



SEA[®]

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

English

HYDRAULIC SWING GATE OPERATOR

ELECTROHYDRAULIC HALF TANK



INSTALLATION MANUAL and security information

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CHARACTERISTICS AND SPECIFICATIONS

The **ELECTROHYDRAULIC HALF TANK 270** and **ELECTROHYDRAULIC HALF TANK 390** products are two high quality hydraulic operators for condominium use for leaf lengths up to respectively 2,60 and 6,50 meters with electric lock. The product comes with integrated mechanical or electronic stops.

Available in the following version:

AC (with lock in opening and closing)

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

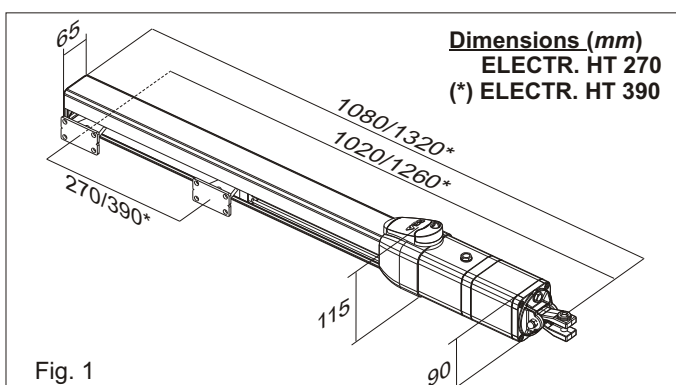
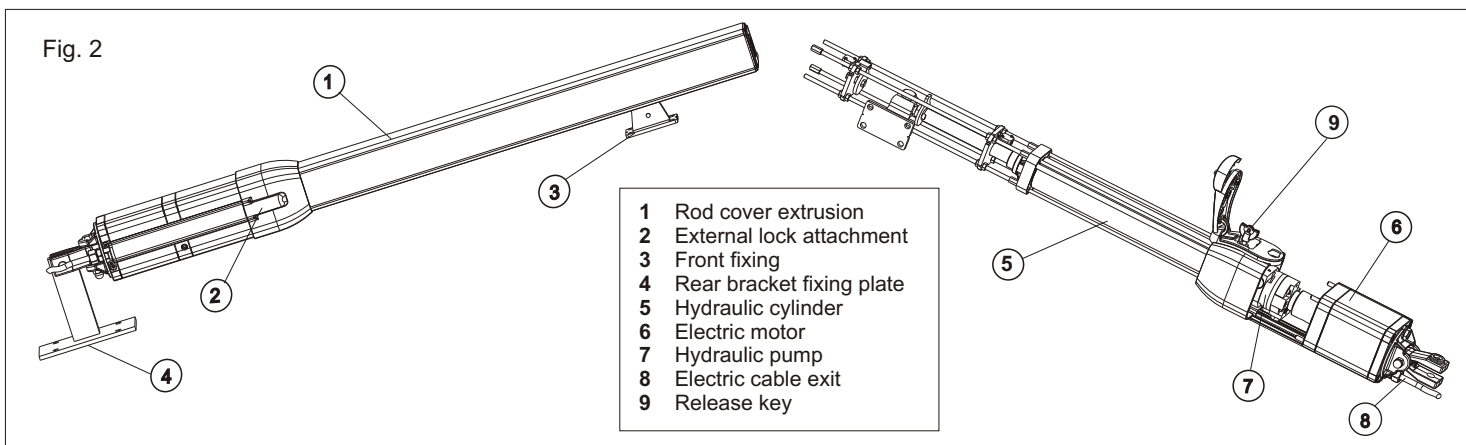
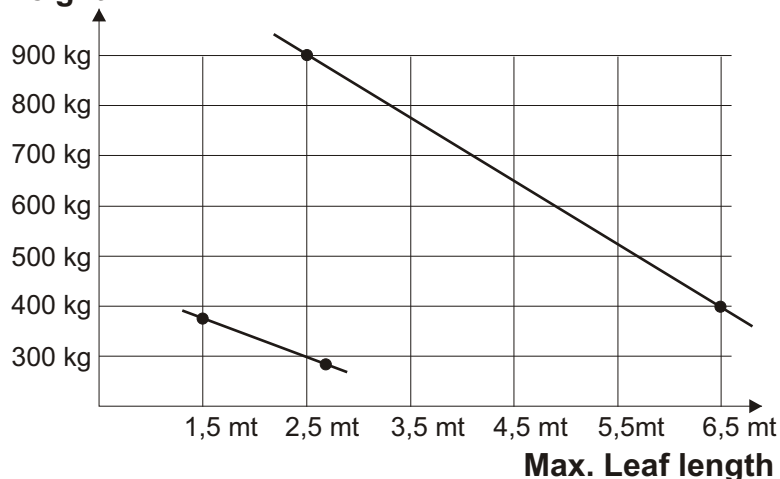
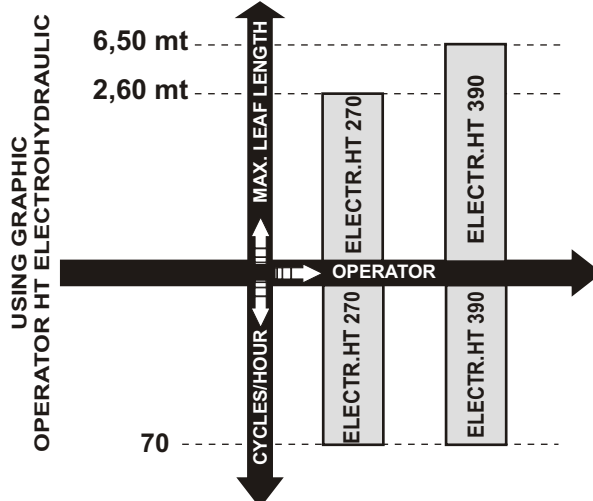


Fig. 1

Weight



TECHNICAL DATA	HTELECTR. 270	HTELECTR. 390
Power supply	230 V (±5%) 50/60 Hz	
Force	250 W	
Absorbed current	10 Ah	
Stroke	270 mm	390 mm
Cycle/hour (temp. of 20°C)	70	
Max working pressure	40 bar	
Operating temperature	-20°C / +55°C	
Motor thermal protection	/	
Max. thrust	640 daN	
Weight	13.6 Kg	15 Kg
Protection	Ip55	
Max. Leaf length	2,60 mt	6,50 mt
Leaf opening degree	90° - 120°	



Note: The frequency of use is valid only for the first hour.

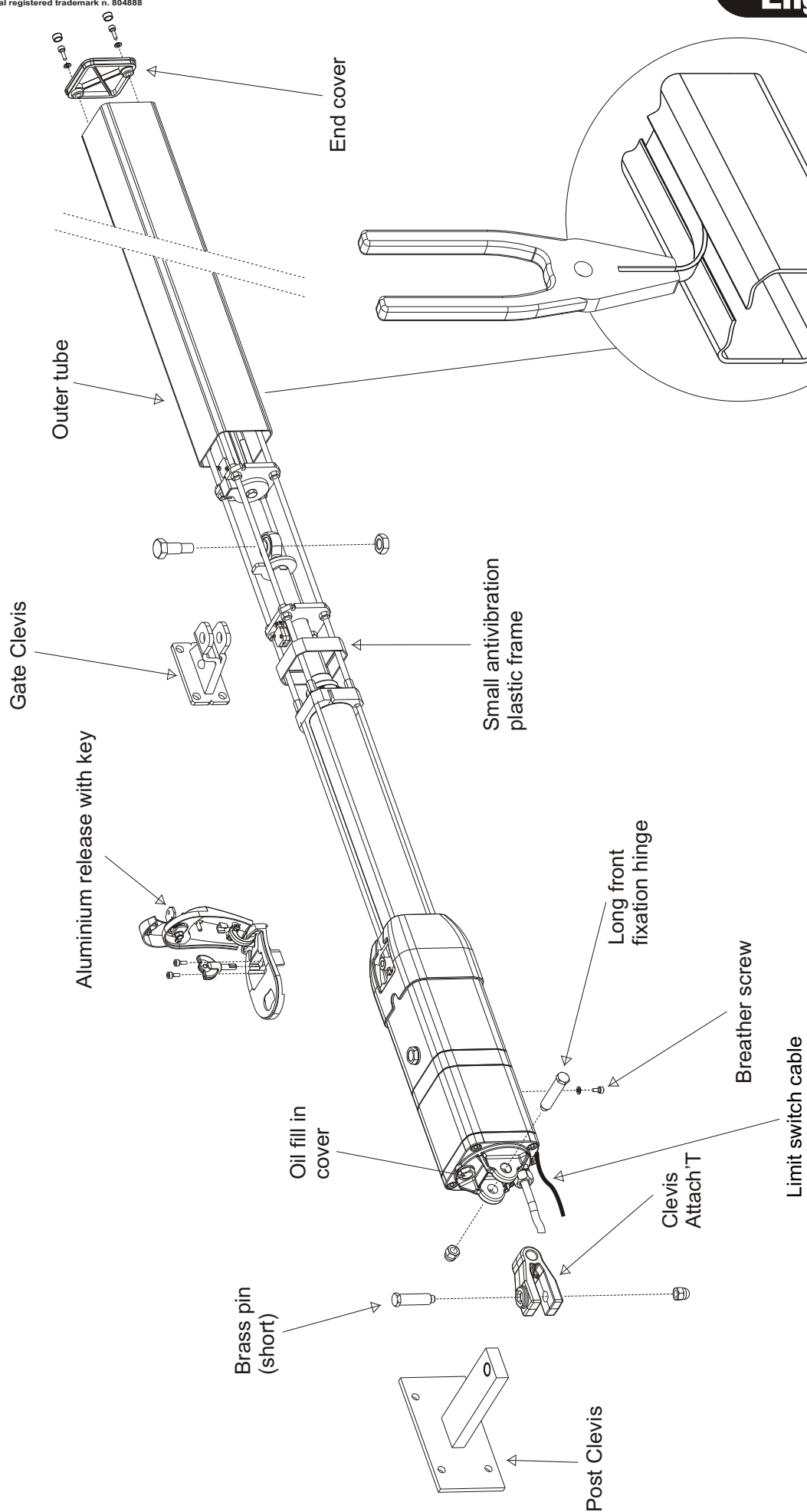


Fig.3



MECHANICAL/ELECTRONIC STOPS ASSEMBLING SCHEME

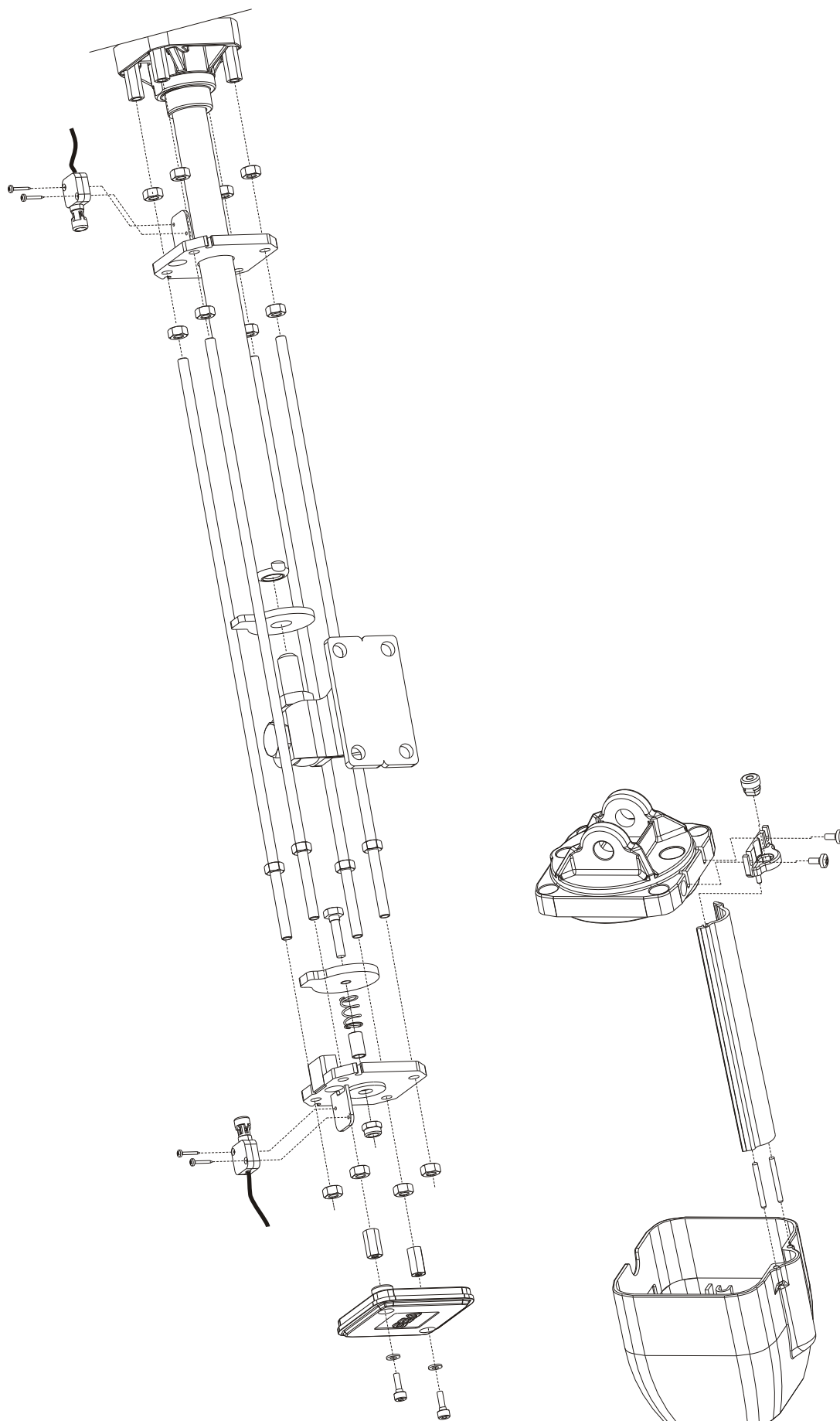
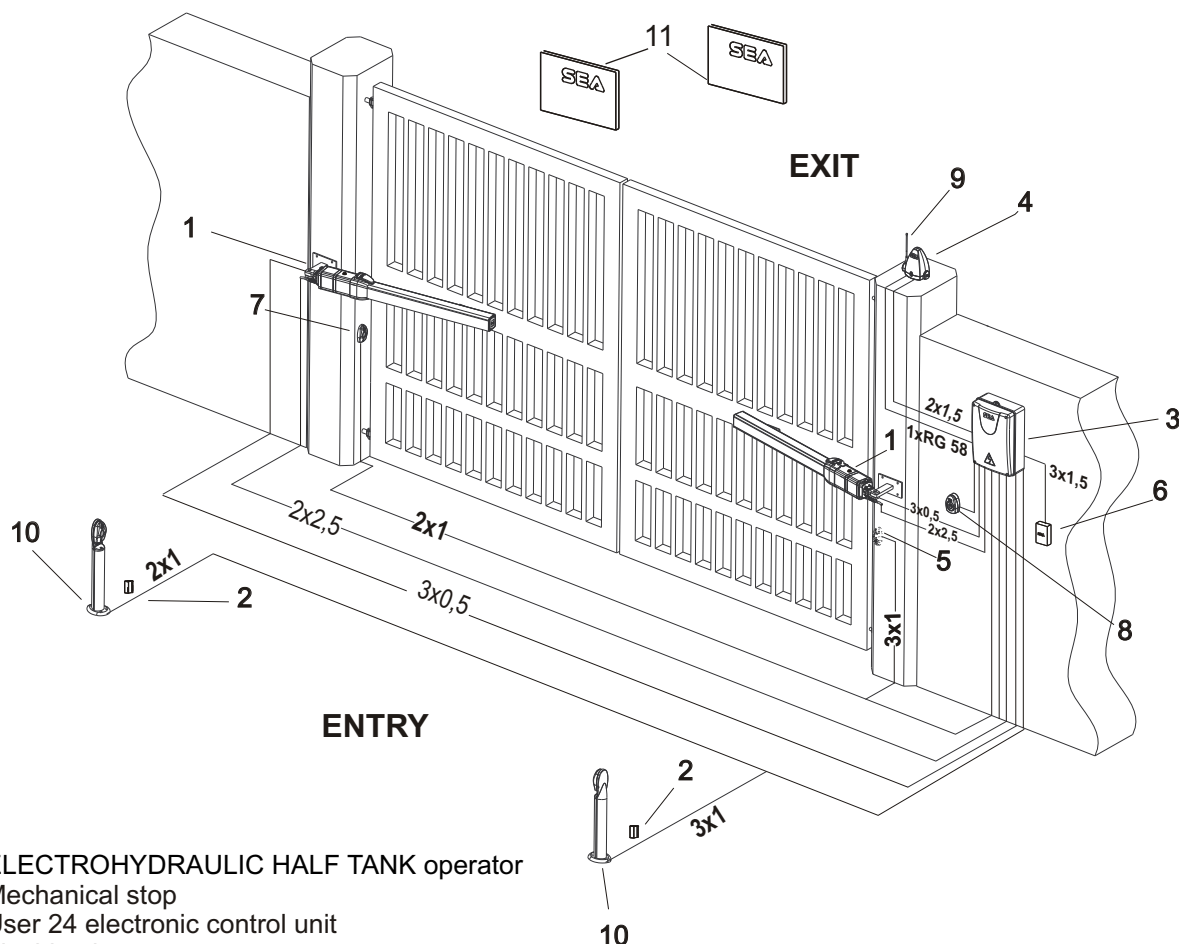


Fig.4



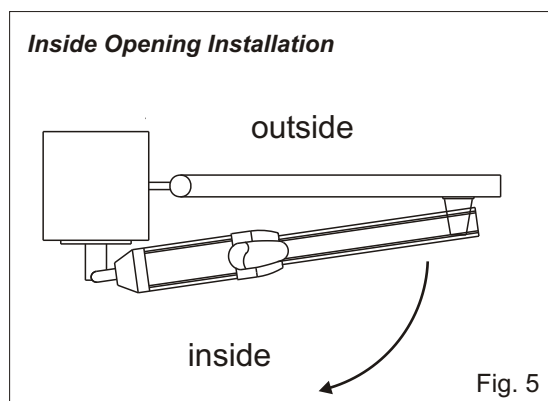
STANDARD INSTALLATION



- 1) ELECTROHYDRAULIC HALF TANK operator
- 2) Mechanical stop
- 3) User 24 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

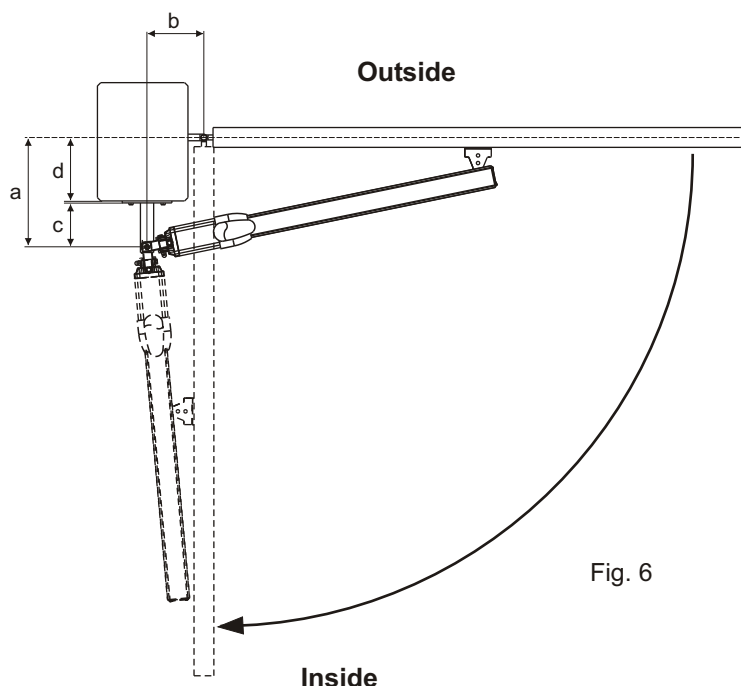
INSTALLATION TYPE

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





INSIDE OPENING INSTALLATION

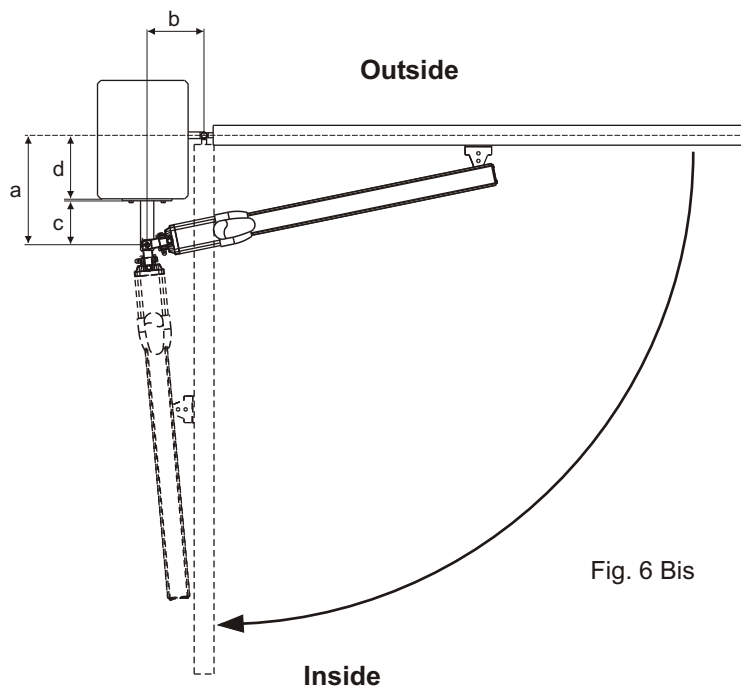


Total stroke 270 mm - max. recommended stroke 250 mm

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.



OSCILLATING FORK INSTALLATION

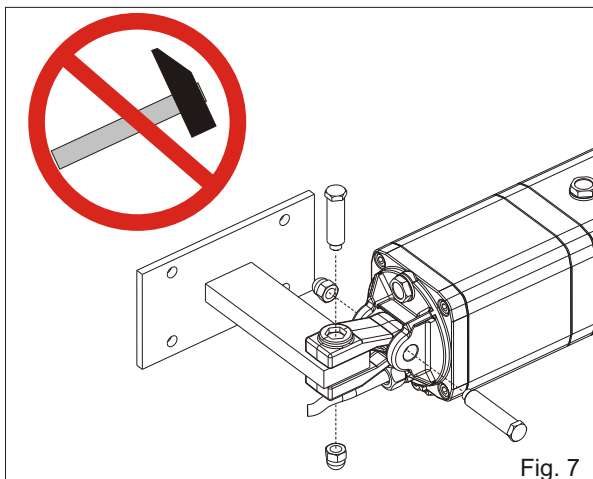


Fig. 7

PRELIMINARY

- Open the package carefully, paying attention to not lose the parts reported in fig.3
- Fix the oscillating fork as in fig.7

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.

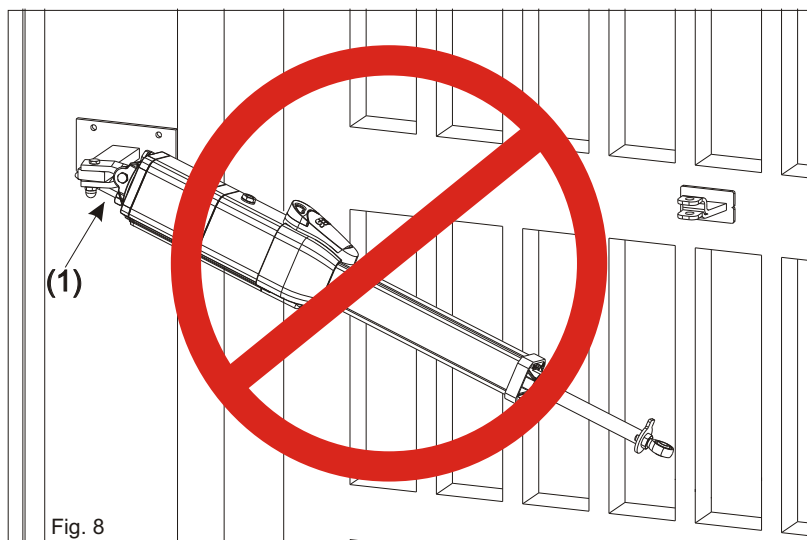


Fig. 8

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 21) the bracket must be first cut respecting the mesurment "a" on pag. 21 and than welded as in fig.9.

The support must be positioned so that the operator is in perfect horizontal position (Fig. 9, Fig.12).

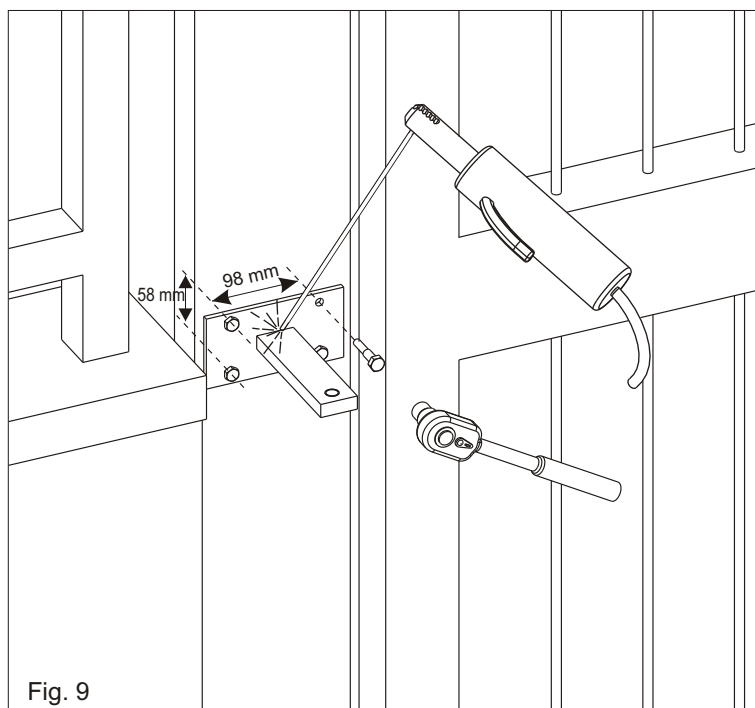


Fig. 9

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

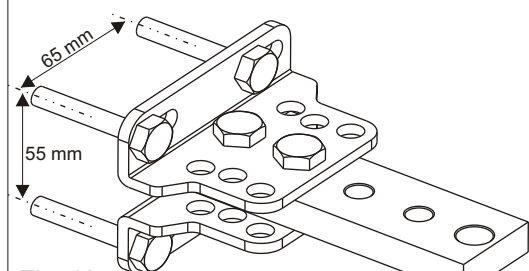


Fig. 10

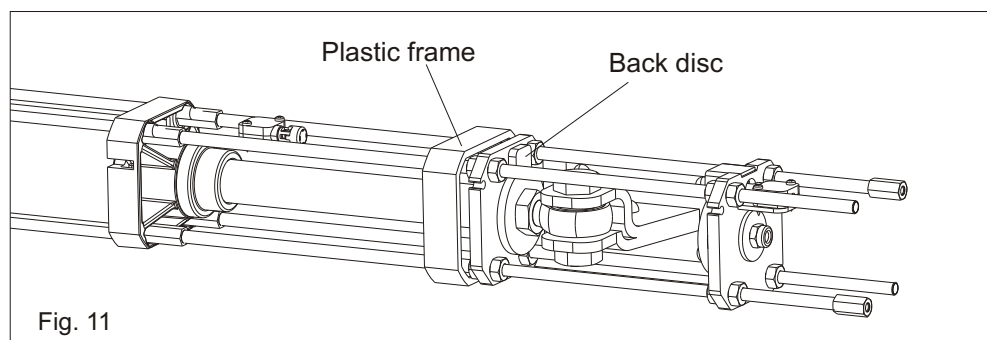


POSITIONING OF THE FRONT FIXATION

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

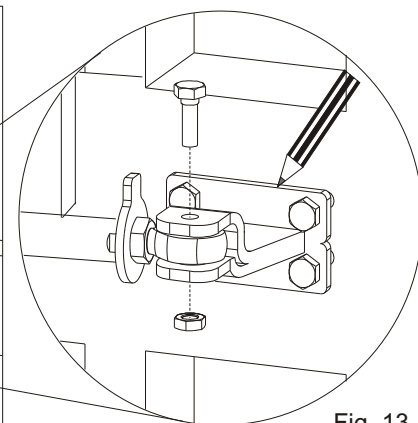
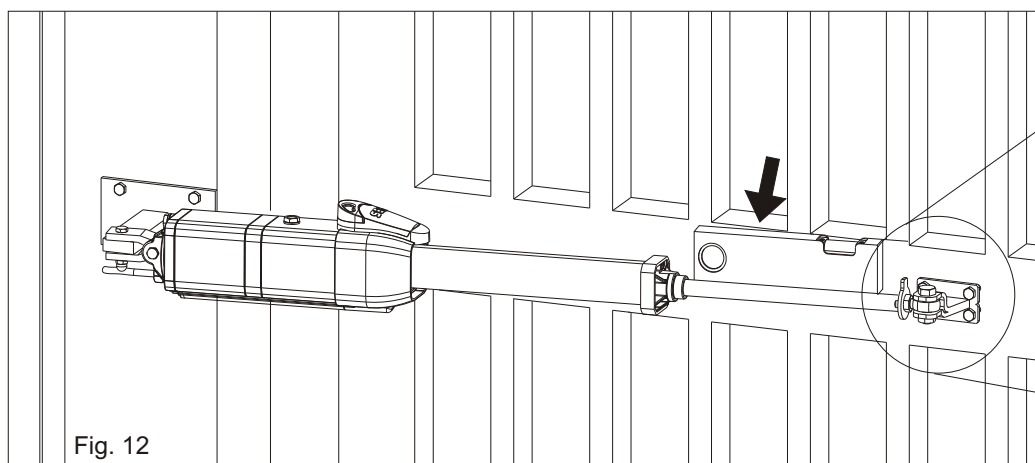
- 1) Release the operator (as in Fig. 31 of page 27)
- 2) Pull out completely the chromium plated rod, **afterwards bring it back about 1 cm**
- 3) Fix the rod on the front fixation (Fig. 13)
- 4) Position the operator perfectly horizontal and mark the position of the front fixation (Fig. 12)

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.



Before inserting the ball joint, insert the disc and the frame as in Fig.11.

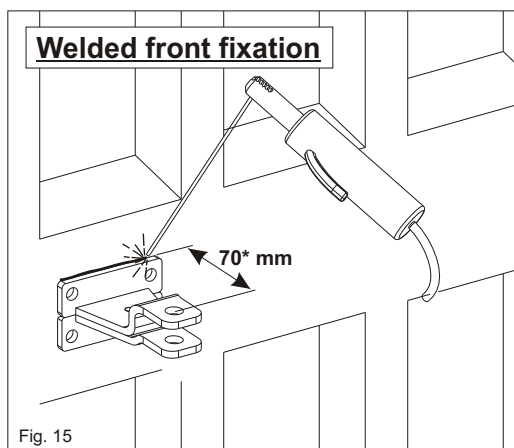
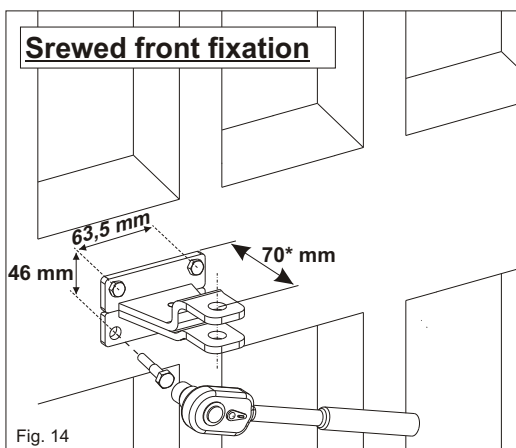
N.B.:The mechanical/electronic stop must be mounted after having installed the operator on the gate.



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



* For HT 270 version
For HT 390 101 mm



INSTALLATION OF THE MECHANICAL LIMIT SWITCH STOPS

- Release the unit (as in Fig. 31 of page 27)
- Let the rod come out about 3/4 of its run
- 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

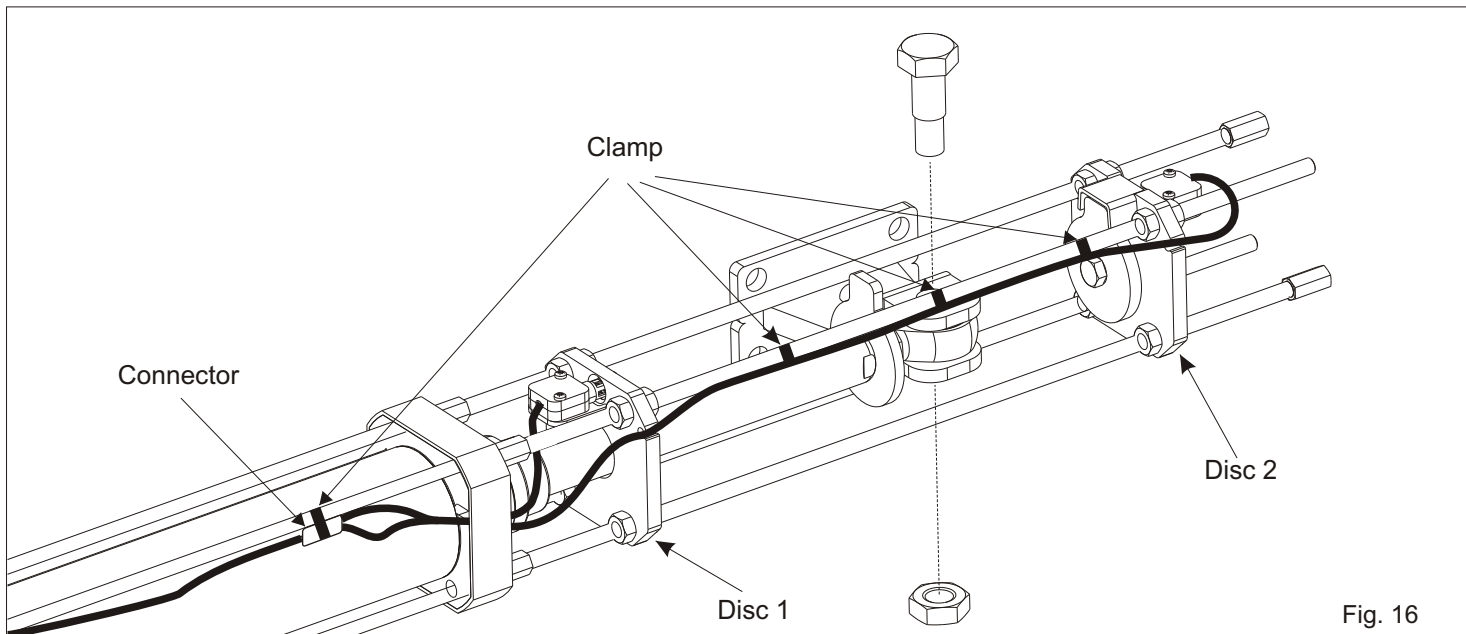


Fig. 16

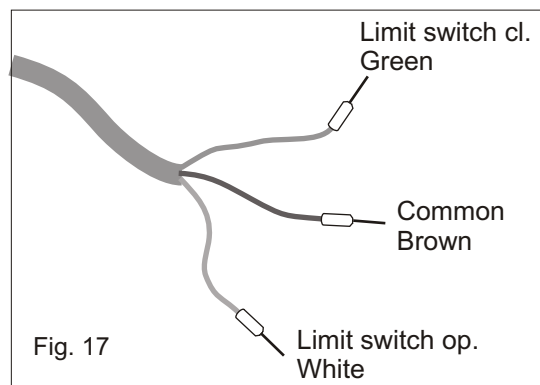


Fig. 17

When fixing the disc make sure that it is equidistant from the two connecting rods, as in Fig.18.

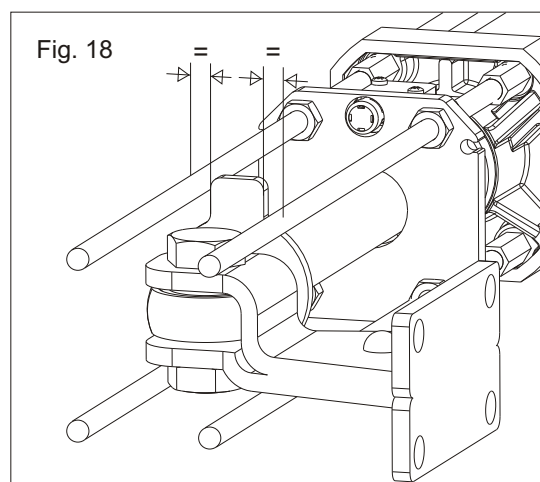


Fig. 18

BREATHER SCREW

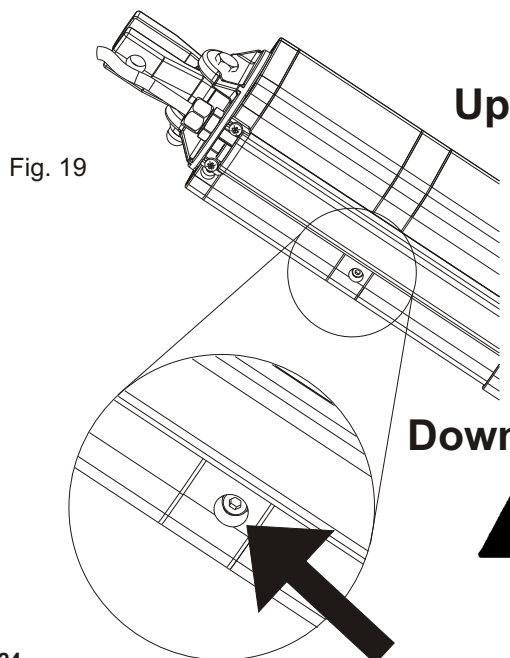


Fig. 19



VERY IMPORTANT

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



Unscrew and take off at the end of the installation

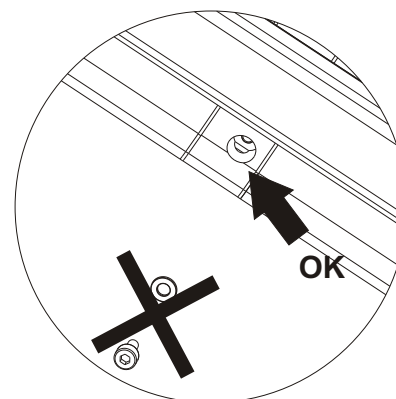


Fig. 20



INSTALLATION OF THE CHROMIUM-PLATED ROD PROTECTION

Make sure to have inserted the antivibration plastic frame (A) before inserting the rod cover extrusion (Fig. 21)

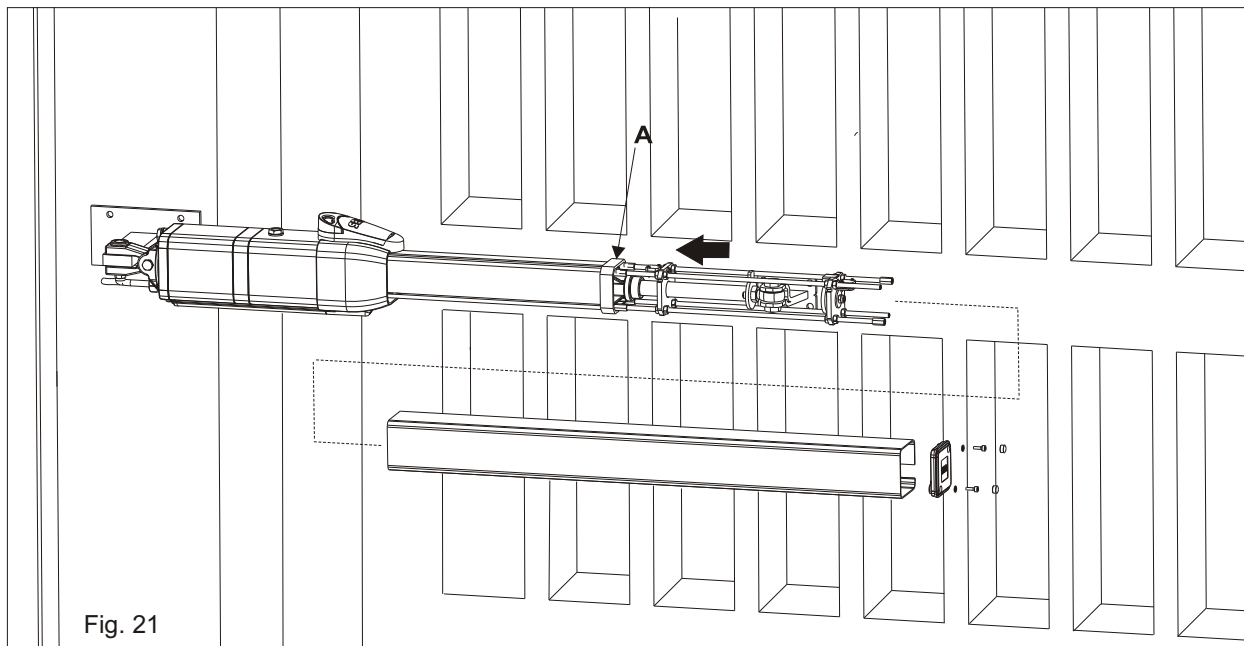


Fig. 21

N.B.: When inserting the piston cover, pay attention to not damage the cables of the limit switch.

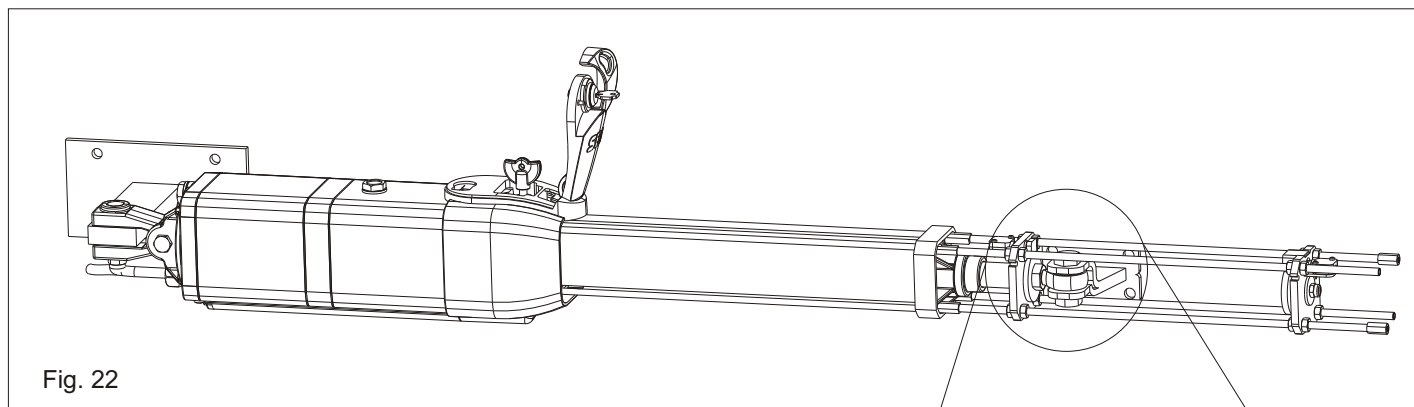


Fig. 22

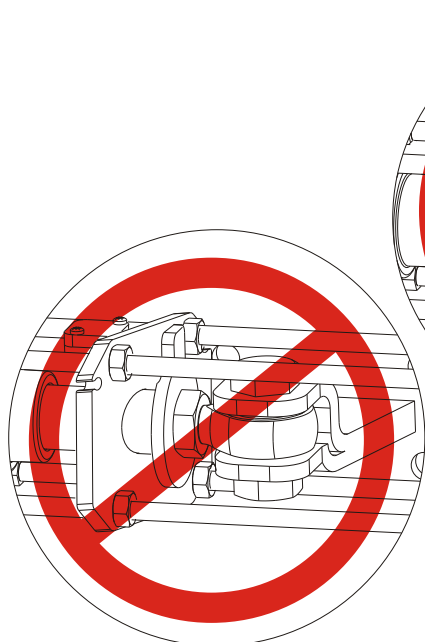


Fig. 24

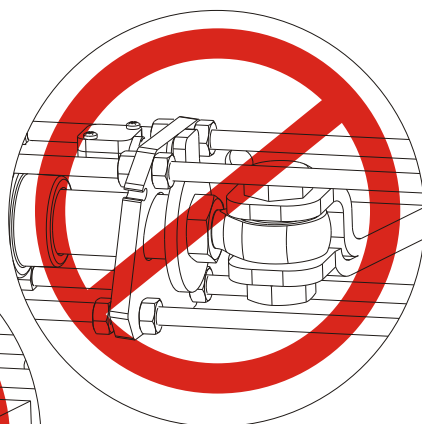


Fig. 25

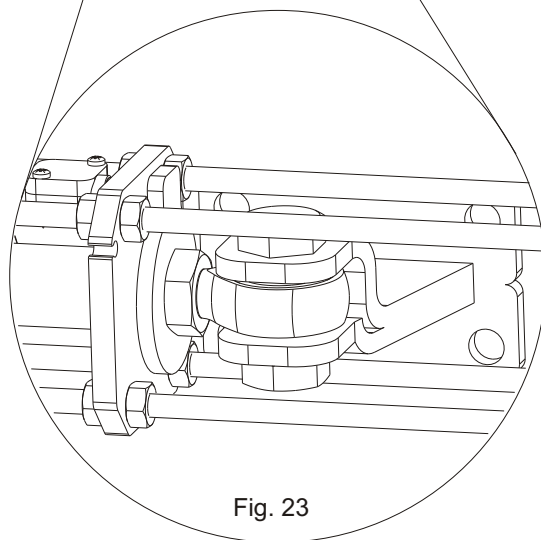


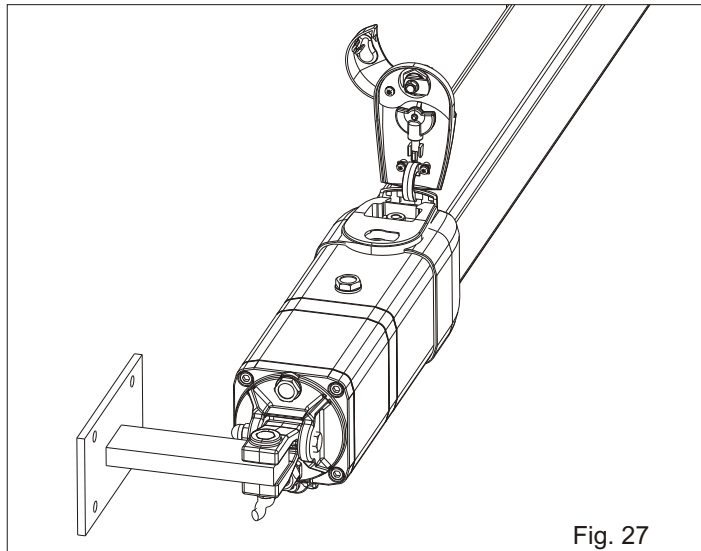
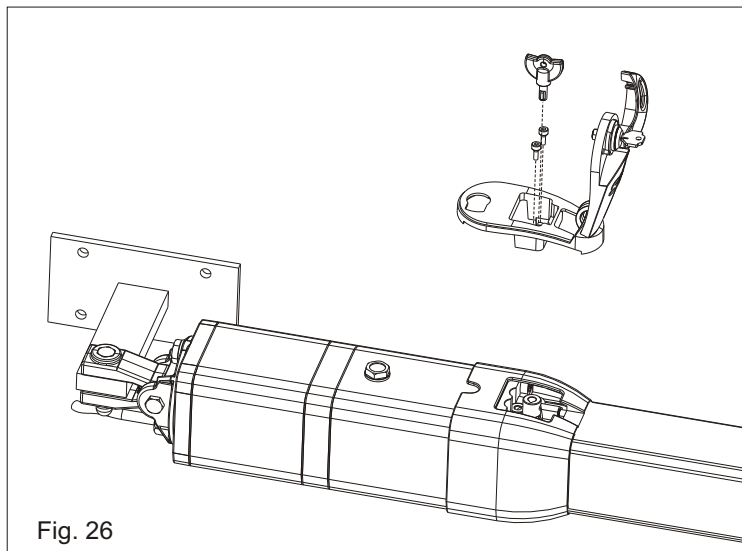
Fig. 23

N.B.: Make sure that the two discs perfectly fit in opening phase.



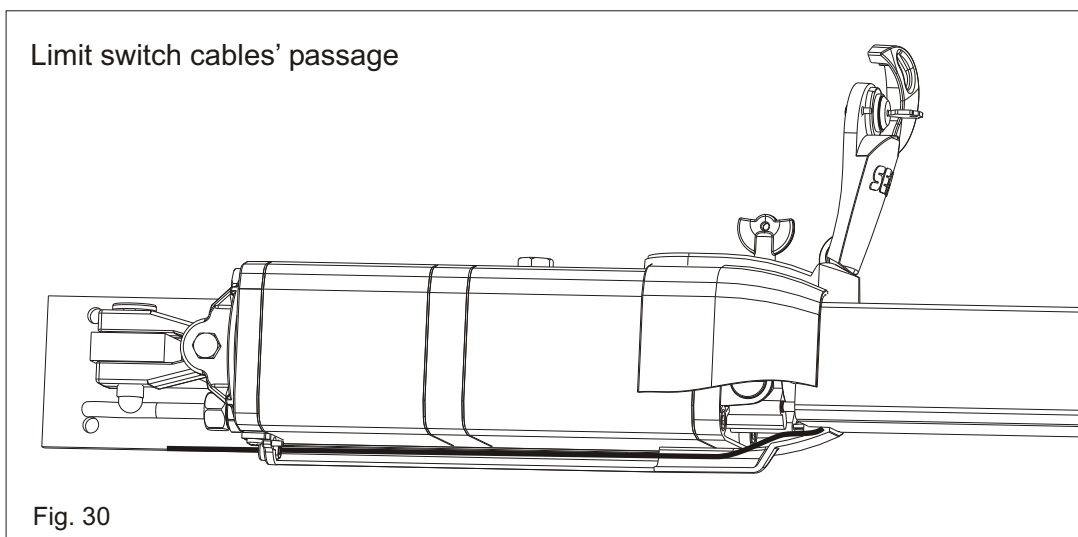
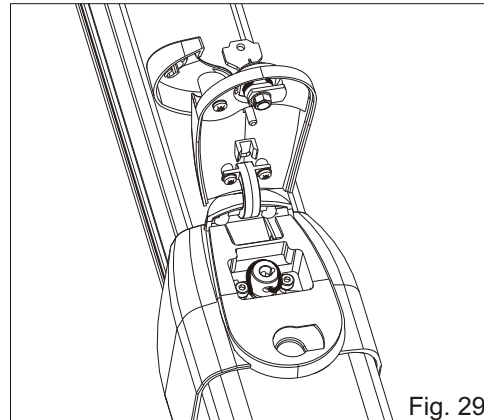
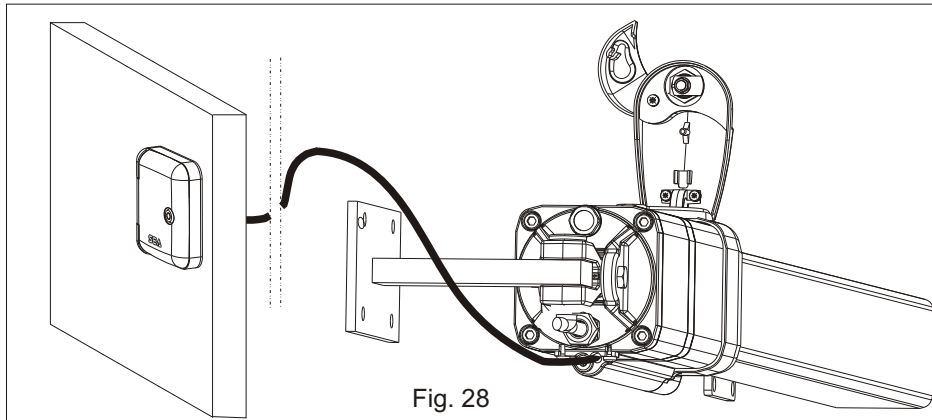
ALUMINIUM RELEASE WITH KEY MOUNTING (accessory on request)

The release key is kept in the inside of the aluminium release cover (see fig. 27)



EXTERNAL RELEASE MOUNTING (accessory on request)

ATTENTION: The mounting of the external release must be executed as shown in the figures 28 and 29. For more details refer to the mounting instructions in the external release mounting Kit for Electrohydraulic Half Tank.





RELEASE SYSTEM

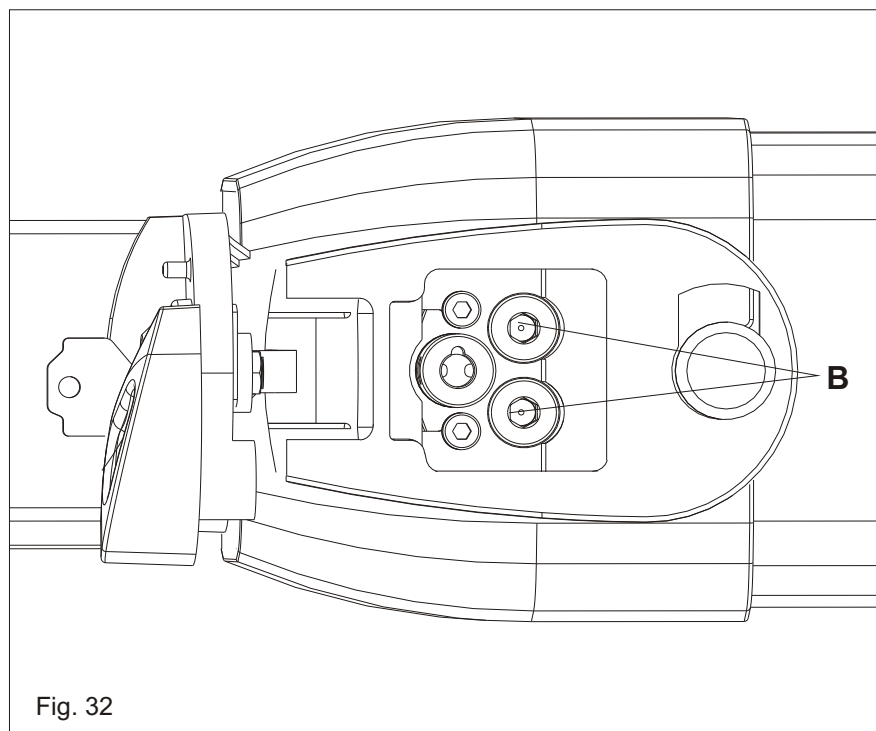
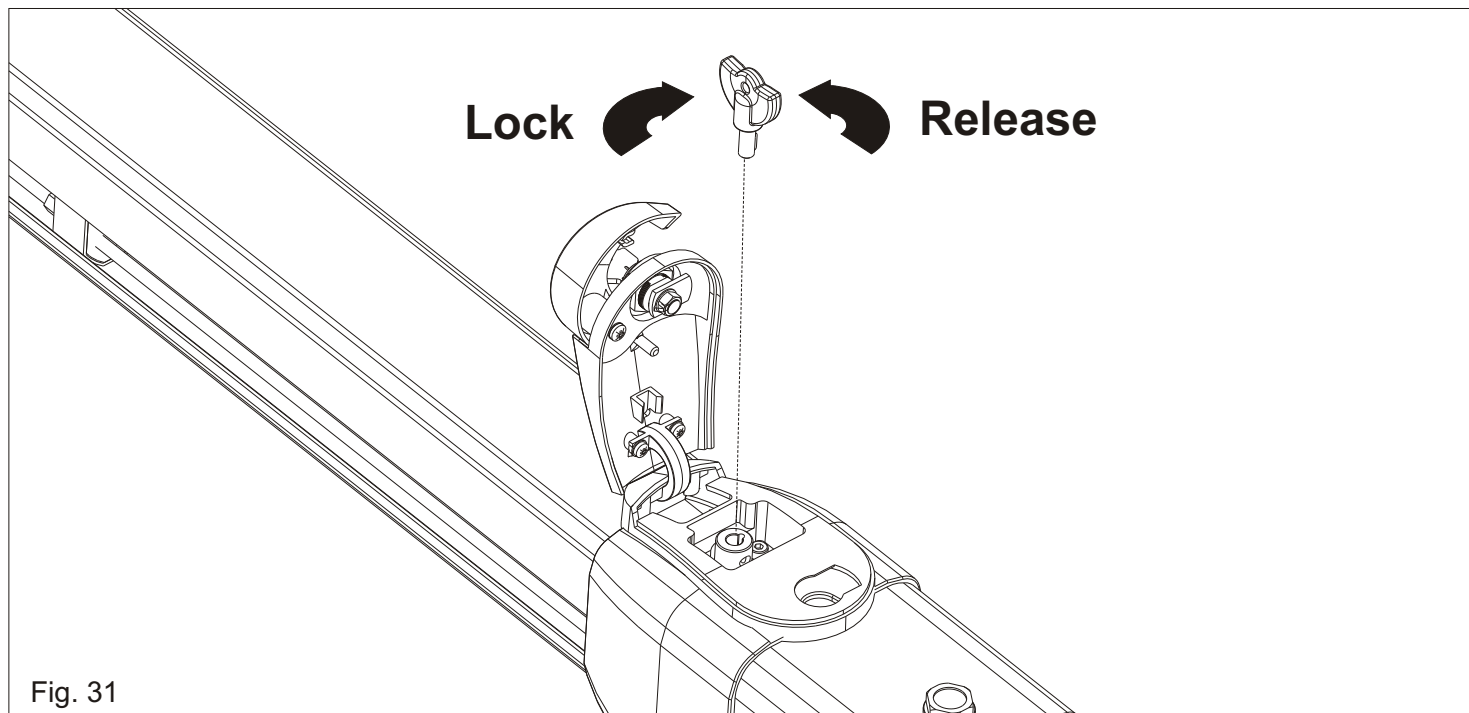
To release operate as follows:

-Insert the key and turn it about 180° anti-clockwise (Fig.31).

To relock the operator do as follows:

-Insert the key and turn it clockwise until it stops (Fig.31).

Attention: When manually moving the leaf make sure to not exceed its operating speed



Attention: Do not use B as by pass valves, they have the function of non removable caps.



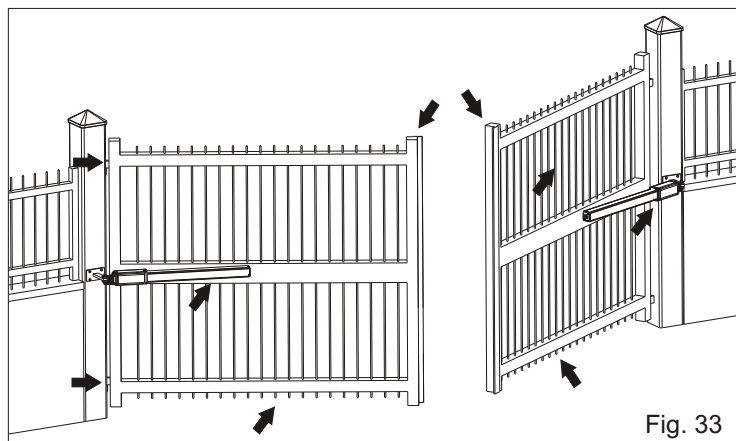
PERIODICAL MAINTENANCE

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	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 and grease the fixation pivots	Annual
6) Check the integrity of the connecting cables	Annual
7) Check the function and the conditions of the limit switch stops in opening and closing	Annual
8) Check the good status of all the apparatus which are subject to efforts (back fixation, oscillating fork, and front fixation)	Annual
9) Check the functionality of all the accessories especially the function of all security devices	Annual
10) After having executed the periodical maintenance it is necessary to repeat the test and to reactivate the automation.	Annual

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

RISK EXAMINATION

The points indicated by arrows in Fig. 33 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 ELECTROHYDRAULIC HALF TANK, 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**.



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HALF TANK ELETTROIDRAULICO English

ACCESSORIES FOR ELECTROHYDRAULIC HT



KEY SWITCH



PHOTOCELLS



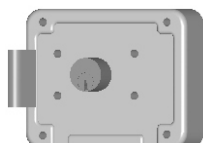
RADIO RECEIVER



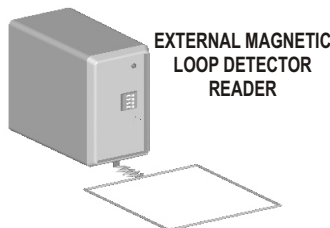
RADIO TRANSMITTER



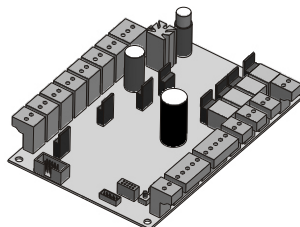
WARNING LAMP



ELECTRIC LOCK



EXTERNAL MAGNETIC
LOOP DETECTOR
READER



CONTROL UNIT
USER 24V



EXTERNAL RELEASE KIT



SUPPORT
FOR PHOTOCELLS

CONFORMITY DECLARATION

SEA declares under its own responsibility that the product

Electrohydraulic 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 Electrohydraulic 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:

SEAs.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 Electrohydraulic Half Tank is guaranteed for a period of 36 months. The guarantee period starts from the date printed on the unit. The Electrohydraulic 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.



TERMS OF SALE

EFFICACY OF THE FOLLOWING TERMS OF SALE: The following general terms of sale shall be applied to all orders sent to SEA srl. All sales made by SEA to all customers are made under the prescription of this terms of sales which are integral part of the sale contract and cancel and substitute all opposed clauses or specific negotiations present in the order or in other documents received from the buyer.

GENERAL NOTICE The gate automation systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EN 12453 EN12445 and others) and with good installation practice releases SEA from any responsibilities. SEA shall not be held responsible for any failure to execute a correct and safe installation under the above mentioned standards.

1) PROPOSED ORDER The proposed order shall be accepted only prior SEA approval of it. By signing the proposed order, the Buyer shall be bound to enter a purchase agreement, according to the specifications stated in the proposed order and always under those Terms of sale. On the other hand, failure to notify the Buyer of said approval must not be construed as automatic acceptance on the part of SEA.

2) PERIOD OF THE OFFER The offer proposed by SEA or by its branch sales department shall be valid for 30 solar days, unless otherwise notified.

3) PRICING The prices in the proposed order are quoted from the Price List which is valid on the date the order was issued. The discounts granted by the branch sales department of SEA shall apply only prior to acceptance on the part of SEA. The prices are for merchandise delivered ex-works from the SEA establishment in Teramo, not including VAT and special packaging. SEA reserves the right to change at any time this price list, providing timely notice to the sales network.

4) PAYMENTS The accepted forms of payment are each time notified or approved by SEA. The interest rate on delay in payment shall be 1.5% every month but anyway shall not be higher than the max. interest rate legally permitted.

5) DELIVERY Delivery shall take place, approximately and not peremptorily, within 30 working days from the date of receipt of the order, unless otherwise notified. Transport of the goods sold shall be at Buyer's cost and risk. SEA shall not bear the costs of delivery giving the goods to the carrier, as chosen either by SEA or by the Buyer. Any loss and/or damage of the goods during transport, are at Buyer's cost.

6) COMPLAINTS Any complaints and/or claims shall be sent to SEA within 8 solar days from receipt of the goods, proved by adequate supporting documents as to their truthfulness.

7) SUPPLY The concerning order will be accepted by SEA without any engagement and subordinately to the possibility to get its supplies of raw material which is necessary for the production; Eventual completely or partially unsuccessful executions cannot be reason for complains or reservations for damage. SEA supply is strictly limited to the goods of its manufacturing, not including assembly, installation and testing. SEA, therefore, disclaims any responsibility for damage deriving, also to third parties, from noncompliance of safety standards and good practice during installation and use of the purchased products.

8) WARRANTY.

SILVER: The mechanical components of the operators belonging to this line are guaranteed for 24 months from the date of manufacturing written on the operator.

GOLD: The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator.

PLATINUM: The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. The base warranty (36 months) will be extended for further 24 months (up to a total of 60 months) when it is acquired the certificate of warranty which will be filled in and sent to SEA s.r.l. within 30 days from the purchase date. The electronic devices and the systems of command are guaranteed for 24 months from the date of manufacturing. In case of defective product, SEA undertakes to replace free of charge or to repair the goods provided that they are returned to SEA repair centre.

The definition of warranty status is by unquestionable assessment of SEA. The replaced parts shall remain propriety of SEA. Binding upon the parties, the material held in warranty by the Buyer, must be sent back to SEA repair centre with fees prepaid, and shall be dispatched by SEA with carriage forward. The warranty shall not cover any required labour activities. The recognized defects, whatever their nature, shall not produce any responsibility and/or damage claim on the part of the Buyer against SEA. The guarantee is in no case recognized if changes are made to the goods, or in the case of improper use, or in the case of tampering or improper installation, or if the product label of the manufacturer with the registered SEA trademark n° 804888 has been removed. Furthermore, the warranty shall not apply if SEA products are partly or completely coupled with non-original mechanical and/or electronic components, and in particular, without a specific relevant authorization, and if the Buyer is not making regular payments. The warranty shall not cover damage caused by transport, expendable material, faults due to non-conformity with performance specifications of the products shown in the price list. No indemnification is granted during repairing and/or replacing of the goods in warranty. SEA disclaims any responsibility for damage to objects and persons deriving from non-compliance with safety standards, installation instructions or use of sold goods. The repairs of products in warranty and out of warranty is accepted only if the procedure of SEA are fully respected by the customer.

9) RESERVED DOMAIN A clause of reserved domain applies to the sold goods; SEA shall decide autonomously whether to make use of it or not, whereby the Buyer acquires the property of the goods only after full payment of the invoice.

10) COMPETENT COURT OF LAW In case of disputes arising from the application of the agreement, the competent court of law is the tribunal of Teramo. The official language for the interpretation of the catalogue, the manuals, the terms of sale and any other is the Italian language. SEA reserves the faculty to make technical changes to improve its own products, which are and are not included in this price list at any moment and without notice.

SEA declines any responsibility due to possible mistakes contained inside the present price list caused by printing and/or copying. The present price list cancels and substitutes the previous ones. The Buyer, according to the law No. 196/2003 (privacy code) consents to put his personal data, deriving from the present contract, in SEA archives and electronic files, and he also gives his consent to their treatment for commercial and administrative purposes.

Industrial ownership rights: with the purchase, the buyer accepts in full the present Terms of Sale and recognizes that SEA has the exclusive legal ownership of the registered SEA International trademark n° 804888 which is attached on each products label, and/or on manuals, packaging and/or in any other documentation, and he will commit himself to use it in its marketing and/or installation activity in a way which does not reduce the value of these rights; he won't also remove, replace or modify the trademark or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any change of signs-brands on the products, unless preventive and expressed authorization by SEA.



SEA[®]
Sistemi Elettronici
di Apertura Porte e Cancelli
International registered trademark n. 804888



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