



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

BOXER 1000 - 2000



MOUNTING AND CONNECTING INSTRUCTIONS

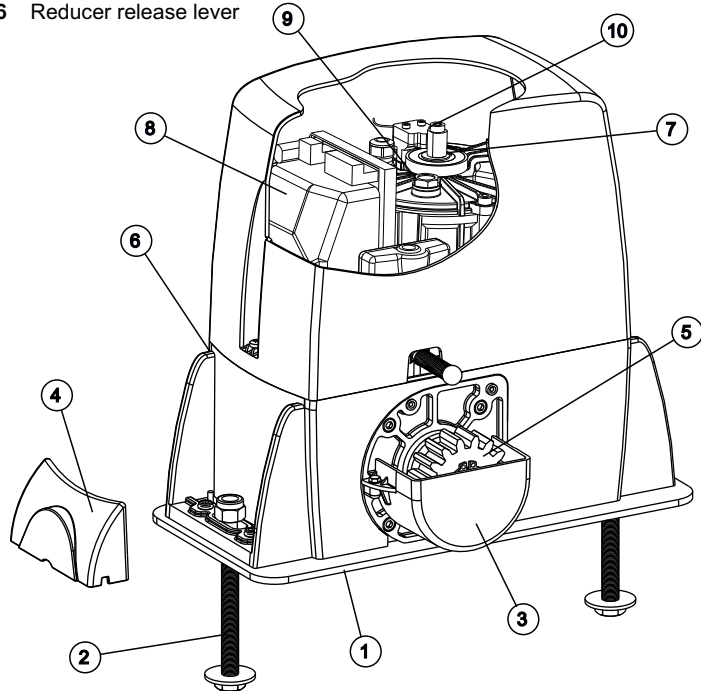
ENGLISH

BOXER is an **oil-bathed motor-reducer** created for sliding gates automation.

The irreversibility of the motor reducer allows a perfect and safe gate closing, and makes the installation of an electric lock unnecessary. In case of electric power cut, the lock device placed on the front part of the motor reducer allows the manual opening and closing. The operator is equipped with an electronic clutch device and with an **adjustable mechanical clutch** in the **1000** and **2000** versions, which guaranties a thrust adjustment on the gate, furthermore the **electronic inversion system** through **encoder** makes out of the Boxer motor reducer a safe and reliable operator allowing in a simple way to respect the laws in force in the country where the product will be installed.

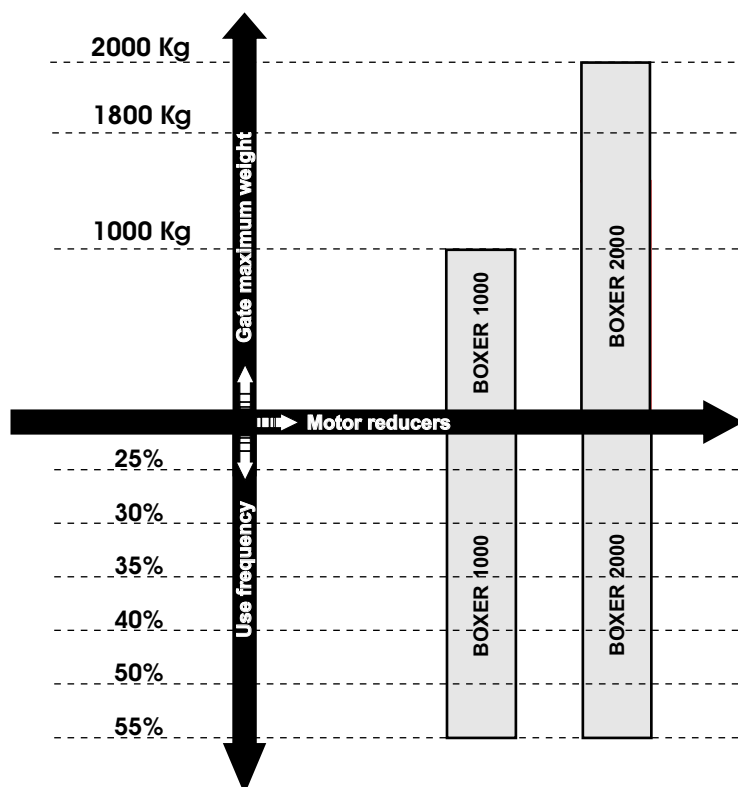
MAIN PARTS DENOMINATION

- | | |
|-------------------------------|---|
| 1 Adjustable foundation plate | 7 Screw for mechanical clutch adjustment (only in 1000 and 2000 models) |
| 2 Anchor bolts | 8 Electronic unit |
| 3 Pinion protection | 9 Oil filling up cap |
| 4 Adjusting screws cover | 10 Magnetic encoder |
| 5 Pinion | |
| 6 Reducer release lever | |

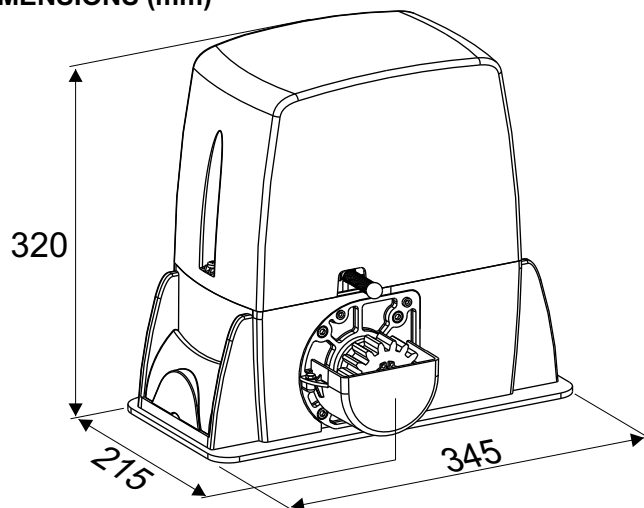


TECHNICAL DATA	1000	2000
Power supply	230 V (±5%) 50/60 Hz	
Power	550W	750W
Absorbed current	2,6 A	3,0 A
Motor capacitor	12,5 uf	12,5 uf
Working frequency	55%	55%
Working Temperature	-20°C +55°C	
Thermoprotection	150°C	
Weight	14 Kg	15 Kg
Anticrushing clutch	Electronic / Mechanical	
Protection degree	IP55	
Pinion Z16 (Z20) speed	9,5 (11) m/min	
Maximum torque	55 Nm	70 Nm
Gate maximum weight	1000 Kg	2000 Kg
Mechanical clutch	yes	yes
Inductive or mechanical limit switch		

BOXER MOTOR REDUCER USING GRAPHIC



DIMENSIONS (mm)



1. GATE ARRANGEMENT

Before starting with the installation check if all the gate parts (fixed and mobile) have a strong and as less as possible deformable structure, also make sure that :

- The leaf is rigid and compact;
- The inferior slideway is perfectly straight, horizontal and without any obstacles which could obstruct the gate sliding;
- The inferior sliding wheels are equipped with greasable or water tightened bearings;
- The superior slideway has been produced and placed so that the gate is in a perfect vertical position;
- Mechanical stops of the leaf are always installed in order to avoid possible derailment of it.



2. FOUNDATION PLATE ANCHORAGE

To install the foundation plate it is necessary to:

2.1. Prepare a concret basement with the dimensions shown in Fig. 1 where the foundation plate and the anchor bolts will be concreted.

NOTE: It is recommended, gate structure permitting, to lift the foundation plate about 50mm from the ground, in order to avoid eventual water stagnation (Fig.1)

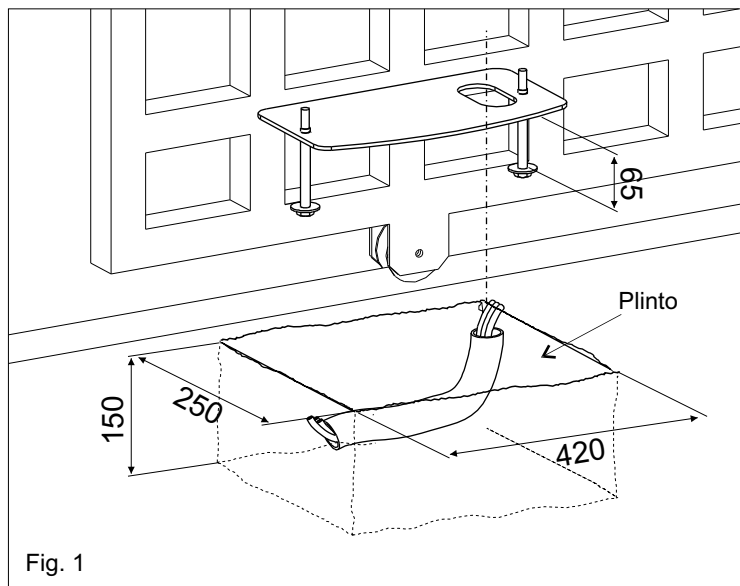


Fig. 1

2.2. Before concreting in the plate insert a flexible plastic duct Ø 35 mm minimum) into the special hole of the plate.

2.3. Before concreting in the plate, make sure that it is perfectly leveled and that the distance of 50-55mm as shown in Fig. 2 is respected.

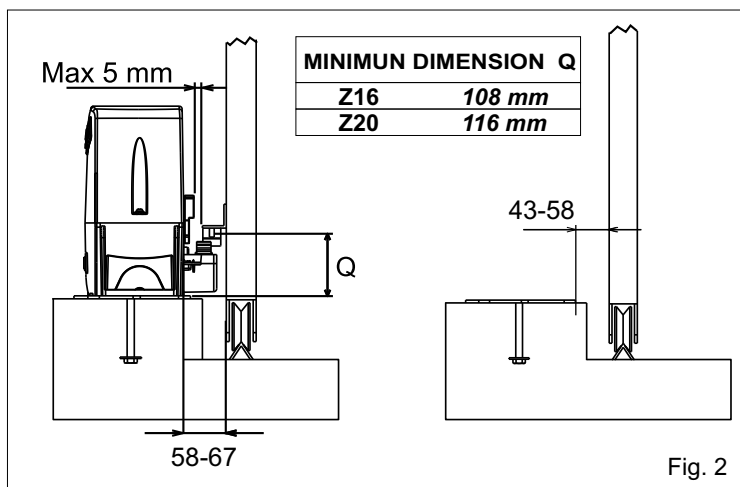


Fig. 2

3. CABLES PASSAGE ARRANGEMENT

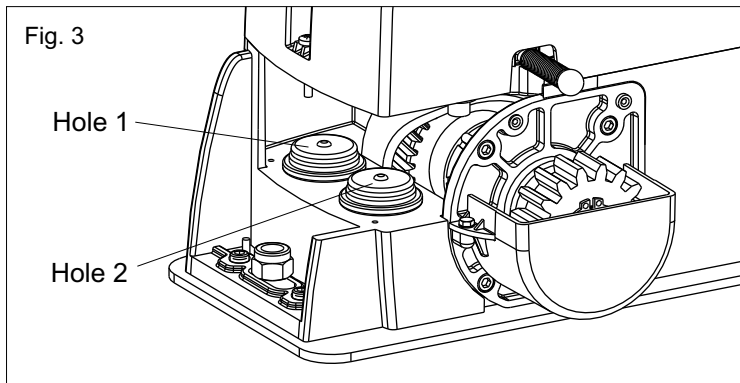
Boxer is provided with two different holes for electric cables passage.

It's very important to make the high - tension (230Vac) cables pass through one hole and the low - tension cables (24Vdc) through the other one (Fig. 3)

Fig. 3

Hole 1

Hole 2



4. FITTING OF THE MOTOR REDUCER

4.1. Insert the 4 grains into the special holes, so that it is possible to adjust the motor reducer height on the plate (Fig. 4).

At the end of installation check if the 4 grub screws are well gripped on the foundation plate.

4.2. Fix the motor reducer to the foundation plate with the 2 included nuts, adjusting the side position (Fig. 5) so to respect the shown quota in (Fig. 2).

4.3. Remove the closing loading oil cap (red) and substitute it with that supplied apart provided with the airhole (black).

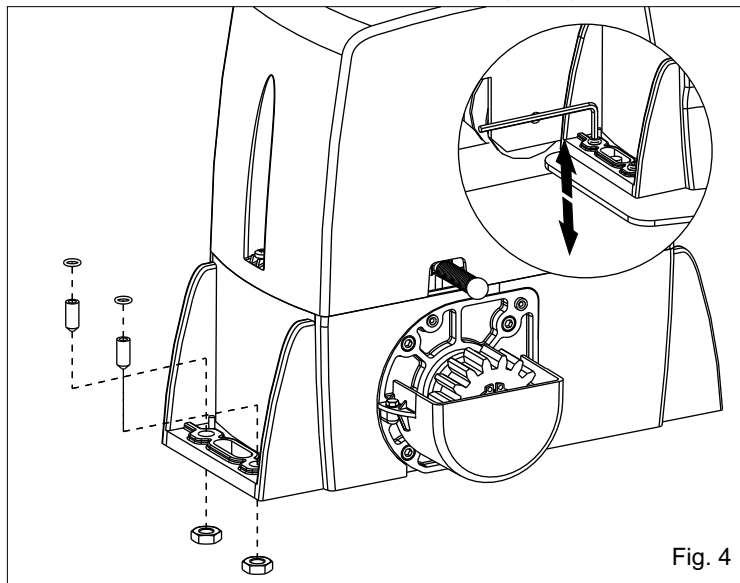


Fig. 4

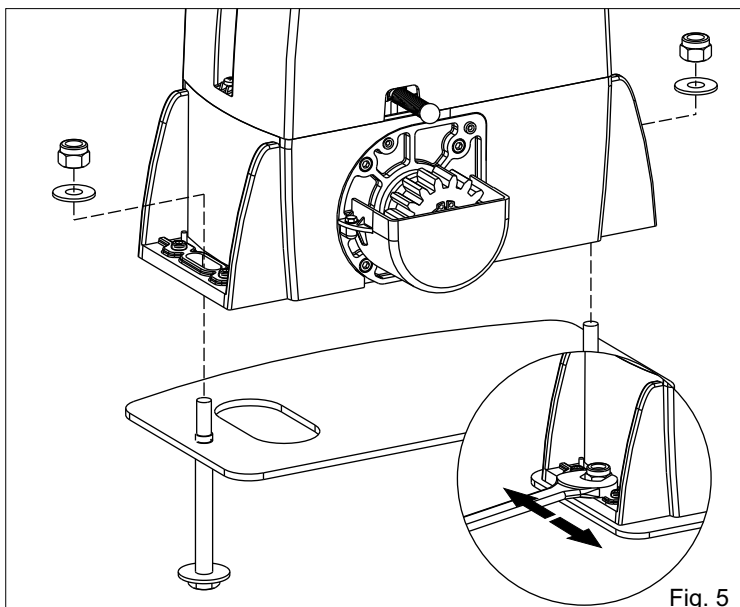


Fig. 5



5. RELEASE SYSTEM

5.1. In order to release do as follows:

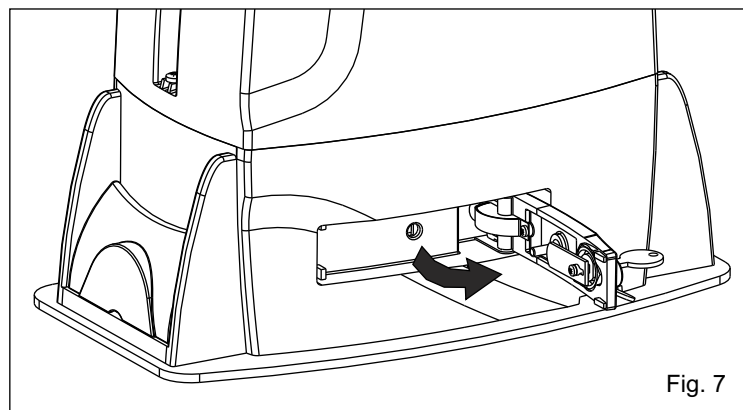
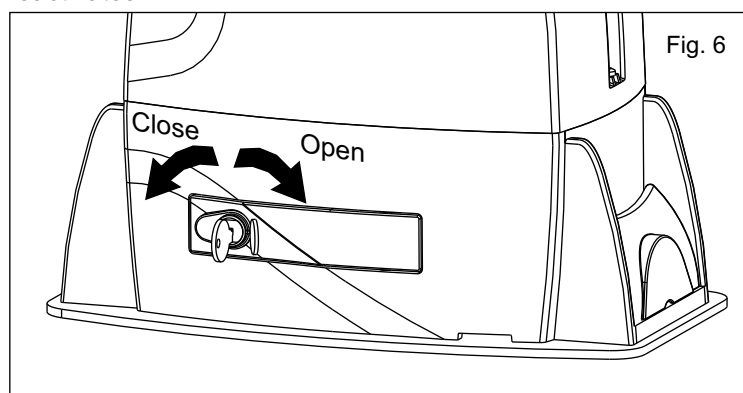
- Open the lock cover, insert the key and rotate it 90° clockwise (Fig. 6).
- Pull the release lever until it stops, about 90° approximately (Fig. 7).

Note: when you pull the release lever, the electronic control unit receives a stop impulse thanks to a micro-switch placed inside.

5.2. In order to relock do as follows:

- Push the release lever to complete closing.
- Rotate the key counter-clockwise and extract it.
- Close the protective lock cover.

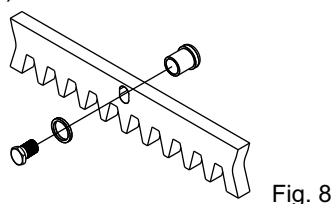
Once the lock has been restored the electronic control unit reactivates



6. GEAR RACK MOUNTING

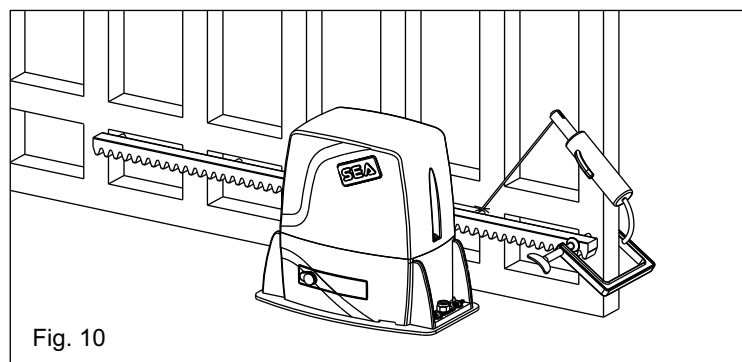
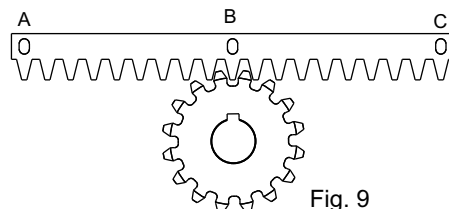
6.1. Release the motor reducer and take the leaf to complete opening;

6.2. Fix to each gear rack element the support pawls using the appropriate lock screws, taking care to place them in the upper part of the hole (Fig. 8);



6.3. Lean the gear rack element on the toothed pinion of the motor so that it results parallel to the ground slideway of the gate, place it as shown in Fig. 9 and electrically weld the central pawl B to the gate structure (Fig. 10).

Manually move the gate until pawl C is placed in correspondence to the pinion, now fix it with electric welding. Repeat the same procedure for pawl A after having placed it in correspondence to the pinion;



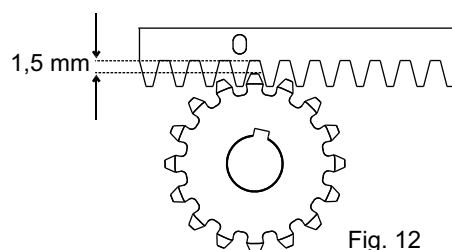
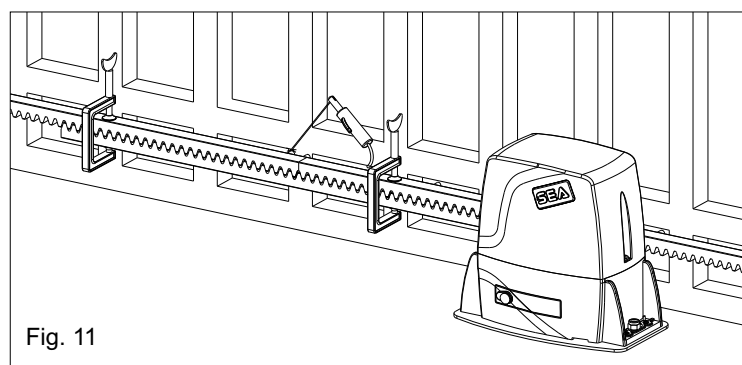
6.4. Make sure that all the gear rack elements are perfectly aligned and placed correctly (teeth in phase). It's suggested to place two aligned elements in front of a third one as shown in Fig. 11;

6.5. Repeat the above described operation for all the remaining gear rack elements which have to be installed;

6.6. To avoid that the door weights down on the pinion (Fig. 12) lift up the whole rack about 1,5 mm.

Warning: Keep a gap of about 0,5 mm between pinion tooth and gear rack tooth;

6.7. Make sure that the gear rack works at the center of the pinion along all rack elements, if necessary, adjust the distance pieces length.





7. LIMIT SWITCH ADJUSTMENT

7.1. In order to install and adjust the limit switch in opening, follow the below mentioned instructions (Fig. 13):

- Take the gate to complete opening,
- Place the small plate on the gear rack so that the limit switch is (small lever in case of mechanical limit switch (Fig. 14); small pointers placed on the upper part in case of inductive limit switch (Fig. 15)) in correspondence of point X which is placed 50 mm from the folded side of the small plate (fig. 16) and fix it with the delivered screws (Fig. 17).

7.2. In order to install and adjust the limit switch in closing, follow the below mentioned instructions (Fig. 13):

- Take the gate to complete closing
- Place the small plate on the gear rack so that the limit switch is in correspondence of point X which is placed 50 mm from the folded side of the small plate (fig. 16) and fix it with the delivered screws (Fig. 17).

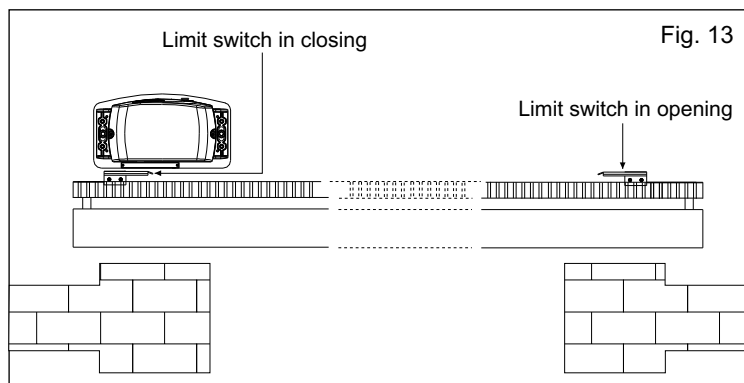


Fig. 13

Mechanical limit switch

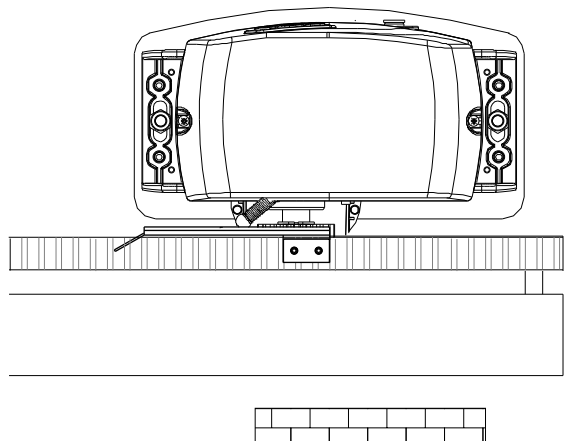


Fig. 14

Inductive limit switch

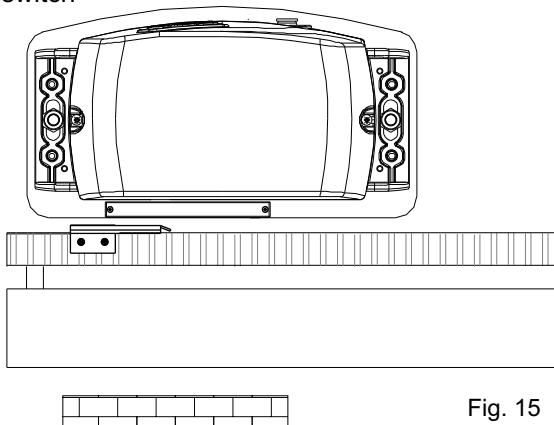


Fig. 15

Position in which must be the spring (mechanical limit switch) or the pointer (inductive limit switch)

50 mm

Fig. 16

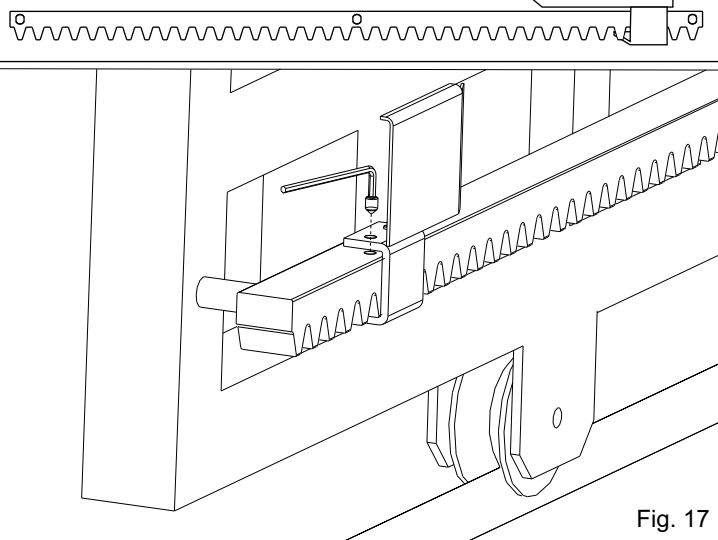


Fig. 17

Adjusting the trimmer for braking, placed on the electronic control unit, it is possible to make the gate stop on the desired position.

8. GROUNDING (Fig. 18)

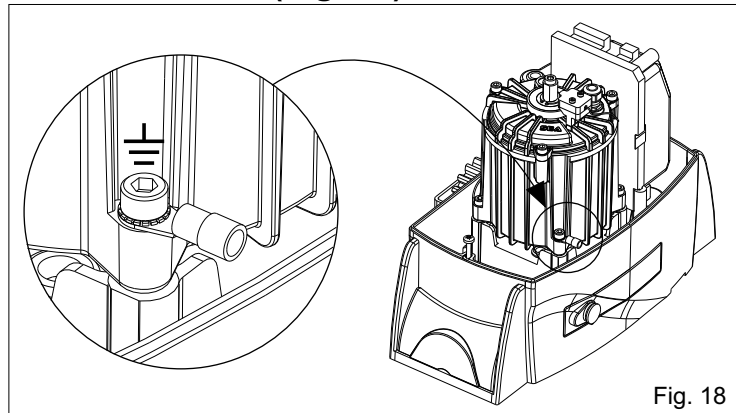


Fig. 18

9. CLUTCH ADJUSTMENT (Boxer 1000 and 2000)

9.1. Switch off electric power.

9.2. In order to adjust the clutch it is necessary to:

- Act on the scrub screw "A" (Fig. 19) as follows:
- Turning clockwise = less clutch sensibility / more thrust force
- Counter clockwise = more clutch sensibility / less thrust force

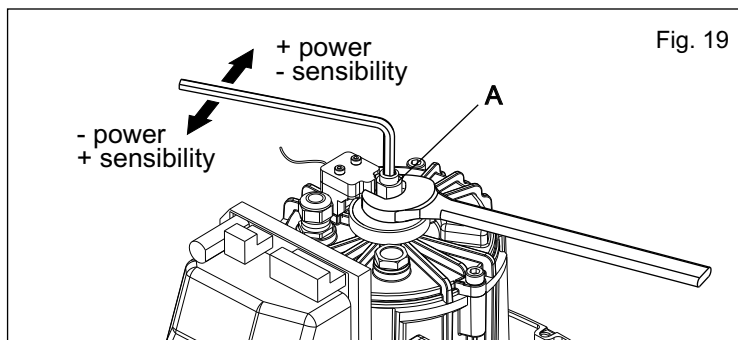


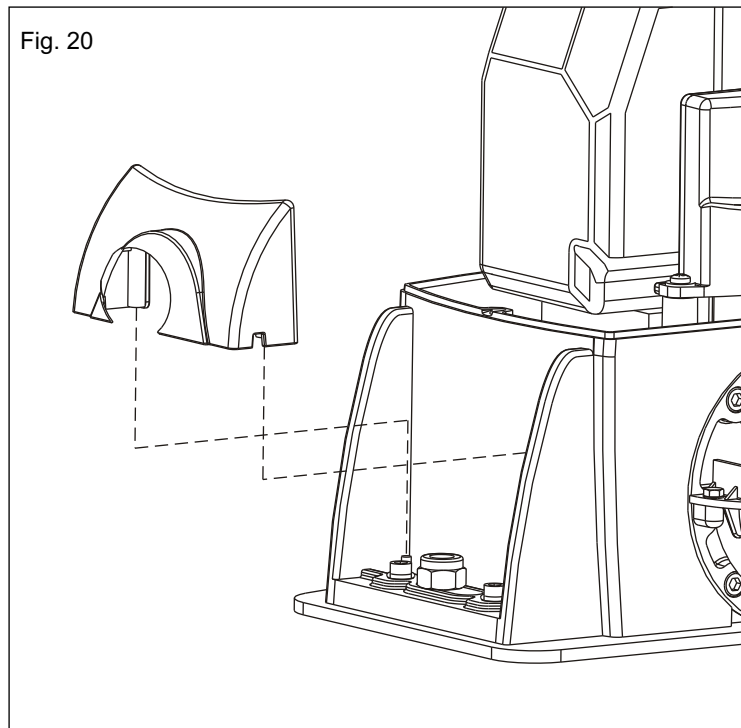
Fig. 19



10. SCREW COVER MOUNTING

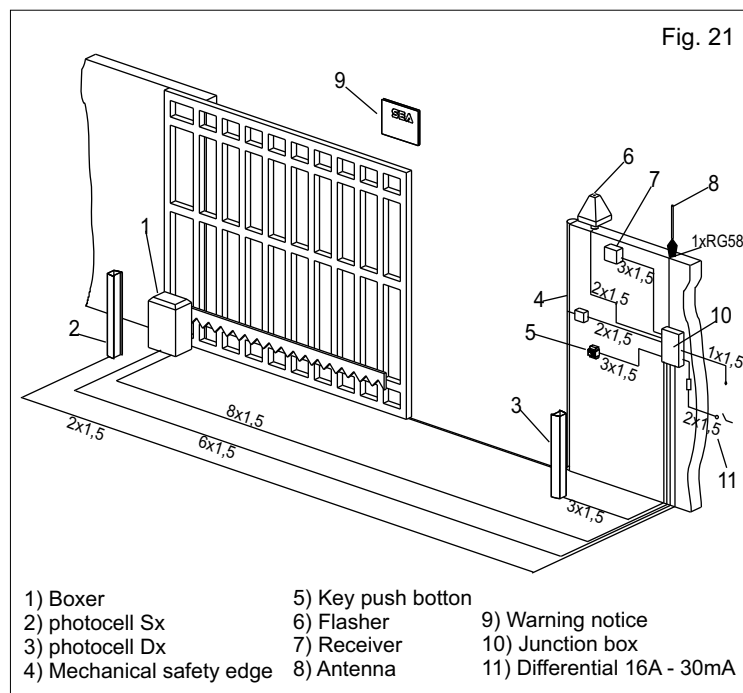
At the end of the mechanical installation and after having executed all the required adjustments, mount the two screw covers on the operator as shown in Fig. 20.

Fig. 20



11. ELECTRIC CONNECTIONS OF THE INSTALLATION (Fig. 21)

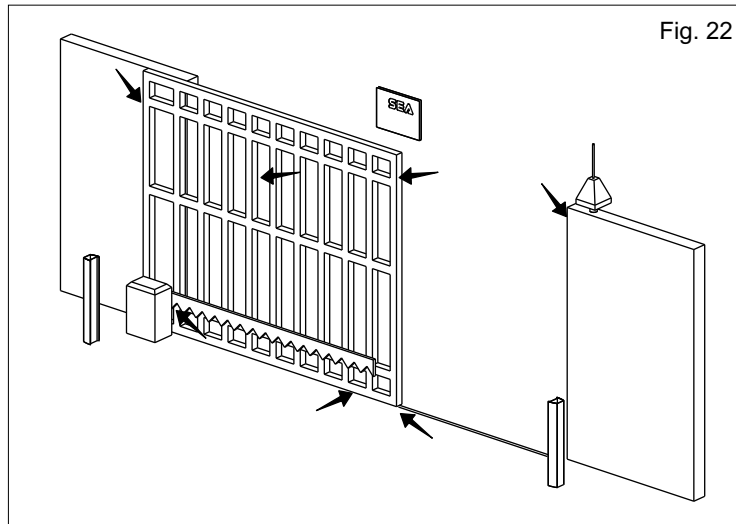
Fig. 21



12. RISK EXAMINATION

The points pointed by arrows in Fig. 22 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 the installation has been made.)

Fig. 22



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 (D.L.46/90). 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.

PERIODIC MAINTENANCE

Check the oil level (only Boxer 1000 and 2000) (Use the oil level rod)	Annual
Change oil	4 years
Check the release functionality	Annual
Check the clutch functionality (1000 and 2000)	Annual
Check the distance between pinion and gear rack (1.5 mm)	Annual
Check the usury status of pinion and gear rack	Annual
Check the fixing screws	Annual
Check the connection cables integrity	Annual
Check limit switch functionality and status in opening and closing and the related small plates	Annual

All the above described operations must be done exclusively by an authorized installer.



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ENGLISH

CONFORMITY DECLARATION

SEA declares under its responsibility that the following products:

Boxer 1000, Boxer 2000

meet the essential requisites provided by the following European Directive and following modifications (where applicable)::

89/392/CEE (Machine Directive)

89/336/CEE (Electromagnetic Compatibility Directive)

73/23/CEE (Low Tension Directive)

SAFETY PRECAUTIONS:

All electrical work and the choice of the operating logic 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 BOXER operator has been designed to be solely used for the automation of sliding 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 CANNOT 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 it's 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 sings-brands on the products, unless preventive and expressed authorization by SEA.