SEA
Automatic Gate Openers
International registered trademark n. 804888

CE UK CA

ITALIANO
ENGLISH
FRANÇAIS

LEPUS

MOTORIDUTTORE PER CANCELLI SCORREVOLI
MOTOR REDUCER FOR SLIDING GATES
MOTEUR POUR PORTAILS COULISSANTS



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67410014 REV. 09 - 09/2026

1 GENERAL FEATURES

LEPUS is an oil-bath gearmotor designed for sliding gate automation.

Its **IRREVERSIBLE** design ensures secure gate closure without requiring an electric lock.

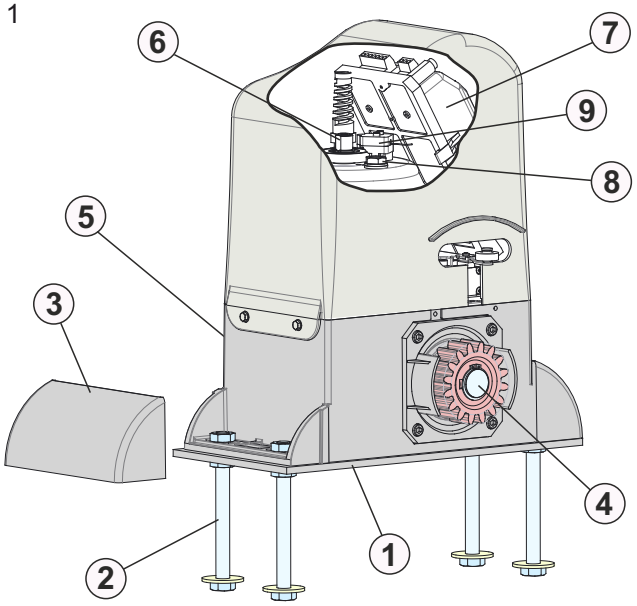
It is equipped with a **RELEASE SYSTEM** - *front-mounted on the external box* - which allows manual operation during power failures.

It is also equipped with an **ADJUSTABLE MECHANICAL CLUTCH** to ensure precise gate thrust control. Additionally, the **ENCODER**-based **electronic inversion system** ensures safe, reliable operation, and full compliance with current Regulations in the Countries of installation.

PERFORM ALL ADJUSTMENTS IN THE FOLLOWING CHAPTERS BEFORE COMMISSIONING THE OPERATOR; SPECIFICALLY, MAKE SURE TO REMOVE THE RED OIL CAP (OR SCREW) BEFORE STARTUP - SEE CHAPTER 12

COMPONENTS

Fig. 1



1 ADJUSTABLE FOUNDATION PLATE

2 ANCHOR BOLTS

3 SIDE COVER

4 PINION

5 RELEASE LEVER

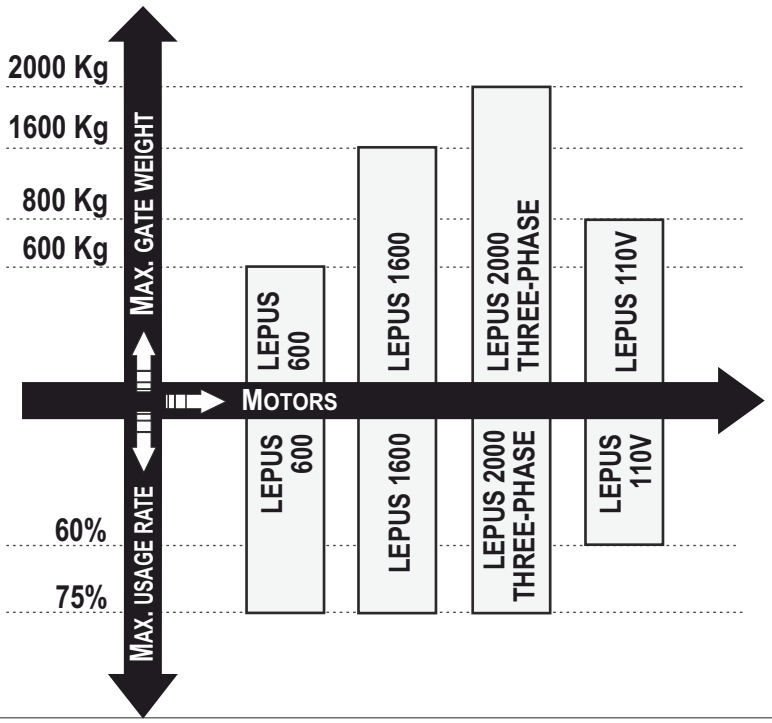
6 ADJUSTING SCREW FOR MECHANICAL CLUTCH

7 ELECTRONIC CONTROL UNIT

8 OIL FILLER CAP

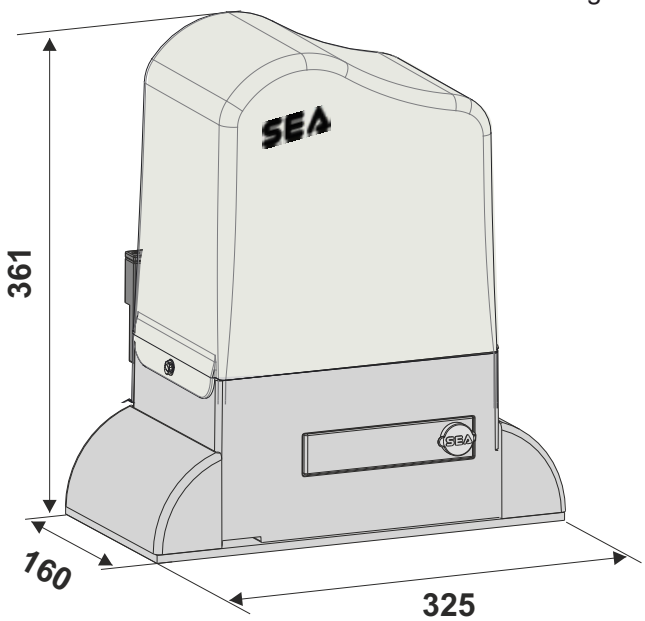
9 MAGNETIC ENCODER

APPLICATION CHART



DIMENSIONS *(mm)*

Fig. 2

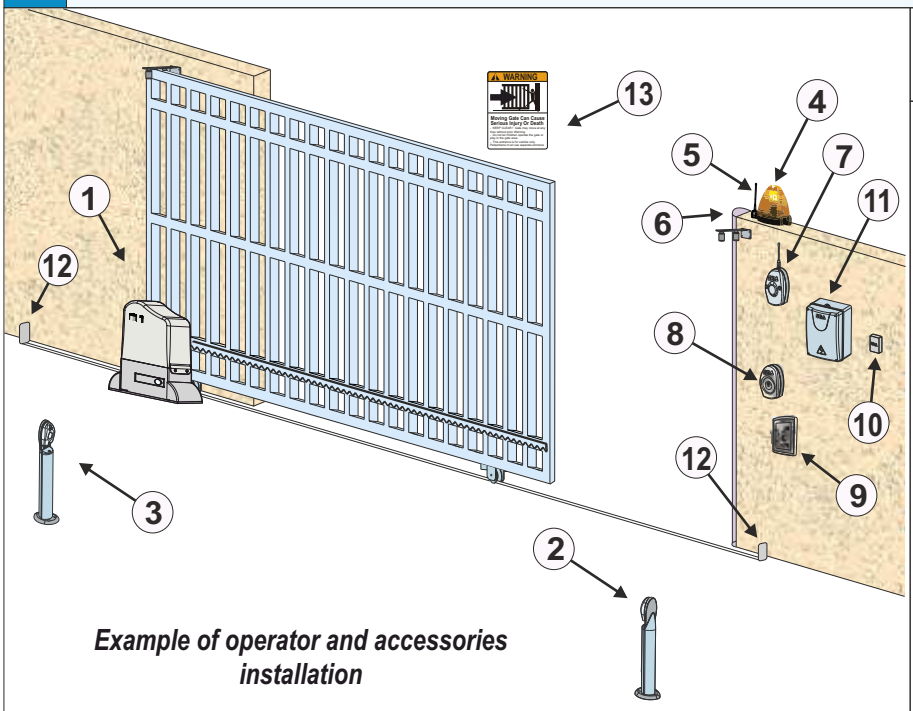


2 TECHNICAL DATA CHARTS

TECHNICAL DATA	LEPUS 600	LEPUS 1600	LEPUS 2000 THREEPHASE	LEPUS 110V	
POWER SUPPLY	230V (±5%) 50/60 Hz			115V (±5%) 50/60 Hz	
MOTOR POWER	330 W	450 W	650 W	330 W	
STARTING CAPACITOR	25 µF	35 µF	-	80 µF	
USAGE RATE	75%			60%	
MOTOR ROTATION SPEED	1400 rpm			1550 rpm	
REDUCTION RATIO	1÷30				
OPERATING TEMPERATURE	-20°C +55°C				
THERMAL PROTECTION	130°C				
OPERATOR WEIGHT *(WITH OIL)*	15 Kg		15,5 Kg	15 Kg	
OIL TANK CAPACITY	1,75 L				
PROTECTION CLASS	IP 55				
Z13 PINION SPEED	0,13 m/s				
Z16 PINION SPEED	0,175 m/s				
Z20 PINION SPEED	0,2 m/s				
MAXIMUM TORQUE	50 Nm	70 Nm	90 Nm	60 Nm	
GATE MAX. WEIGHT	600 Kg	1600 Kg	2000 Kg	800 Kg	
GATE MAX. LENGTH	11 m				
ANTI-CRUSHING CLUTCH	MECHANICAL IN OIL-BATH OR ELECTRONIC				
LIMIT SWITCH	MECHANICAL WITH LEVER OR INDUCTIVE				

** The indicated usage rate is valid only for the first hour of operation at an average temperature of 20°C*

3 STANDARD INSTALLATION WIRING



Example of operator and accessories installation

Fig. 3

RECOMMENDED CABLES NUMBER AND SECTION FOR WIRINGS ON CONTROL UNIT

1) OPERATOR	4 x 1,5
2) PHOTOCELL TX	2 x 0,5
3) PHOTOCELL RX	4 x 0,5
4) FLASHING LAMP	2 x 0,5
5) ANTENNA	1 x RG58
6) SAFETY EDGE	2 x 0,5 *
7) EXTERNAL RECEIVER	4 x 0,5
8) KEY-BUTTON	4 x 0,5
9) KEYPAD	4 x 0,5
10) DIFFERENTIAL 16A/30mA	3 x 1,5 **
11) CONTROL UNIT BOX	
12) END-OF-STROKE MECHANICAL STOPS	
13) WARNING SIGNS	

** In case of powered safety edge: 4 x 0,5*

*** Increase the cable section in case of high distance from the control unit*

4 GATE ARRANGEMENT

Before the installation, check that all gate parts (fixed and mobile) have a sturdy, non-deformable structure; also ensure compliance with the following requirements:

4.1. The gate must be rigid and compact
4.2. The lower guide track must be perfectly straight, horizontal, and free of obstructions that could impede gate travel
4.3. The lower travel wheels must feature either greasable or sealed bearings
4.4. The upper guide track must be perfectly straight and aligned to keep the gate in a strictly vertical position
4.5. *Mechanical stops must always be installed to prevent derailment*

5 INSTALLATION OF THE FOUNDATION PLATE

To install the foundation plate, proceed as follows:

5.1. Cast a concrete foundation pad according to the dimensions specified in Fig. 4.
Embed the foundation plate and anchor bolts directly into the concrete

IF THE GATE STRUCTURE PERMITS, ELEVATE THE FOUNDATION PLATE APPROXIMATELY 50 MM ABOVE GROUND LEVEL TO PREVENT WATER STAGNATION.

5.2. Before casting the concrete, route a flexible plastic conduit *(min. diameter **30 mm**)* through the dedicated hole in the plate

5.3. Ensure that the foundation plate is perfectly level and horizontal on the concrete pad and compliant with the **50–55 mm** clearance specified in Fig. 5.

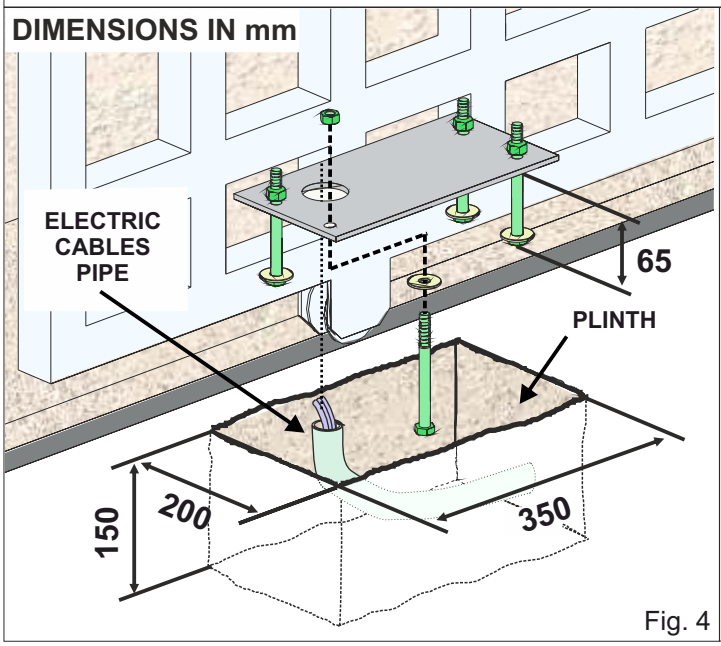


Fig. 4

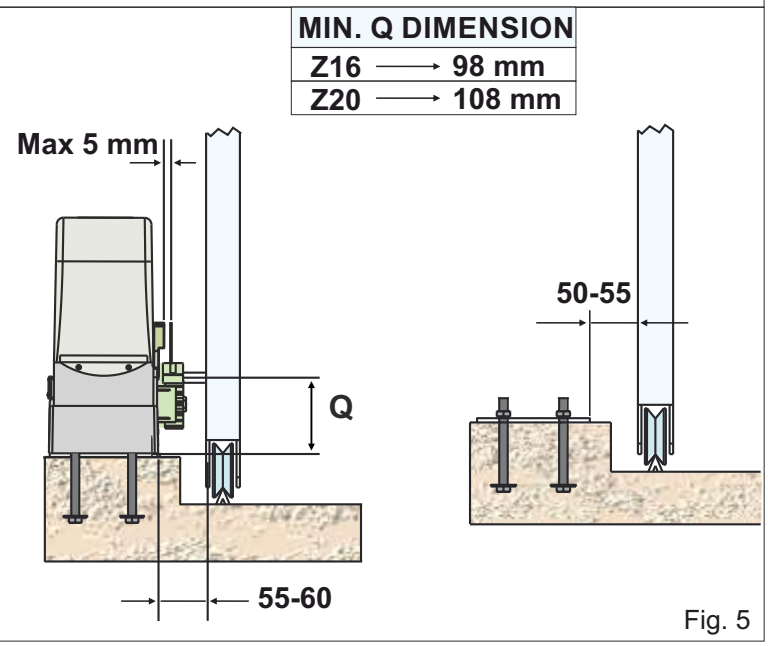


Fig. 5

6 PINION MOUNTING

6.1. Insert the **«A»** pin into the gearmotor shaft as shown in Fig. 6

6.2. Mount the pinion and the two seegers on the shaft of the gearmotor as shown in Fig. 6

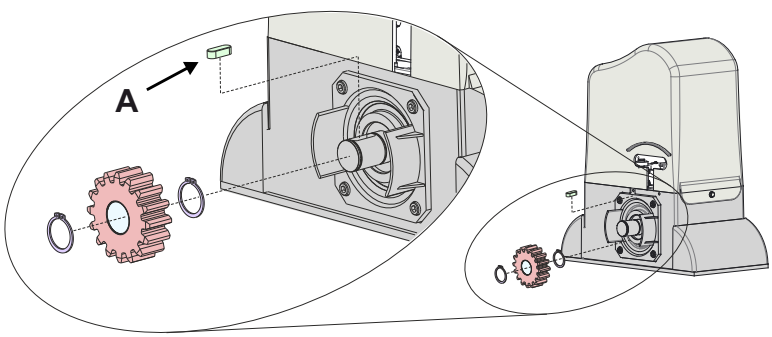


Fig. 6

7 INSTALLATION OF THE OPERATOR

7.1. Secure the gearmotor to the foundation plate using the supplied screws - Fig. 7, adjusting its lateral position and height - Fig. 8 - to comply with the dimensions specified in Fig. 5

7.2. Insert the two snap-fit corner covers - Fig. 7

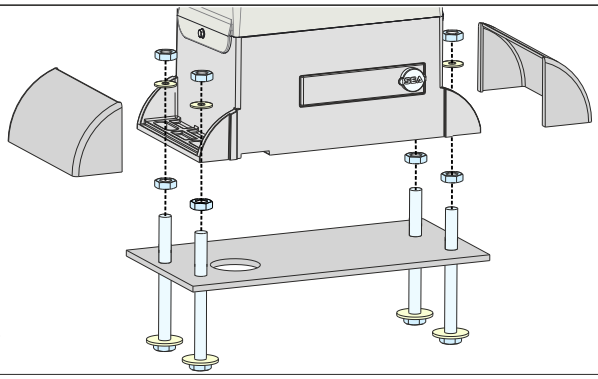


Fig. 7

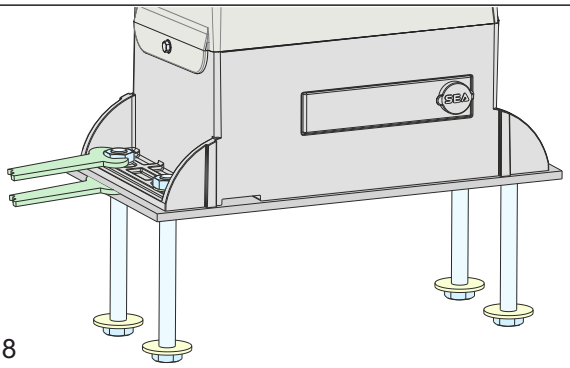


Fig. 8

8 GEAR RACK MOUNTING

8.1. Release the operator and open the gate completely.

8.2. Fasten the weld-on spacers to each gear rack element using the appropriate locking screws, making sure to position them in the upper part of the slot - Fig. 9.

8.3. Place the gear rack element on the operator pinion, ensuring it is parallel to the lower gate guide track. Position it as shown in Fig. 10 and tack-weld the central spacer **B** to the gate structure - Fig. 11. Manually move the gate until spacer **C** aligns with the pinion, then fix it by electric welding. Repeat the same procedure for spacer **A** after aligning it with the pinion.

8.4. Make sure that all gear rack elements are perfectly aligned and correctly positioned ***(teeth in phase)***. It is recommended to bridge two consecutive elements with a third element, as shown in Fig. 12.

8.5. Repeat the procedure described above for all remaining gear rack elements to be installed.

8.6. To prevent the gate weight from bearing on the pinion - Fig. 13 - lift the entire rack by approx. **1.5 mm**.
CAUTION: MAINTAIN A CLEARANCE OF AT LEAST 0.5 mm BETWEEN THE PINION TOOTH AND THE GEAR RACK TOOTH

8.7. Make sure that the gear rack runs centered on the pinion along all rack elements; if necessary, adjust the length of the spacers.

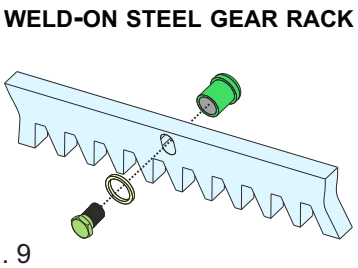


Fig. 9

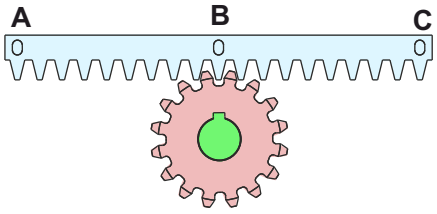


Fig. 10

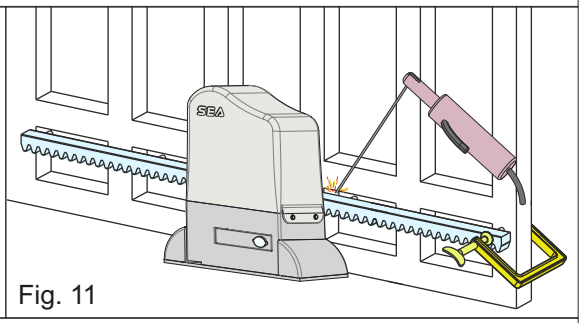


Fig. 11

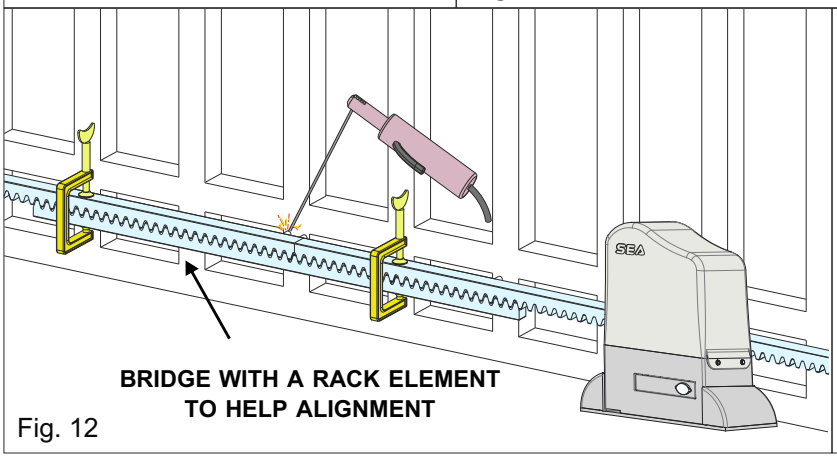


Fig. 12

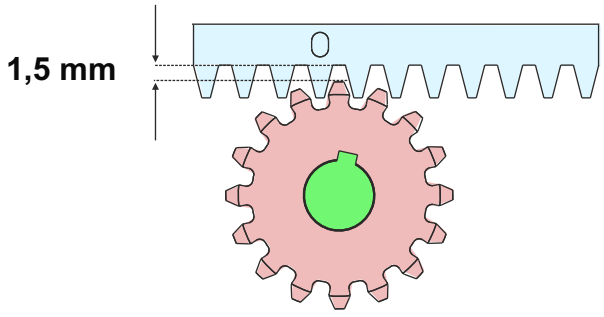


Fig. 13

9 LIMIT SWITCH INSTALLATION ON THE GEAR RACK

9.1. IN OPENING

- Bring the gate to the fully open position.
- **MECHANICAL LIMIT SWITCH**: place the plate - Fig. 14 - on the gear rack according to the desired stop position; fasten the plate to the gear rack using the screws.
- **INDUCTIVE LIMIT SWITCH**: place the plate - Fig. 15 - on the gear rack according to the desired stop position; fasten the plate to the gear rack using the screws.

Align the opening metal plate of the inductive limit switch *(indicated by an arrow on the limit switch)* with the point «**X**» on the plate ***(50 mm** from the bent side of the plate - Fig. 16)*

9.2. IN CLOSING

- Bring the gate to the fully closed position.
- **MECHANICAL LIMIT SWITCH**: place the plate - Fig. 14 - on the gear rack according to the desired stop position; fasten the plate to the gear rack using the screws.
- **INDUCTIVE LIMIT SWITCH**: place the plate - Fig. 15 - on the gear rack according to the desired stop position; fasten the plate to the gear rack using the screws.

Align the closing metal plate of the inductive limit switch *(indicated by an arrow on the limit switch)* with the point «**X**» on the plate *(**50 mm** from the bent side of the plate - Fig. 16)*

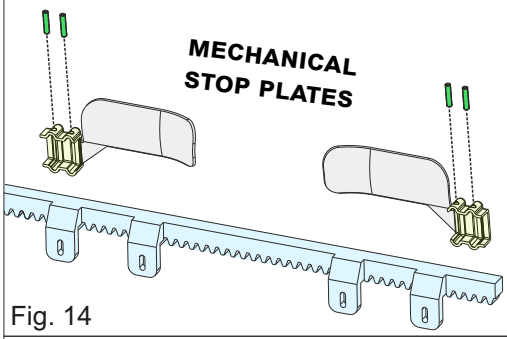


Fig. 14

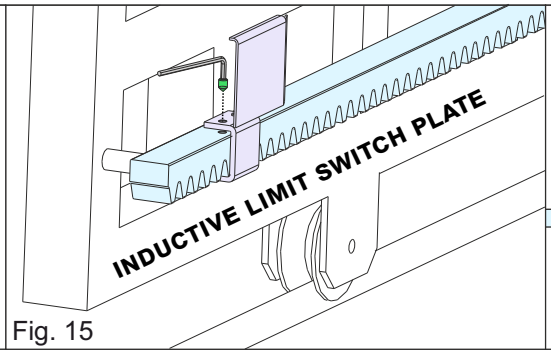


Fig. 15

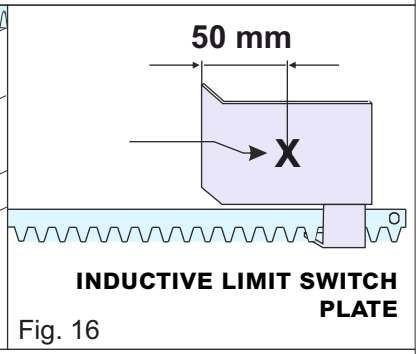


Fig. 16

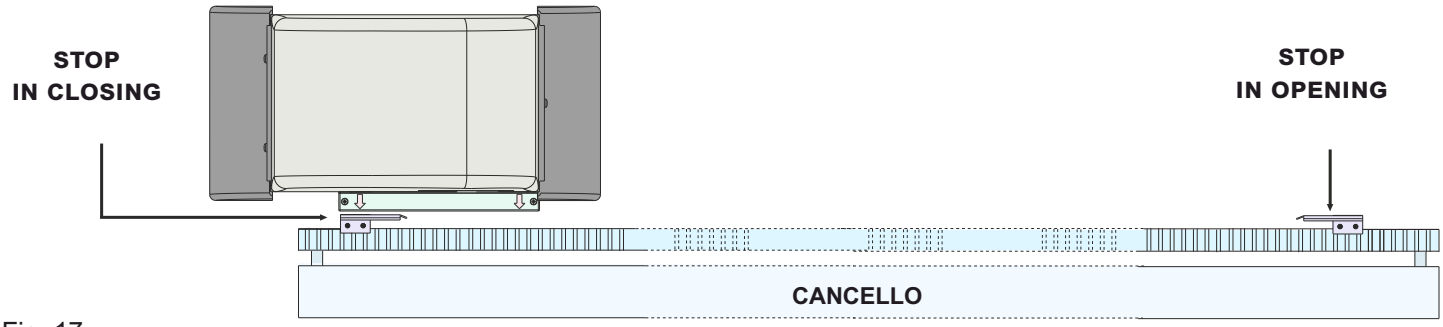


Fig. 17

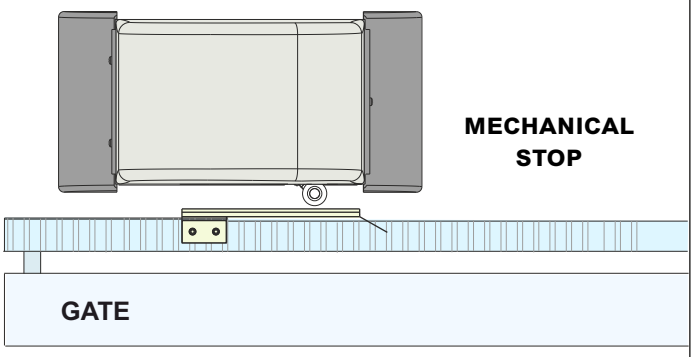


Fig. 18

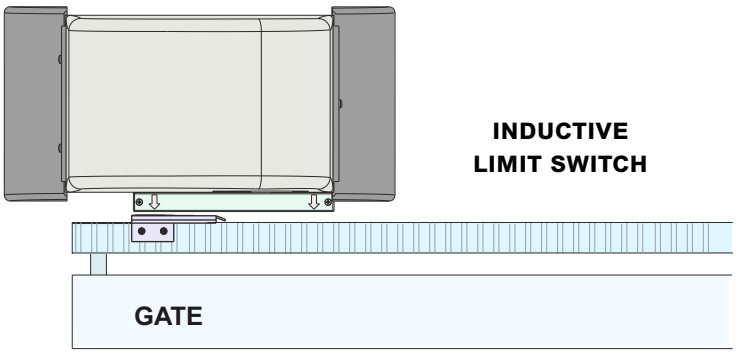


Fig. 19

➡ ***FOR MORE DETAILS ON INDUCTIVE LIMIT SWITCH ADJUSTMENT, SEE THE CONTROL UNIT PROGRAMMING MANUAL***

10 INSTALLATION OF THE CHAIN SYSTEM

10.1. Fix two sturdy chain coupling brackets to both ends of the gate - Fig. 20

10.2. Install the chain tensioner on each bracket to adjust the chain tension - Fig. 20

*Ensure that the chain tensioner and the chain are at a **minimum distance of 45 mm from the gate** - Fig. 22*

10.3. Release the operator using the special release key - ***see chapter 15***

10.4. Install the chain onto the chain tensioner at one end of the gate, pass it through the pinion assembly as shown in Fig. 21, and hook it to the chain tensioner on the opposite end.
Fig. 23 and Fig. 24 show the correct installation, respectively, with the gate open and the gate closed.
The chain must always be aligned and equidistant from the gate - Fig. 22;
if it is not perfectly aligned - Fig. 25 and Fig. 26 - it may derail from the pinions and cause damage to the operator due to excessive overheating from strain.

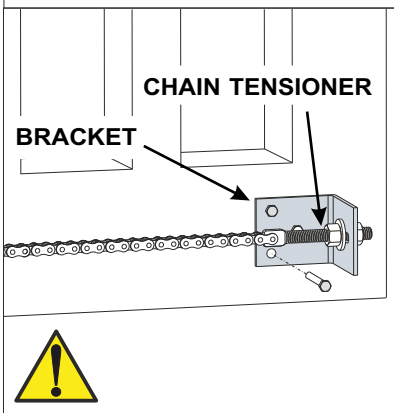


Fig. 20

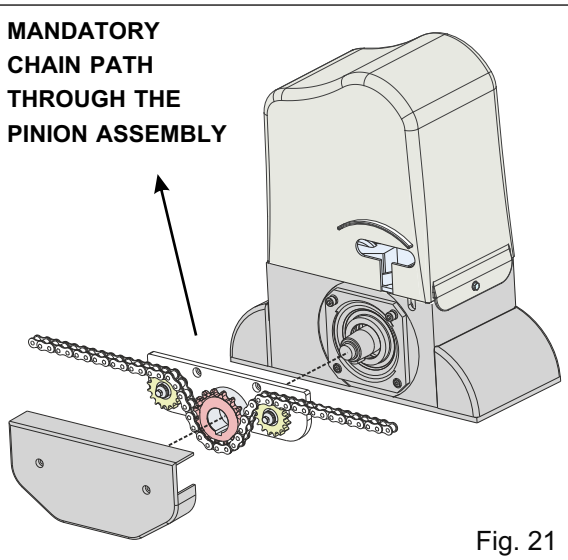


Fig. 21

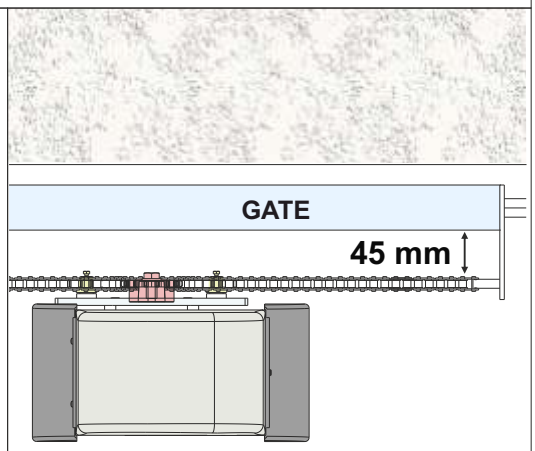


Fig. 22

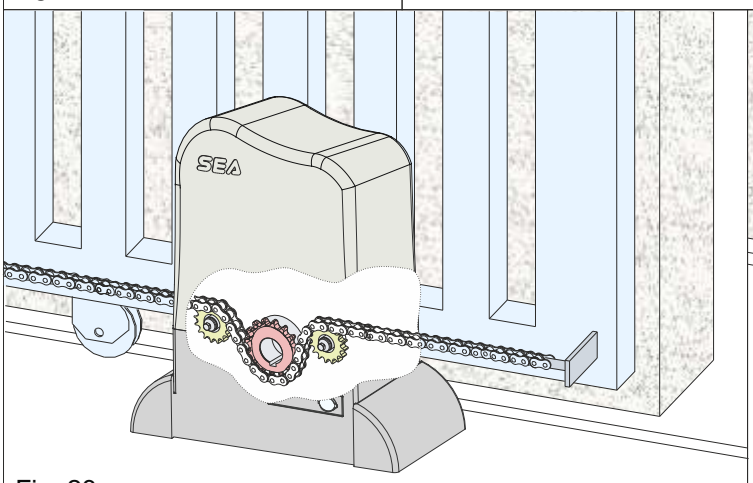


Fig. 23

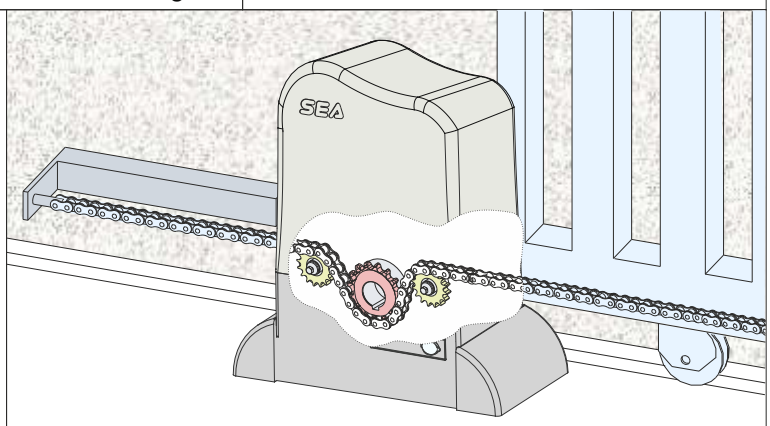


Fig. 24

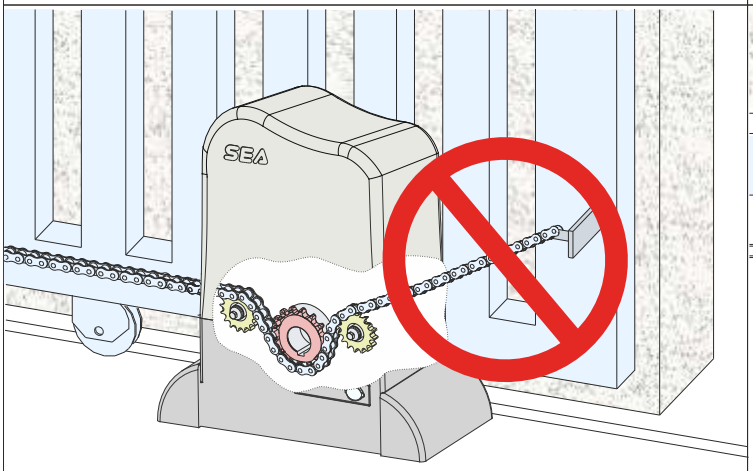


Fig. 25

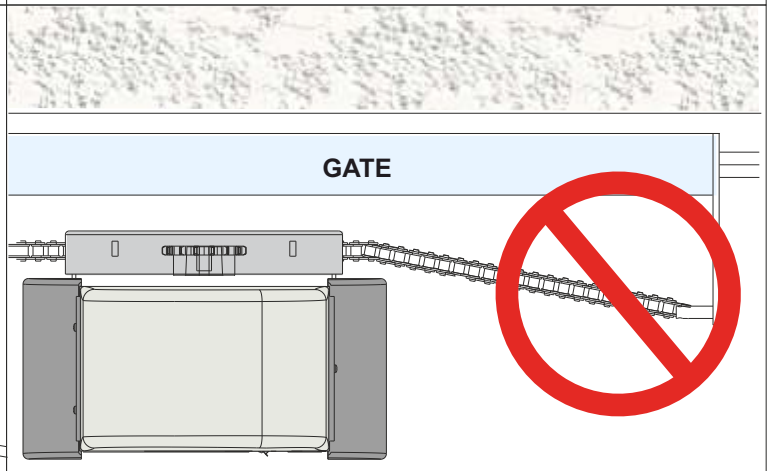


Fig. 26

11 GROUNDING

11.1. Before connecting the operator to the power supply, ensure it is earthed using the specific earthing screw shown in Fig. 27

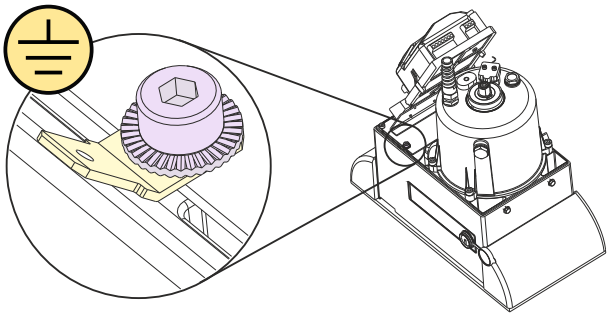


Fig. 27

12 BREATHER CAP REPLACEMENT *(OR BREATHER SCREW REPLACEMENT *)*

12.1. Before commissioning the operator, remove the red travel plug *(or travel screw)* and replace it with the black breather cap *(or breather screw).*

THE VERSION WITH ELECTRIC BRAKE IS EQUIPPED WITH A BREATHER SCREW

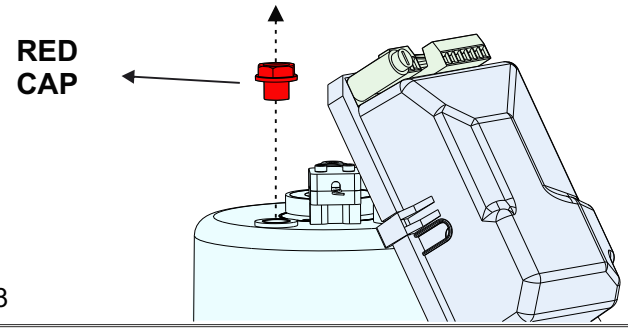


Fig. 28

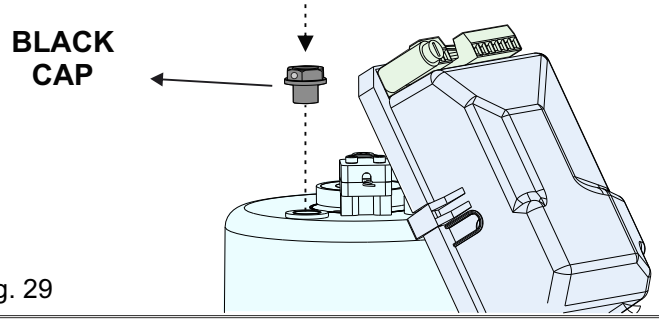


Fig. 29

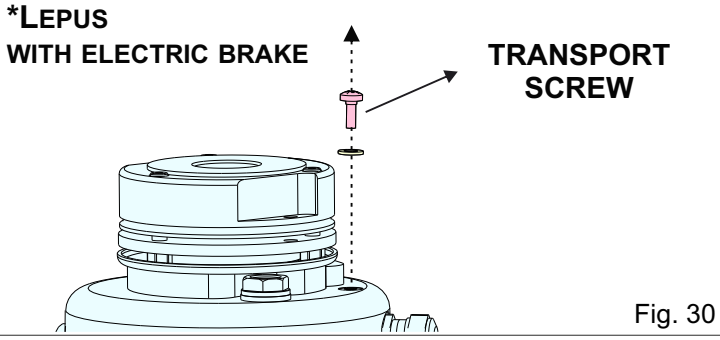


Fig. 30

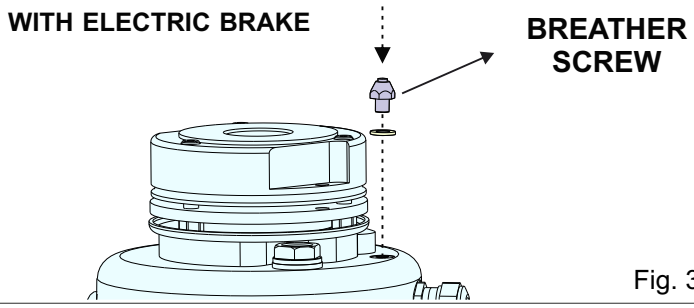


Fig. 31

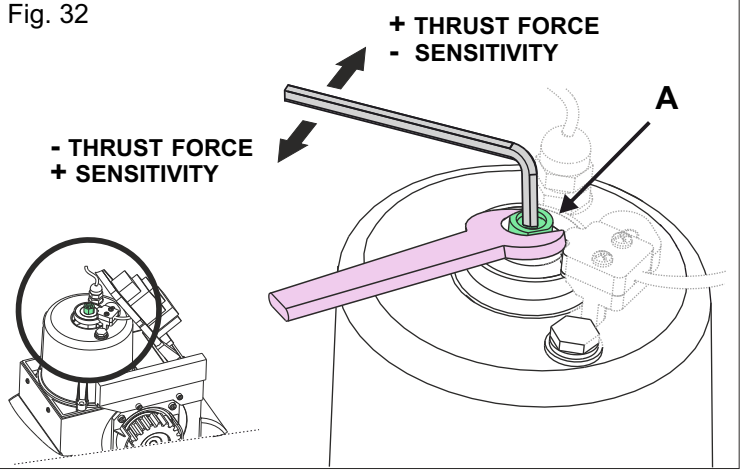
13 CLUTCH ADJUSTMENT - *ONLY FOR MODELS WITH OPTIONAL CLUTCH*

10.1. Disconnect the main power supply

10.2. To adjust the clutch, turn the grub screw **«A»** as follows:

- **CLOCKWISE** = reduces clutch sensitivity (increases thrust force)
- **COUNTER-CLOCKWISE** = increases clutch sensitivity (reduces thrust force)

Fig. 32



14 EXTERNAL RELEASE SYSTEM - *OPTIONAL*

14.1. The LEPUS operator can be connected to an external release system linked to a safety box, as shown in Fig. 33

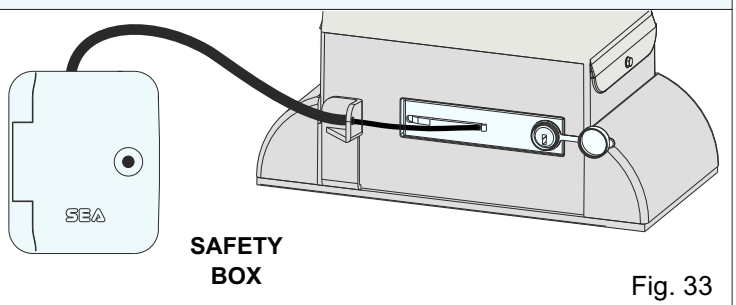


Fig. 33

PART FOR BOTH INSTALLER AND END-USER

DISCONNECT THE POWER SUPPLY BEFORE PERFORMING ANY UNLOCKING, LOCKING OR PERIODIC MAINTENANCE OPERATIONS ON THE OPERATOR!

15 RELEASE SYSTEM

15.1. TO RELEASE THE OPERATOR:
- Open the lock cover, insert the key, and turn 90° clockwise - Fig. 34
- Pull the release lever fully until it stops (approx. 90°) - Fig. 35

Note: Pulling the lever triggers an internal microswitch that sends a safety stop impulse to the control unit. However, we highly recommend disconnecting the main power supply first.

15.2. TO LOCK THE OPERATOR:
- Push the release lever back to the fully closed position
- Turn the key counter-clockwise, remove it, and close the protective lock cover

Once locked, the control unit reactivates automatically (if the power supply is connected)

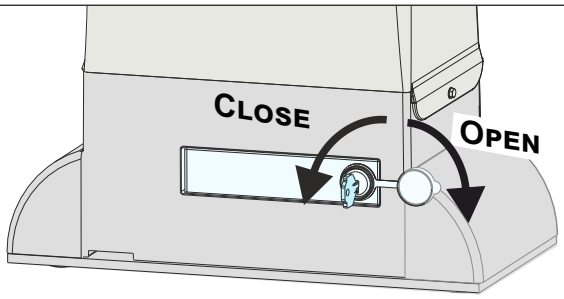


Fig. 34

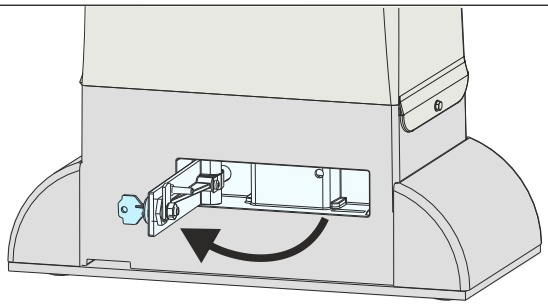


Fig. 35

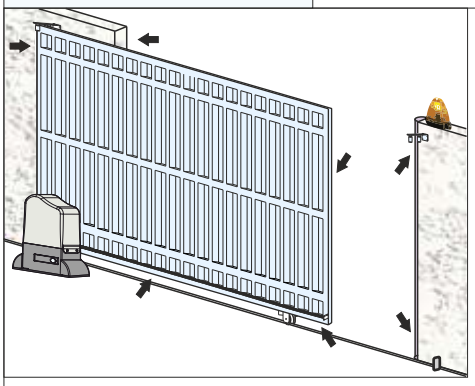
16 PERIODIC MAINTENANCE - *FOR INSTALLERS ONLY!*

CHECK THE OIL LEVEL *(VIA THE TRANSPARENT CAP ON THE GEARBOX HOUSING)*	YEARLY
CHANGE THE OIL	4 YEARS
CHECK THE CORRECT OPERATION OF THE MANUAL RELEASE SYSTEM	YEARLY
CHECK THE CORRECT OPERATION OF THE CLUTCH	YEARLY
VERIFY THE CLEARANCE BETWEEN THE PINION AND THE GEAR RACK *(1.5 mm)*	YEARLY
CHECK THE CONDITION OF THE PINION AND THE GEAR RACK *(IF WORN OR DAMAGED)*	YEARLY
CHECK THE FIXING SCREWS	YEARLY
CHECK THE CONDITION OF THE ELECTRIC CABLES	YEARLY
CHECK THE OPERATION OF THE LIMIT SWITCHES AND THE CONDITION OF THE STOP PLATES	YEARLY

ALL OPERATIONS MUST BE CARRIED OUT EXCLUSIVELY BY AN AUTHORIZED INSTALLER
ALL OPERATIONS MUST BE CARRIED OUT WITH THE POWER SUPPLY DISCONNECTED

PART FOR BOTH INSTALLER AND END-USER

GENERAL NOTICE



RISK EXAMINATION: The points pointed by arrows 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 installation has been made). As for misunderstandings that may arise refer to your 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 products must only be used to automate doors, gates and leaves. Any initiative taken without SEA explicit authorization will preserve the manufacturer from whatsoever responsibility. The installer shall provide warning notices on not assessable further risks. SEA in its relentless aim to improve the products, is allowed to make whatsoever adjustment without giving notice. This doesn't oblige SEA to upgrade the past production. SEA 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 will be nullified if SEA 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. Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.

INITIAL TEST AND STARTING OF THE AUTOMATION: After having completed the necessary operations for a correct installation of the product and after having evaluated all the risks which could arise in any installation, **it is necessary to test the automation to guarantee the maximum safety and to guarantee that the laws in force are fully respected**. The first Start must be executed according to the rule **EN 12445** which establishes the methods of tests for checking the gate automation respecting the limits established by the rule **EN 12453**

SAFETY PRECAUTIONS: All electrical works should comply with the current regulations. A 16A/0,030 differential switch must be used. Separate the source cables (operators, power supply) and command cables (photocells, push-buttons, etc). Be sure the entire system is properly grounded. Always run cables in separate ducts to prevent interferences

INTENDED USE: The operator has been designed to be used for the automation of sliding gates only

SPARE PARTS: Send request for spare parts to: ***SEA S.p.A. - Teramo - ITALY - www.seateam.com***

SAFETY AND ENVIRONMENTAL COMPATIBILITY: Don't waste product packing materials and/or circuits

STORAGE: T = -30°C/+60°C ; Humidity = min. 5% / max. 90% (without condensation); Materials must be properly packaged, handled with care and with appropriate vehicles

WARRANTY LIMITS - see the sales conditions

MAINTENANCE AND DECOMMISSION: must only be carried out by specialised and authorised personnel

THE MANUFACTURER CAN NOT BE DEEMED RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY IMPROPER USE OF THIS PRODUCT

SEA S.p.A. reserves the right to make any required modification or change to the products and/or to this manual without any advanced notice obligation.

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 comply with Directives: Machine Regulation 2006/42/CE and following adjustments, Low Tension (2006/95/CE), Electromagnetic Consistency (2004/108/CE); Installation must respect Directives: EN12453 and EN12445.
5. Do not install the equipment in an explosive atmosphere.
6. SEA 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 grounding system is perfectly constructed, and connect to it the metal parts of the gate
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 declines all liability concerning the automated system safety and efficiency, if components used are not produced by SEA
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 the system 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. The 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 safety low voltage (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm

Automatic Gate Openers
International registered trademark n. 804888

DECLARATION OF CONFORMITY
DICHIARAZIONE DI CONFORMITÀ

SEA S.p.A. declares under its proper responsability and, if applicable, under the responsability of its authorised representative that, by installing the appropriate safety equipment and noise filtering, the products:

La SEA S.p.A. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzato che, con l'installazione degli adeguati dispositivi di sicurezza e di filtraggio disturbi, i prodotti:

DESCRIPTION - *DESCRIZIONE*	**MODEL** - *MODELLO*	**TRADEMARK** - *MARCA*
LEPUS 600 *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**11102025**	**SEA**
LEPUS 1600 *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**11110300**	**SEA**
LEPUS 2000 THREEPHASE - TRIFASE *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**11110500**	**SEA**

- are built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 2006/42/CE;
- comply with the essential safety requirements related to the products within the field of applicability of the Community Directives 2014/35/UE and 2014/30/UE

- sono costruiti per essere incorporati in una macchina o per essere assemblati con altri macchinari per costruire una macchina ai sensi della Direttiva 2006/42/CE;
- sono conformi ai requisiti essenziali di sicurezza relativi ai prodotti entro il campo di applicabilità delle Direttive Comunitarie 2014/35/UE e 2014/30/UE

THE MANUFACTURER OR THE AUTHORIZED REPRESENTATIVE
IL COSTRUTTORE O IL RAPPRESENTATE AUTORIZZATO

PLACE AND DATE OF ISSUE
LUOGO E DATA DI EMISSIONE

TERAMO, 06/09/2022

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L'Amministratore
The Administrator
Ennio Di Saverio

CE | UKCA

Automatic Gate Openers

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