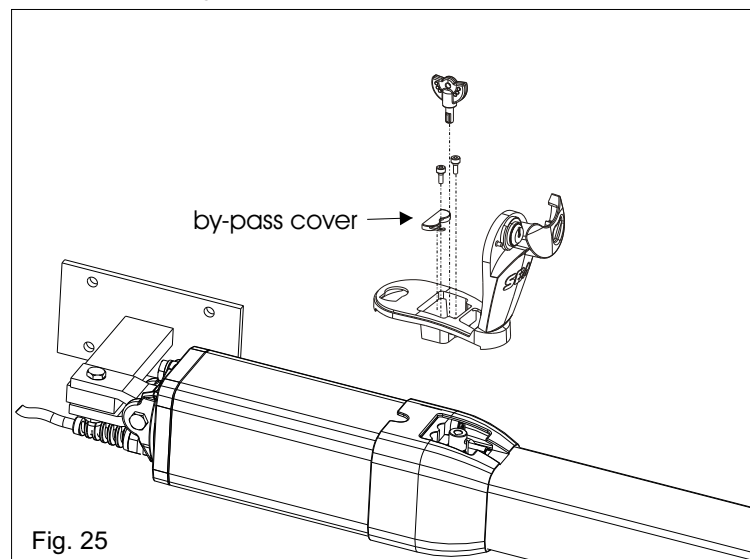


Fig. 25

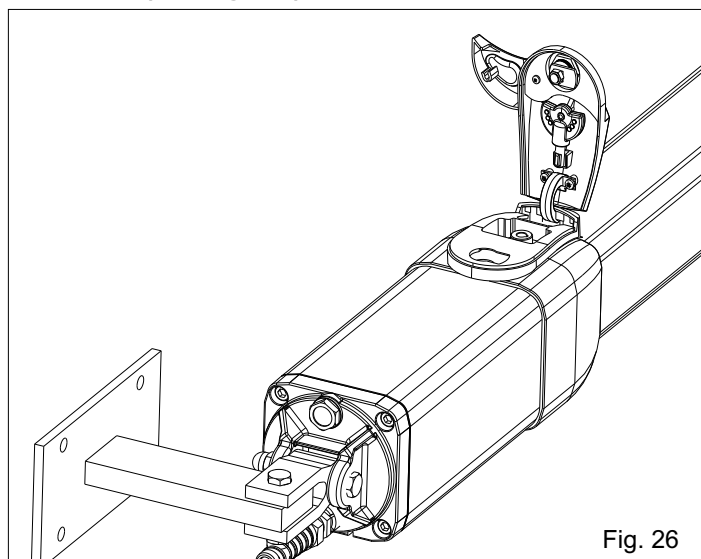


Fig. 26

EXTERNAL RELEASE MOUNTING (accessory on request)

ATTENTION: The mounting of the external release must be executed as shown in the figures 27 and 28. For more details refer to the mounting instructions in the external release mounting Kit for Half Tank.

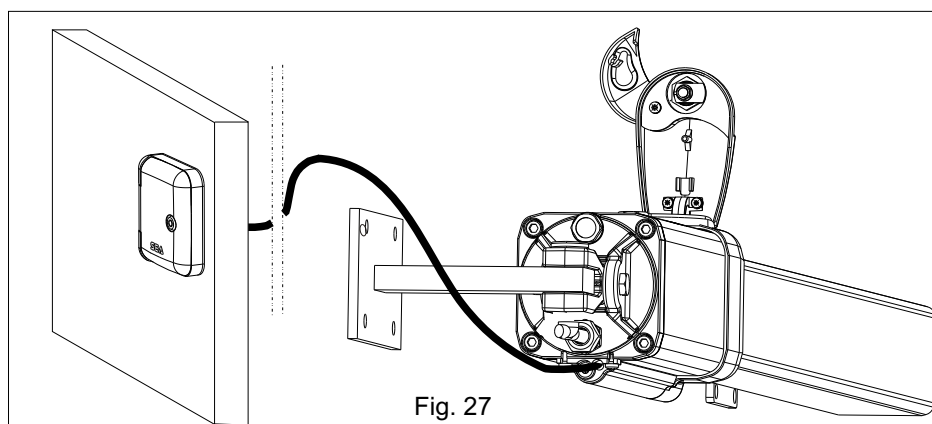


Fig. 27

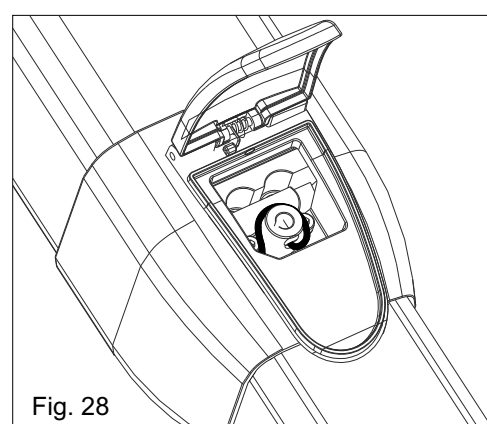
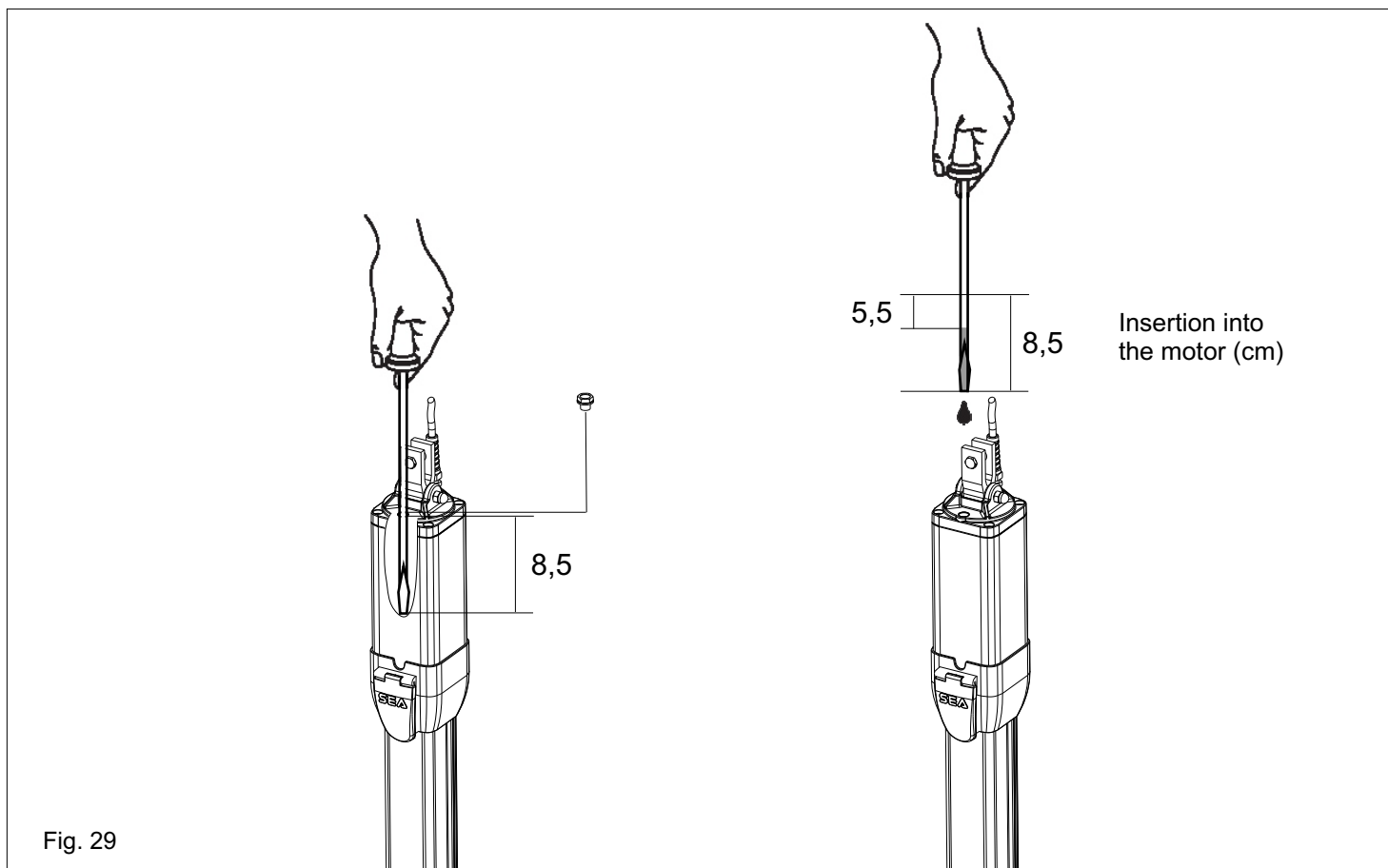
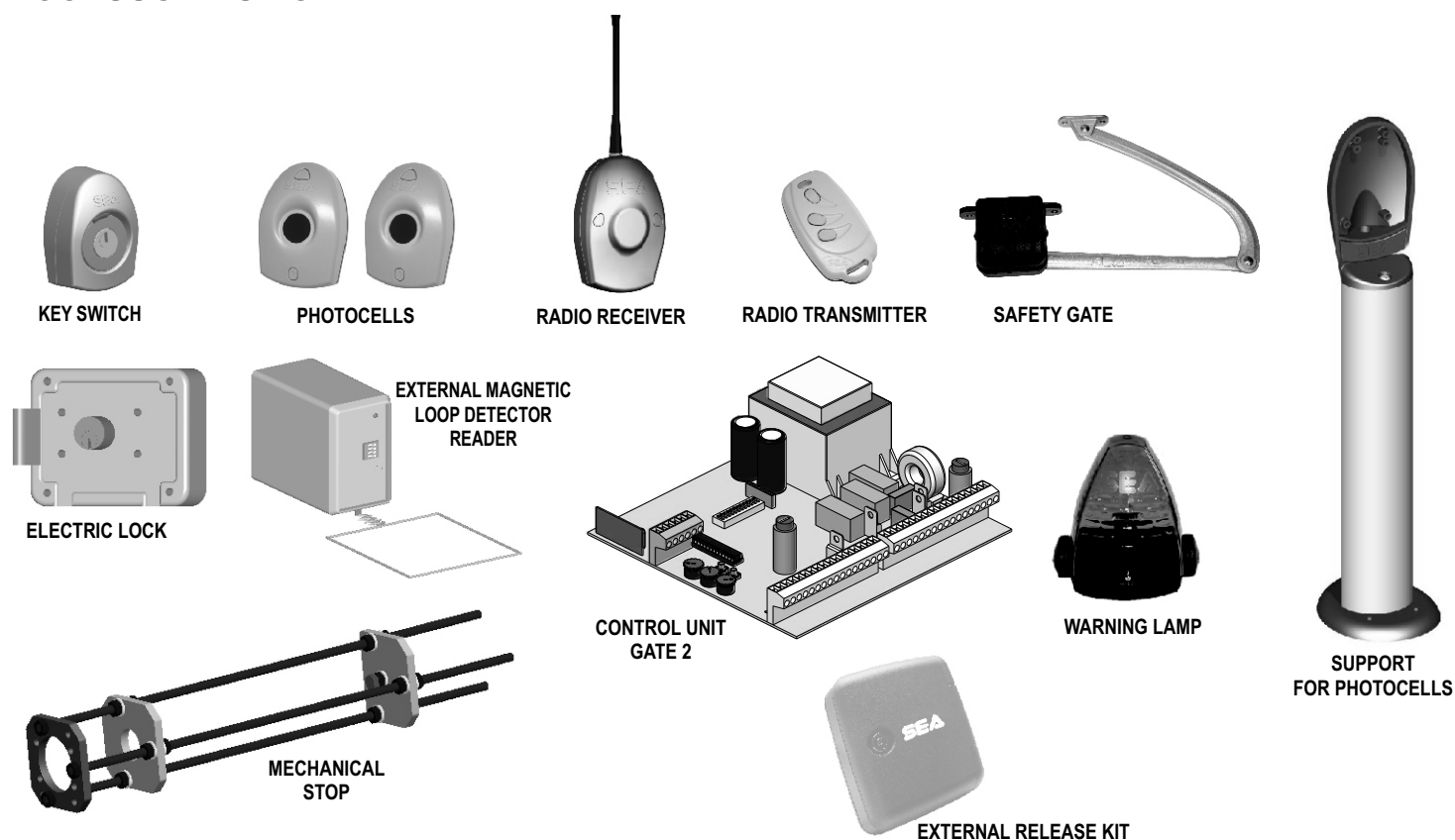


Fig. 28

OIL LEVEL MEASUREMENT



ACCESSORIES FOR HALF TANK



To the attention of users and technicians

RELEASE SYSTEM

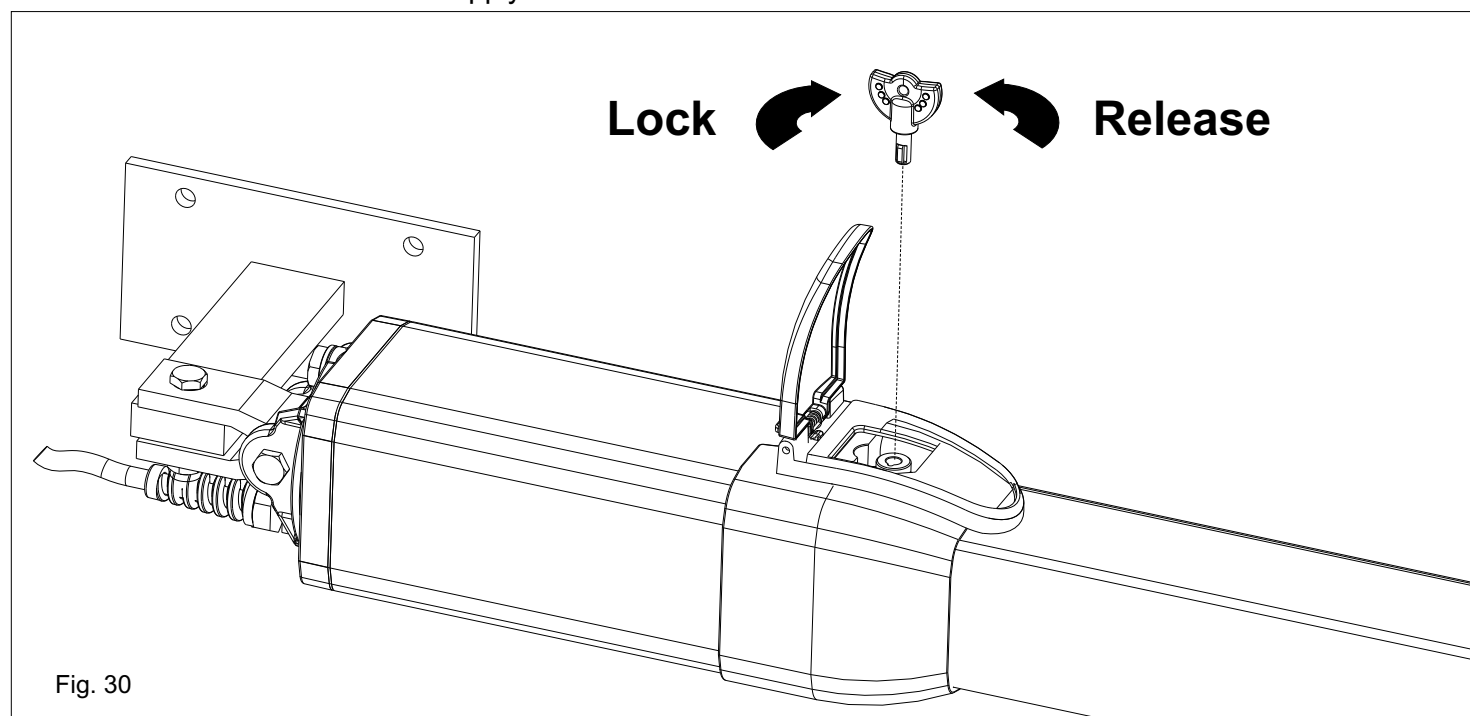
To release operate as follows:

-Insert the key and turn it about 180° anti-clockwise (Fig.30).

To relock the operator do as follows:

-Insert the key and turn it clockwise until it stops (Fig.30).

Attention: To release cut current supply



PERIODICAL MAINTENANCE

1) Check the solidity and the stability of the gate, especially the points of support and/or rotation of the gate (pivots).	Annual
2) Check the oil level of the hydraulic/in oil bath operators (cap on rear cover of the Half Tank)	Annual
3) Change the hydraulic oil with the one recommended from the head company	4 years
4) Check the release function	Annual
5) Check the by-pass valves function	Annual
6) Check and lubricate the fixing pins	Annual
7) Check the integrity of the connection cables	Annual
8) Check the function and the positive stops condition in opening and closing (where there is present a mechanical positive stop accessory)	Annual
9) Check the good status of all parts which are forced (rear bracket, oscillating bracket and front bracket).	Annual
10) Check the operating of all accessories, especially the function of all safety devices and of the Safety Gate.	Annual
11) Lubricate the shaft (see page 16) with SEA grease (GREASE GL 00 Cod.65000009)	Annual
12) After having executed the periodical maintenance operations it is necessary to repeat the test and the putting in service of the automation	

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

To the attention of users and technicians

RISK EXAMINATION

The points indicated by arrows in Fig. 31 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.

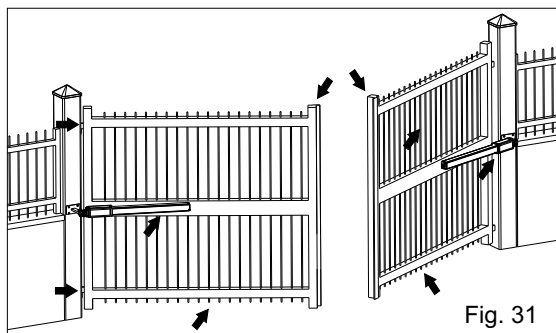


Fig. 31

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)

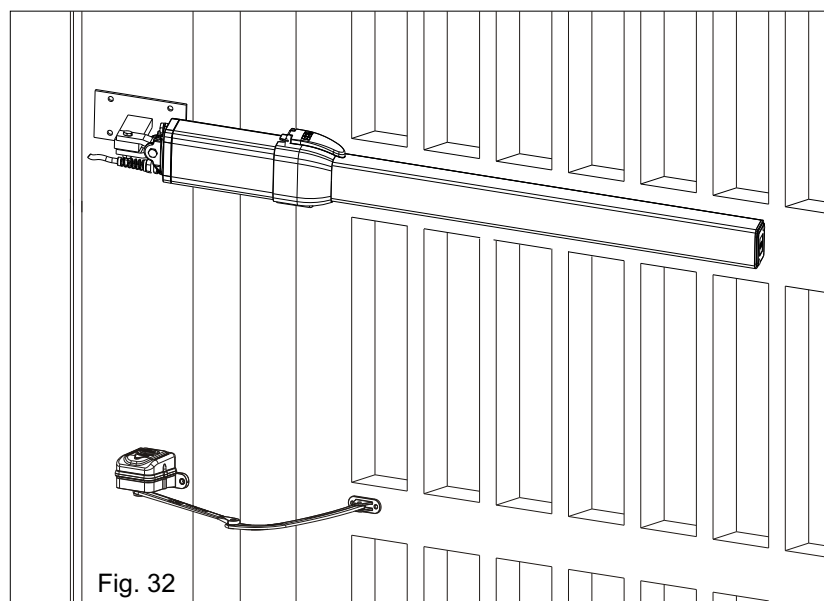


Fig. 32

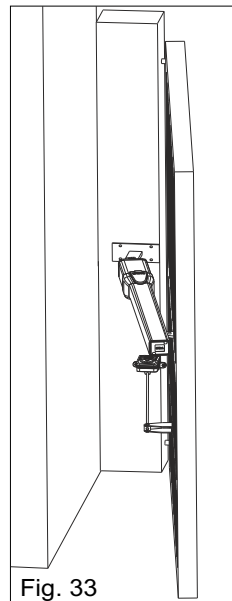


Fig. 33

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

For the guarantee see the sales conditions on the official SEA price list.

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.