

BIG 2000 FAST - 4000 BRAKE

Reducer in oil bath with electrobrake for sliding gates



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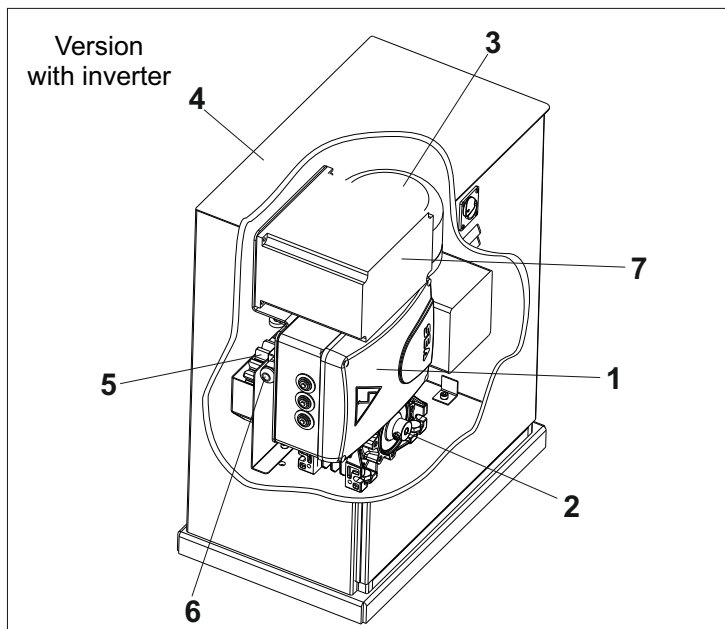
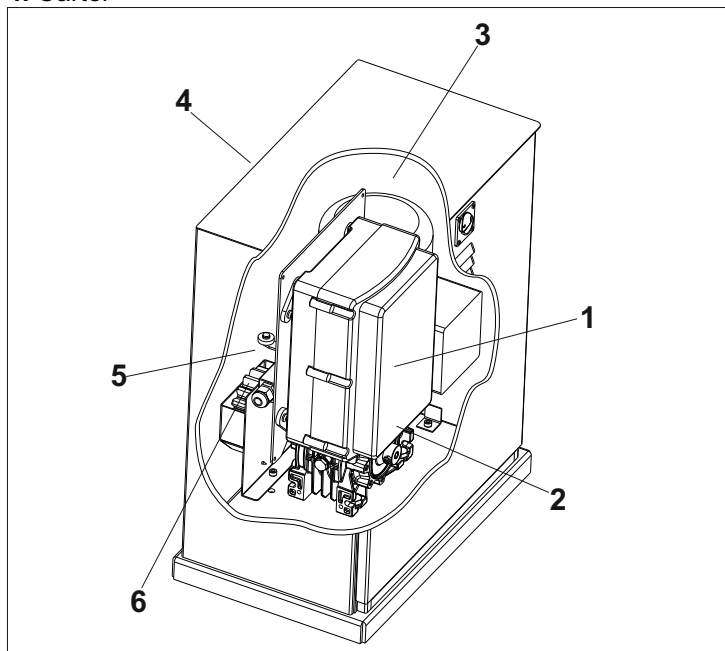
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BIG 2000 FAST-4000 is a **motor-reducer with oil-bathed reducer** created for sliding gates automation. The motor-reducer **irreversibility** allows a perfect and safe gate closing avoiding the setup of an electrolock and in case of power supply lacking, the release device inside the carter allows the manual opening and closing.

The **BIG 2000 FAST-4000** gearmotor comes without reversing device on the obstacle, therefore, in compliance with safety standards, it is mandatory to install external protection devices.

MAIN PARTS NOMENCLATURE

- | | |
|-------------------------------------|-------------------------------------|
| 1. Electronic control unit | 5. Pinion Z16 Model 6 |
| 2. Manual release | 6. Electrom.limit switch with lever |
| 3. Electric motor with electrobrake | 7. Inverter |
| 4. Carter | |

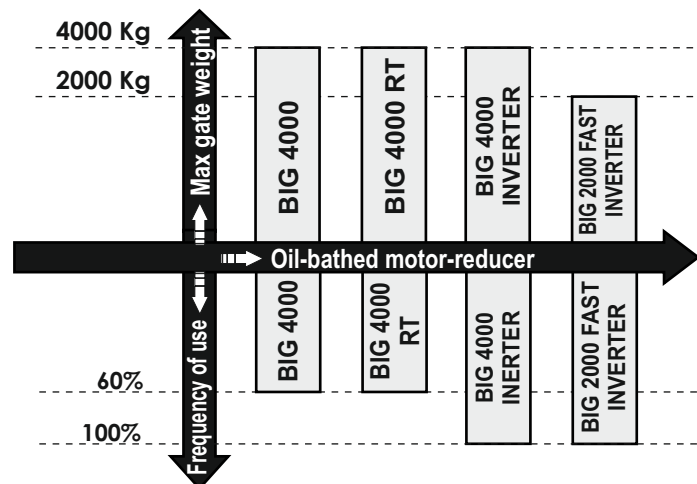


	BIG 4000	BIG 4000 RT
Power Supply	230V - 400V ±5% 50/60Hz	
Power	950W/3ph	
Working frequency	60%	
Motor rotation speed	1500 rpm	
Reduction ratio	1 : 40	
Room temperature	-20 ↓ +55 ↓	
Weight of the unit with oil	47 kg	
Oil quantity	400 ml	
Protection rating	Ip55	
Gate speed (pinion Z16 Mod.6) / (pinion Z24 Mod.4 <i>Optional</i>)	0,18 m/s	
Gate speed (pinion Z12 Mod.6 <i>Optional</i>)	0,13 m/s	
Maximum torque	4000 N	
Torque adjustment	No	Yes
Maximum weight of the gate	4000 Kg	
Limit switch	Mechanical with lever	
Electrobrake of parking	Yes	

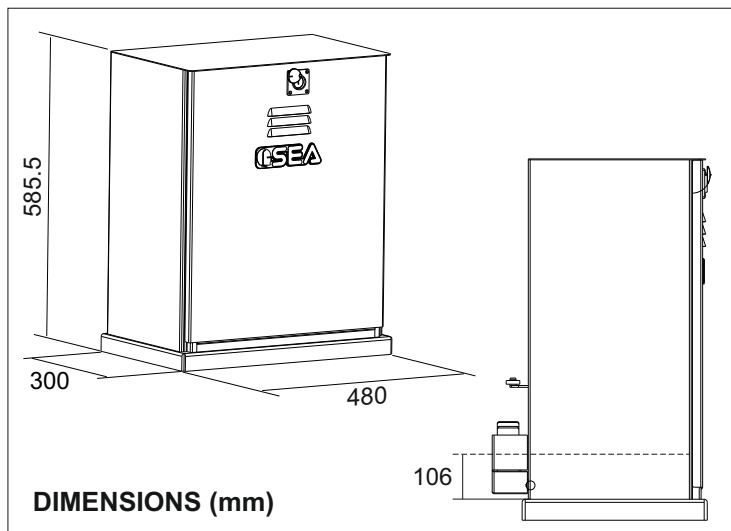
TECHNICAL DATA	BIG 4000 With Inverter 230V Single-Phase	BIG 2000 FAST With Inverter 230V Single-Phase
Power Supply	230V Single-Phase 50/60Hz	
Power	950W	750W
Absorption	2,5 A	4,3 A
Working frequency	100%	
Motor rotation speed	1500 rpm	2800 rpm
Reduction ratio	1 : 40	
Room temperature	-20 ↓ +55 ↓	
Weight of the unit with oil	47 kg	
Oil quantity	400 ml	
Protection rating	Ip55	
Gate speed (pinion Z16 Mod.6 or pinion Z24 Mod.4 <i>Optional</i>)	Up to 0,40 m/s	Up to 0,60 m/s
Gate speed (pinion Z12 Mod.6 <i>Optional</i>)	On request	
Maximum torque	4000 N	2000 N
Torque adjustment	No	
Maximum weight of the gate	4000 kg	2000 kg
Limit switch	Integrated mechanical	4 Switches
Electrobrake of parking	Optional	

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

BIG 2000 FAST-4000 MOTOR-REDUCER USING-GRAPHIC



SPEED TABLE				
WEIGHT	BIG 4000	MENU 17-18 ON CENTRAL	BIG 2000 FAST	MENU 17-18 ON CENTRAL
1000	0,400 m/s	100%	0,600 m/s	100%
2000	0,350 m/s	85%	0,400 m/s	65%
3000	0,270 m/s	70%	-	-
4000	0,180 m/s	50%	-	-



1. GATE ARRANGEMENT

The first thing to check is that the gate is in good running order as follows:

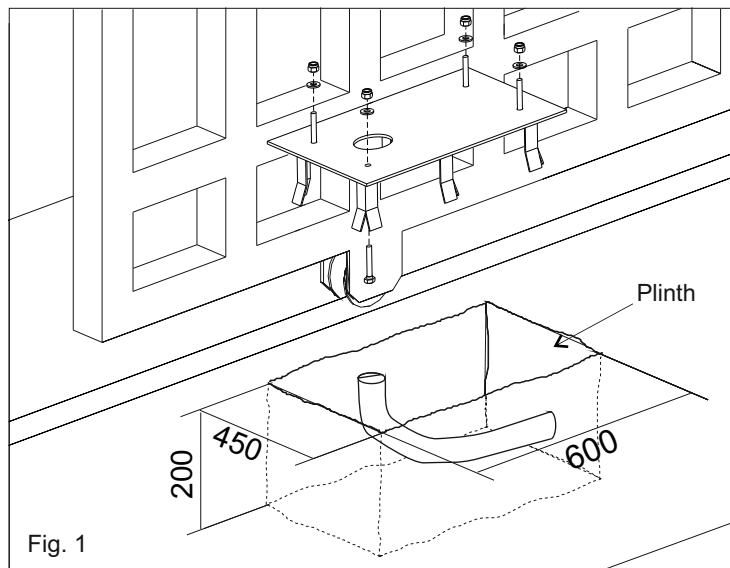
- The gate is rigid and straight and runs smoothly throughout its travel.
- The lower track is in good order, straight and levelled.
- The lower support wheels have sealed bearings or grease points.
- The top guide must be manufactured and installed so that the gate is perfectly upright.
- Physical gate stops must be fitted to prevent the gate coming out of its guides and track.

2. MOUNTING PLATE INSTALLATION

To install the mounting plate it is necessary to:

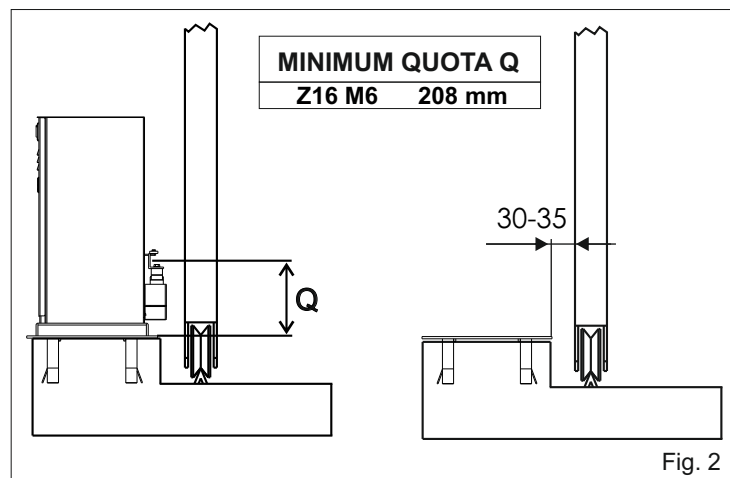
2.1. Have a mounting plate manufactured to the dimensions shown in Fig. 1. The plate will require to have concrete holding into which the foundation plate.

Note: It is best if the gate structure allows the plate to be raised up from the finished level by 50 mm (Fig. 1). This will stop water gathering around the operator.



2.2. Foresee 2 flexible plastic sheathings with a diameter of at least 30mm to be inserted through the special hole of the plate before this last one is concreted.

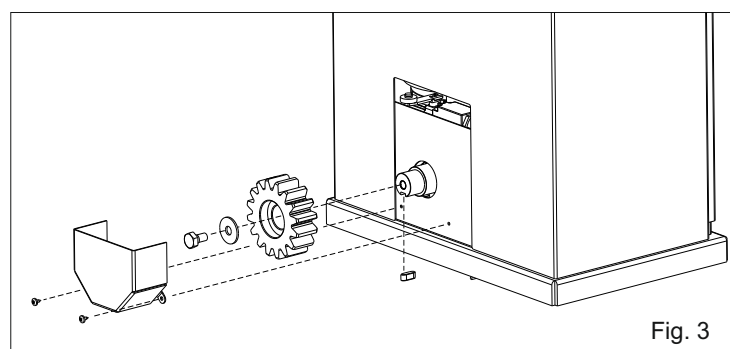
2.3. When concreting in the plate check that the plate is perfectly levelled and that the measurement of 30 - 35 mm given in Fig. 2 is followed.



3. PINION ASSEMBLING

3.1. Put the spline into the motor reducer shaft as in Fig. 3.

3.2. Mount the pinion on the motor as shown in fig.3



4. FITTING OF THE UNIT

4.1. Fix the motor-reducer to the foundation plate adjusting the side position (Fig. 4) considering the mentioned measurements in Fig. 2.

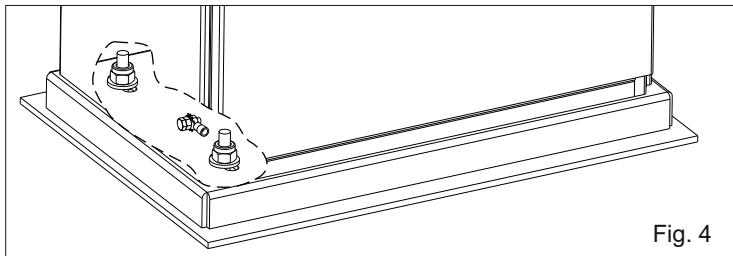


Fig. 4

5. GEAR RACK MOUNTING

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

5.2. Fix to each gear rack element the L-shaped bracket with the appropriate lock screws (Fig.5);

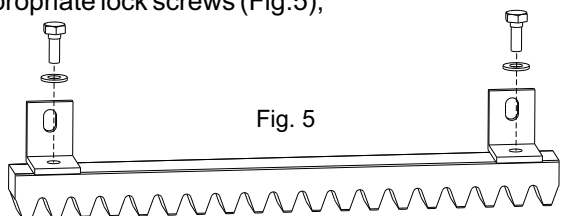


Fig. 5

5.3. Put the gear rack element on the toothed pinion of the moto, so to be parallel to the ground slidway of the gate, place it as shown in Fig. 6 and drill the holes corresponding to the holes of the L-shaped brackets on the top of the slot and fix to the leaf with screws (not delivered).

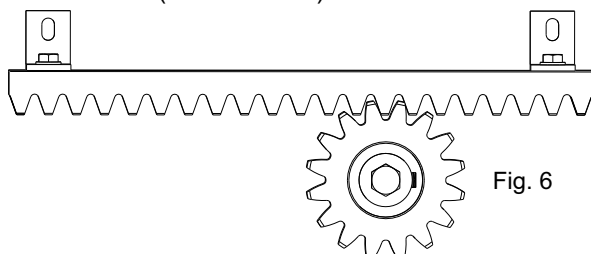


Fig. 6

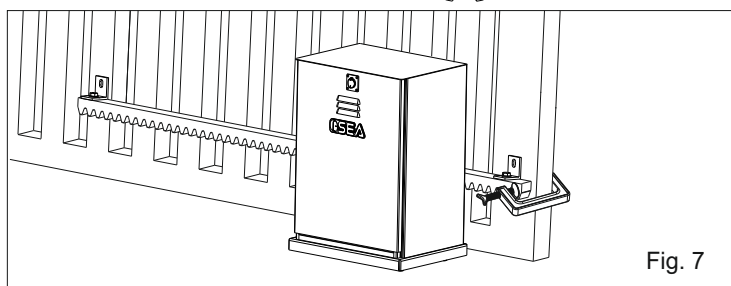


Fig. 7

5.4. 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.8;

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

5.6. To avoid that the door weights down on the pinion (Fig.9) lift up the whole rack about 2,5 mm.

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

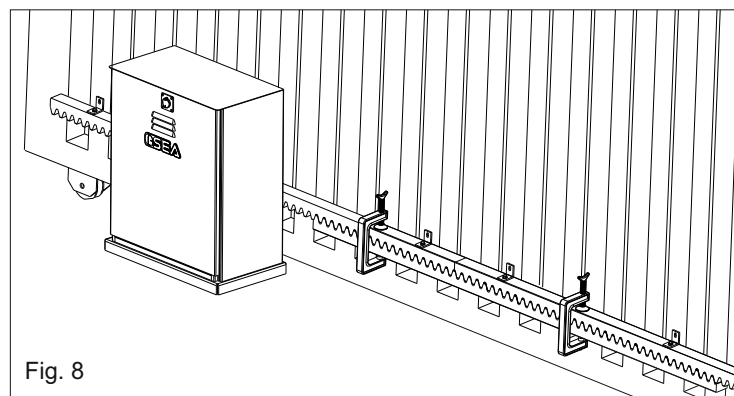


Fig. 8

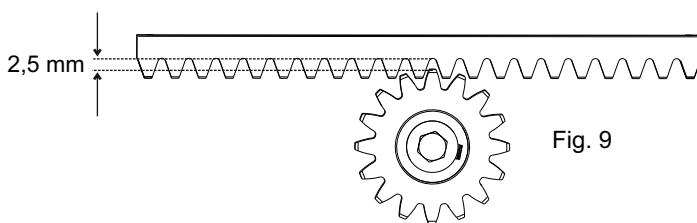


Fig. 9

6. LIMIT SWITCH ADJUSTMENT (ONLY FOR BIG 4000 AND BIG 4000 RT)

6.1. To set up and adjust the limit switches in opening, follow the instructions written here (Fig. 10):

- Open the gate completely.
- Place the plate on the rack in order to operate the lever of the limit switch (Fig. 11) and fix it with the provided screws.

6.2. Repeat the same procedure to adjust the limit switch in closure.

6.3. After the startup adjust the laminations of the limit switches in opening and closing.

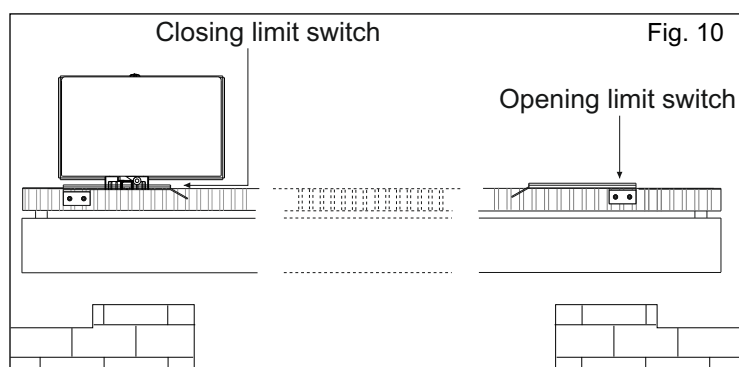


Fig. 10

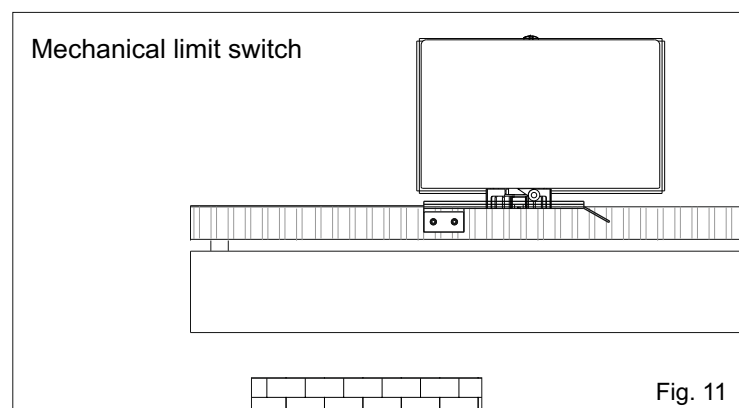


Fig. 11

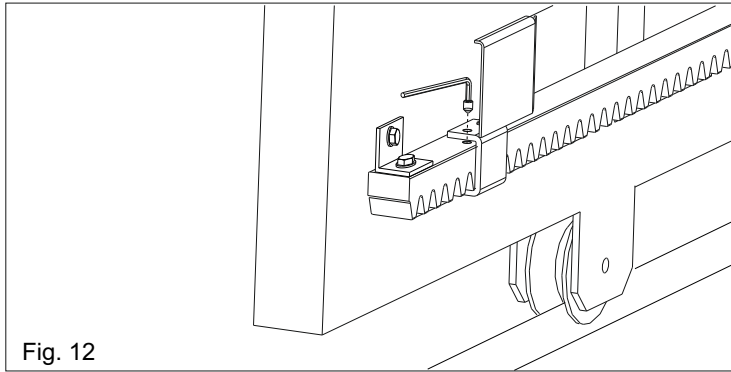


Fig. 12

Through the braking trimmer adjustment placed on the electronic control unit it is possible to stop the gate in the point desired.

7. LIMIT SWITCH ADJUSTMENT (ONLY FOR BIG 2000 FAST AND BIG 4000 WITH INVERTER)

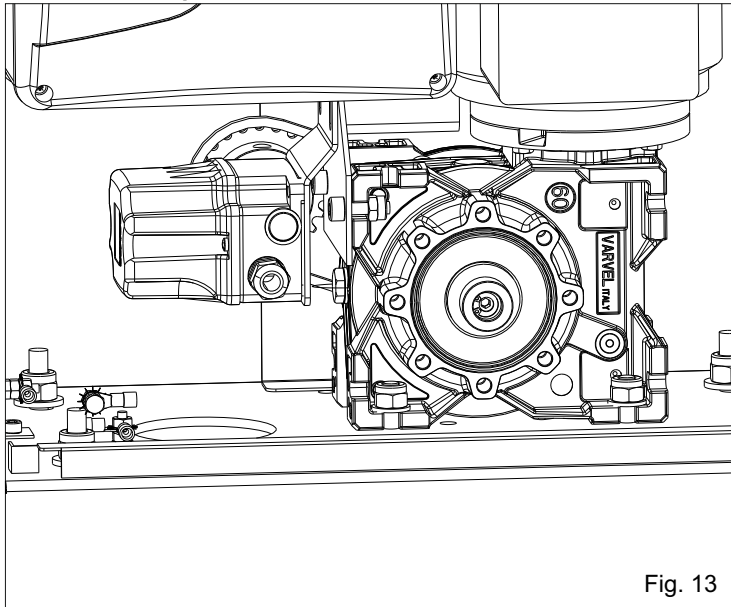


Fig. 13

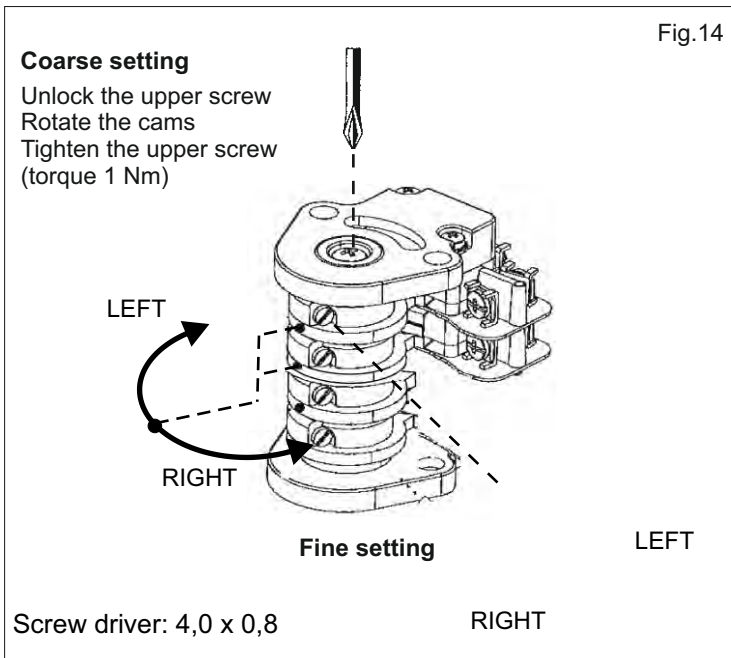


Fig. 14

8. GROUNDING (Fig. 15)

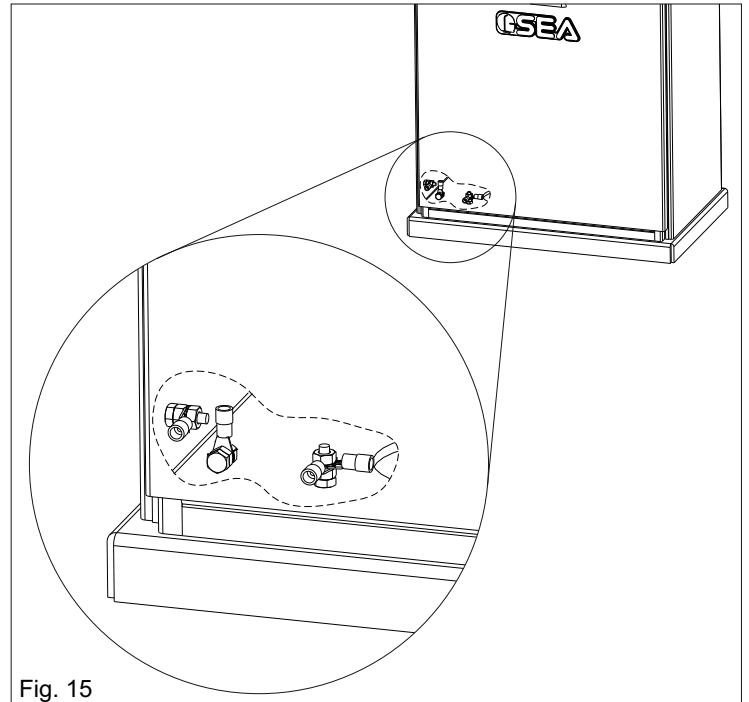


Fig. 15

9. TORQUE ADJUSTMENT (ONLY FOR BIG 4000 RT)

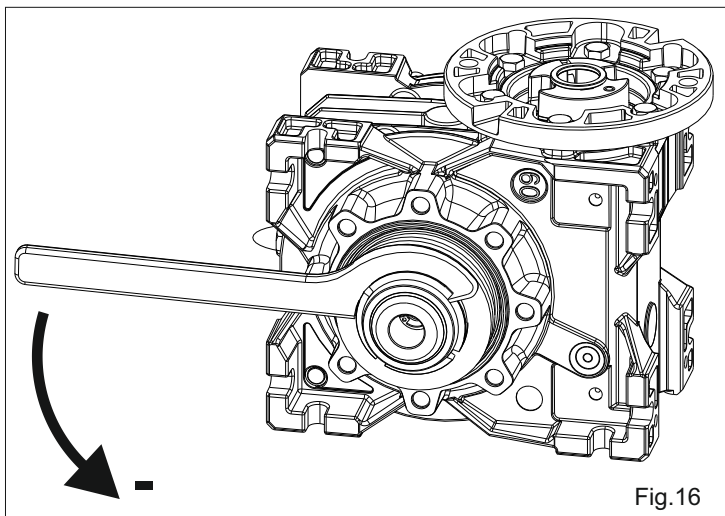


Fig. 16

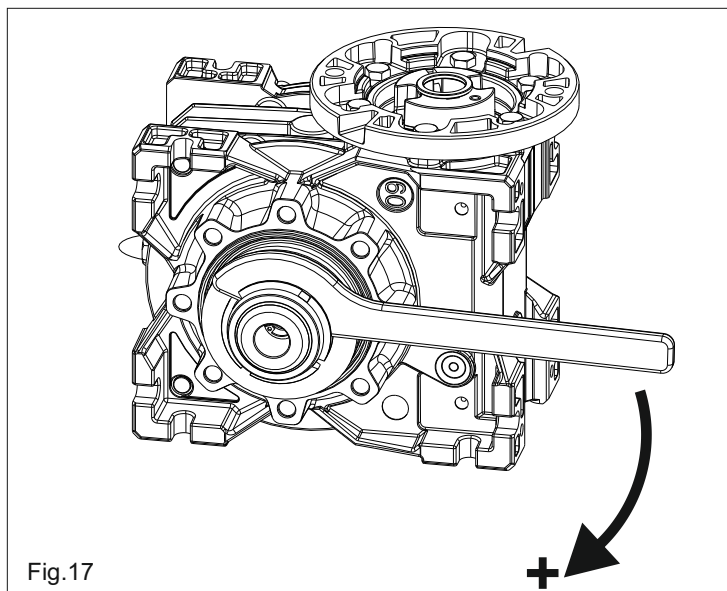


Fig. 17

9.1. To adjust torque use the key USAG 282/45-50.

- To reduce torque, turn the key **counterclockwise** (Fig. 16).

- To increase torque, turn the key **clockwise** (Fig. 17).

It is recommended to check after 100 hours of operation, the adjustment of the torque controller.

The torque regulator can not be used as a mechanical clutch but as a regulator of maximum torque.

10. INSTALLATION TYPE (Fig. 18)

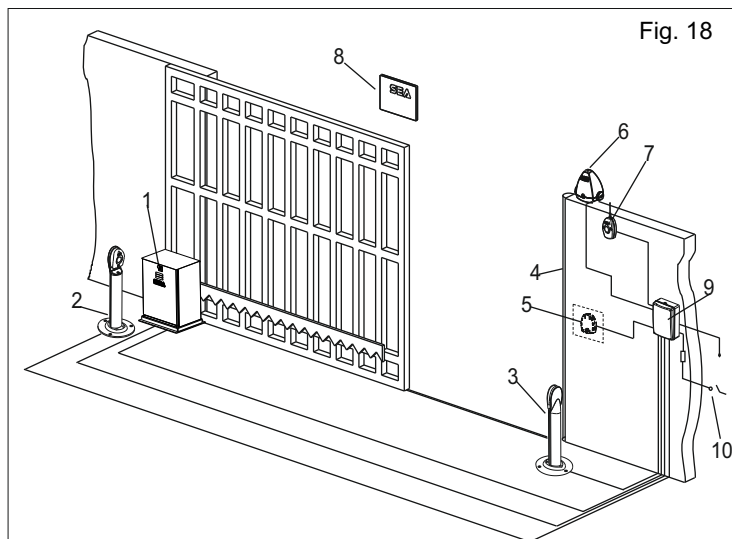


Fig. 18

- | | |
|--------------------------------|--|
| 1) BIG 2000 FAST-4000 operator | 6) Flashing warning lamp |
| 2) Left photocell | 7) Radio receiver |
| 3) Right photocell | 8) Warning notice |
| 4) Pneumatic safety edge | 9) Electronic control unit or junction box |
| 5) Key switch | 10) 16A- 30mA differential switch |

Page for both installer and user

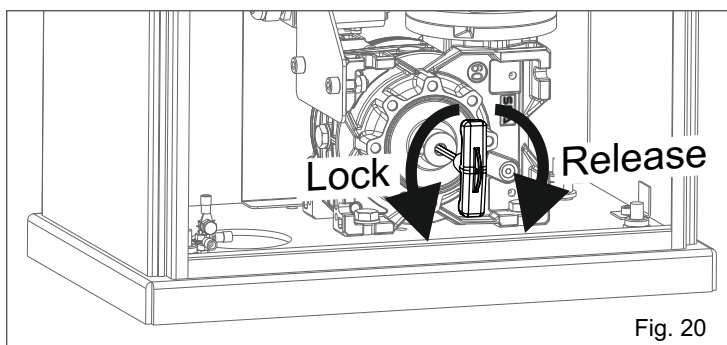
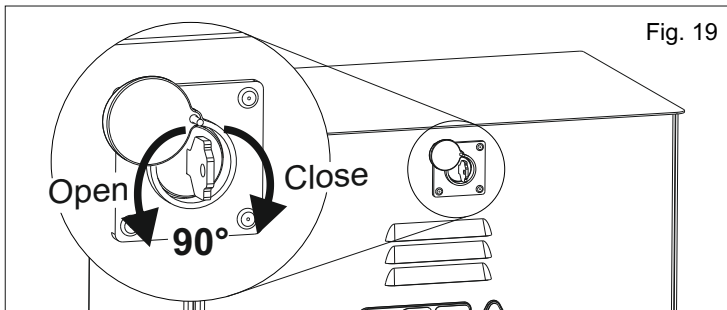
11. RELEASE SYSTEM

11.1 In order to release do as follows:

- Open the lock cover, insert the key and turn it 90° anti-clockwise (Fig. 19).
- Open the carter.
- Insert the delivered red release key and **turn it clockwise until it stops, do not force** (Fig.20).

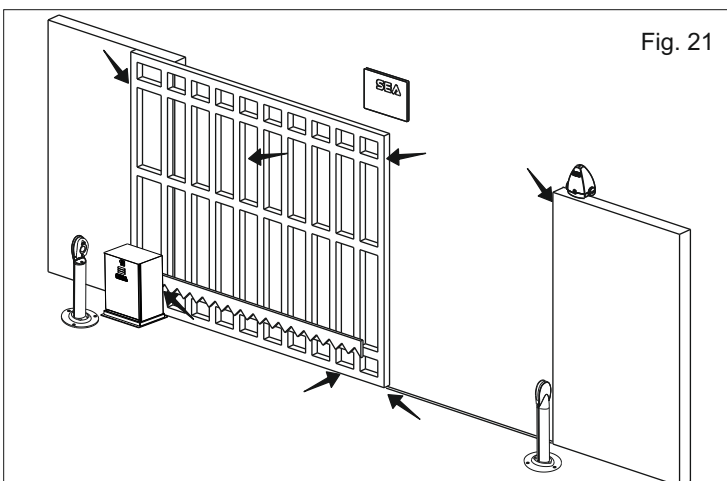
11.2 In order to relock do as follows:

- Turn the red release key **anti-clockwise until it stops, do not force** (Fig.20).
- Extract the red release key.
- Reposition the carter and close it by turning the key 90° clockwise (Fig. 19).
- Close the lock cover.



12. RISK EXAMINATION

The points pointed by arrows in Fig. 21 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.)



NOTICE

SEA S.p.A. can not be deemed responsible for any damage or accident caused by product breaking, being damages or accidents due to a failure to comply with the instructions herein. The guarantee will be void and the manufacturer responsibility (according to Machine Law) will be nullified if SEA Srl original spare parts are not being used.

The electrical installation shall be carried out by a professional technician who will release documentation as requested by the laws in force. This is a quotation from the GENERAL DIRECTIONS that the installer must read carefully before installing. Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.

SAFETY PRECAUTIONS:

All electrical work should conform to current regulations. A 16 A 0,030 A differential switch must be incorporated into the source of the operators main electrical supply and the entire system properly earth bonded. Always run mains carrying cables in separate ducts to low voltage control cables to prevent mains interference.

SPARE PARTS:

To obtain spare parts contact:

SEA S.p.A. -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.

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.

PERIODICAL MAINTENANCE

Check the oil level	Annual
Change the oil	4 years
Check the release function	Annual
Check the distance between the pinion and the rack (2.5 mm)	Annual
Check the wear condition of the pinion and of the rack	Annual
Check the fixing screws	Annual
Check the integrity of the connection cables	Annual
Check the function and the limit switch condition in opening and closing and the related plates	Annual

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

TERMS OF SALES

EFFICACY OF THE FOLLOWING TERMS OF SALE: the following general terms of sale shall be applied to all orders sent to SEA S.p.A. All sales made by SEA to all costumers are made under the prescription of this terms of sales which are integral part of sale contract and cancel and substitute all apposed clauses or specific negotiations present in order document received from the buyer.

GENERAL NOTICE The systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EM12453 – EM 12445) 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.

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. The special sales conditions with extra discount on quantity basis (Qx, Qx1, Qx2, Qx3 formula) is reserved to official distributors under SEA management written agreement.

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 non-compliance of safety standards and good practice during installation and use of the purchased products.

8) WARRANTY The standard warranty period is 12 months. This warranty time can be extended by means of expedition of the warranty coupon as follows:

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.p.A. 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 assembly, or if the label affixed by the manufacturer has been removed including the SEA registered trademark No. 804888. 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 repair of products under warranty and out of warranty is subject to compliance with the procedures notified by SEA.

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 purchases propriety of the goods only after full payment of the latter.

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. SEA reserves the faculty to make technical changes to improve its own products, which are not 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: once the Buyer has recognized that SEA has the exclusive legal ownership of the registered SEA brand num.804888 affixed on product labels and / or on manuals and / or on any other documentation, he will commit himself to use it in a way which does not reduce the value of these rights, he won't also remove, replace or modify brands or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any particularity on the products, unless preventive and expressed authorization by SEA.

In accomplishment with art. 1341 of the Italian Civil Law it will be approved expressly clauses under numbers:

4) PAYMENTS - 8) GUARANTEE - 10) COMPETENT COURT OF LAW

English GENERAL NOTICE FOR THE INSTALLER AND THE USER

1. Read carefully these **Instructions** before beginning to install the product. Store these instructions for future reference
2. Don't waste product packaging materials and /or circuits.
3. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger. SEA S.p.A. declines all liability caused by improper use or different use in respect to the intended one.
4. The mechanical parts must be comply with Directives: Machine Regulation 2006/42/CE and following adjustments), Low Tension (2006/95/CE), electromgnetic Consistency (2004/108/CE) Installation must be done respecting Directives: EN12453 and En12445.
5. Do not install the equipment in an explosive atmosphere.
6. SEA S.p.A. is not responsible for failure to observe Good Techniques in the construction of the locking elements to motorize, or for any deformation that may occur during use.
7. Before attempting any job on the system, cut out electrical power and disconnect the batteries. Be sure that the earthing system is perfectly constructed, and connect it metal parts of the lock.
8. Use of the indicator-light is recommended for every system, as well as a warning sign well-fixed to the frame structure.
9. SEA S.p.A. declines all liability as concerns the automated system's security and efficiency, if components used, are not produced by SEAS.p.A..
10. For maintenance, strictly use original parts by SEA.
11. Do not modify in any way the components of the automated system.
12. The installer shall supply all information concerning system's manual functioning in case of emergency, and shall hand over to the user the warnings handbook supplied with the product.
13. Do not allow children or adults to stay near the product while it is operating. The application cannot be used by children, by people with reduced physical, mental or sensorial capacity, or by people without experience or necessary training. Keep remote controls or other pulse generators away from children, to prevent involuntary activation of the system.
14. Transit through the leaves is allowed only when the gate is fully open.
15. The User must not attempt to repair or to take direct action on the system and must solely contact qualified SEA personnel or SEA service centers. User can apply only the manual function of emergency.
16. The power cables maximum length between the central engine and motors should not be greater than 10 m. Use cables with 2,5 mm² section. Use double insulation cable (cable sheath) to the immediate vicinity of the terminals, in particular for the 230V cable. Keep an adequate distance (at least 2.5 mm in air), between the conductors in low voltage (230V) and the conductors in low voltage safety (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm.



Automatic Gate Openers

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Automatic Gate Openers

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