



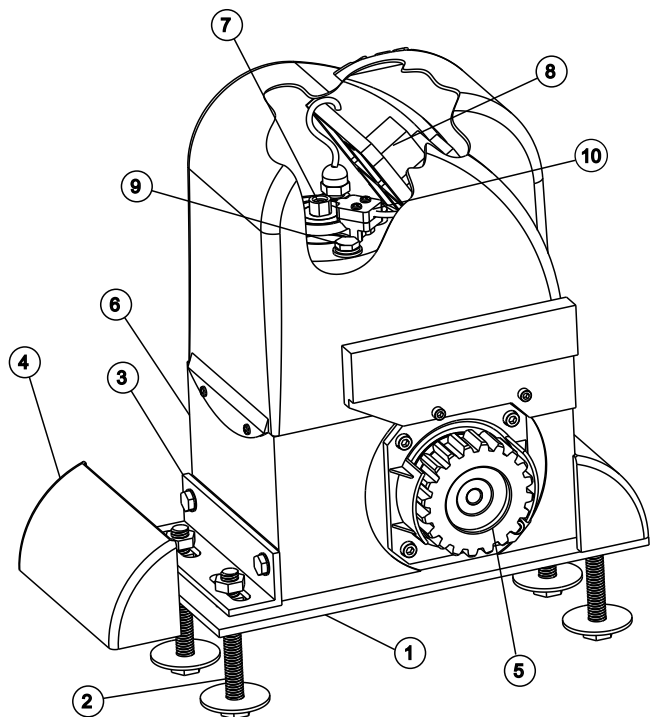
## FITTING AND CONNECTION INSTRUCTIONS

**ENGLISH**

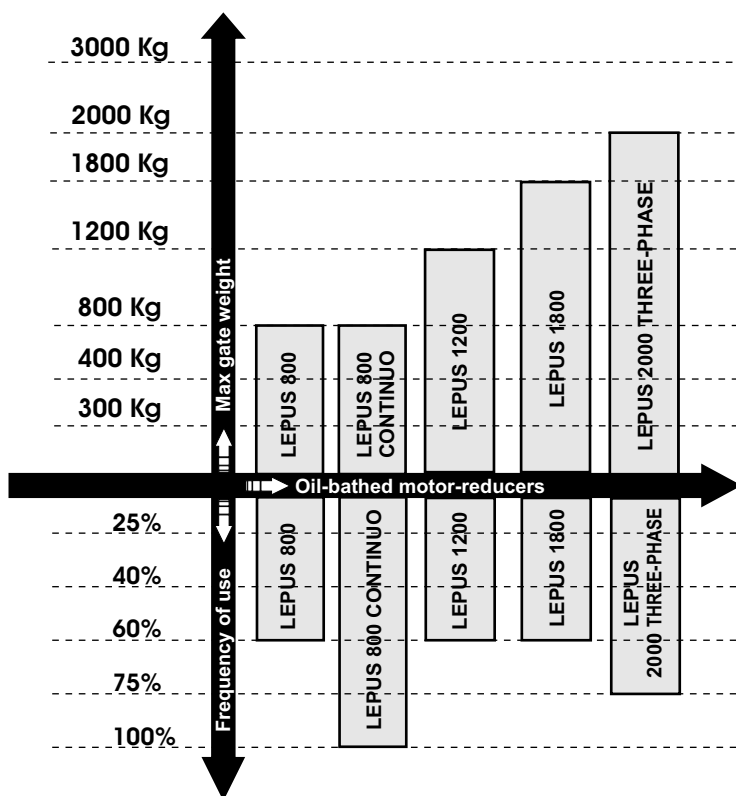
**LEPUS** is an **oil-bathed motor-reducer** created for sliding gates automation. The motor-reducer **irreversibility** allows a perfect and safe gate closing avoiding the setup of an electrolock and in case of power supply lacking, the release device which is in the frontal part of the motor-reducer allows the manual opening and closing. The operator has a **mechanical adjustable clutch** which ensures the control of the gate pushing. Moreover, **the electronic reversing device** realized through an **encoder** makes the lepus motor-reducer a safe and reliable operator allowing in a simple way to comply with the current norms in the countries where this product is set up.

### MAIN PARTS NOMENCLATURE

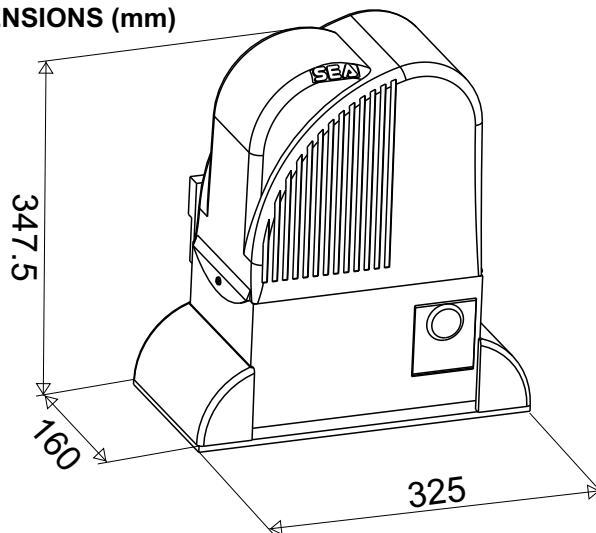
- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1 Adjustable Foundation plate | 6 Lever release reducer             |
| 2 Anchor bolts                | 7 Adjusting screw mechanical clutch |
| 3 Fixing angulars             | 8 Electronic control unit           |
| 4 Angular cover               | 9 Oil filling up cap                |
| 5 Pinion                      | 10 Magnetic encoder                 |



### LEPUS MOTOR-REDUCER USING-GRAPHIC



### DIMENSIONS (mm)



TECHNICAL DATA	800	1200 / 1800	2000
Power Supply	230 V (±5%) 50/60 Hz	380V	380V
Power	330W	380W / 450W	450W
Absorbed current	1,5 A	1,7 A	1,2 A
Motor rotation speed	1400 rpm		
Reduction ratio	1/30		
Room temperature	-20°C +55°C		
Thermal protection intervention	130°C		
Weight of the unit with oil	15 Kg		
Oil quantity	1,75 L.		
Protection rating	IP44		
Gate speed (pinion Z16)	10,5 m/min		
Gate speed (pinion Z20)	12 m/min		
Maximum weight of the gate	800 Kg	1200/1800 Kg	2000Kg
Mechanical clutch			
Inductive or mechanical limit switch			

### 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 and the anchor bolts will be walled up. It is best if the gate structure allows the plate to be raised up from the finished level by 50 mm. This will stop water gathering around the operator.

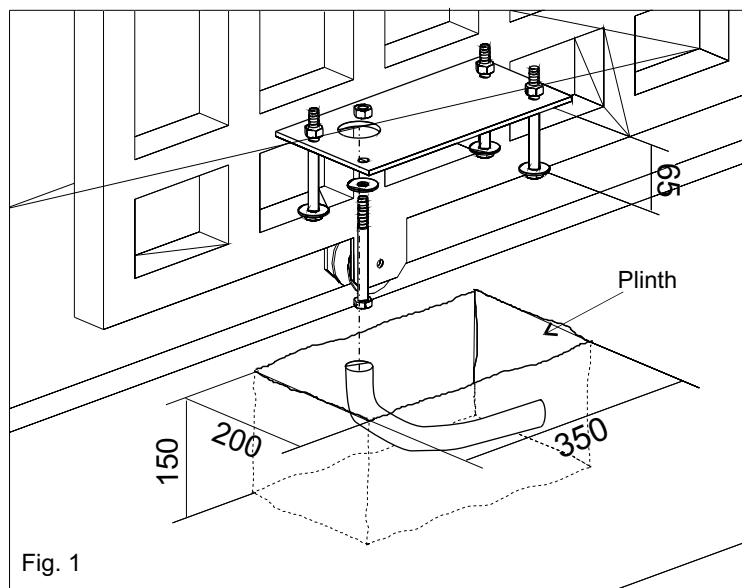


Fig. 1

**2.2.** When you are concreting in the plate install any necessary cable ducts (30 mm dia. minimum) and cables in through the base plate. Cable ducts should have sweep bends not elbow ones.

**2.3.** When concreting in the plate check that the plate is perfectly levelled and that the measurement of 50 - 55 mm given in Fig. 2 is followed.

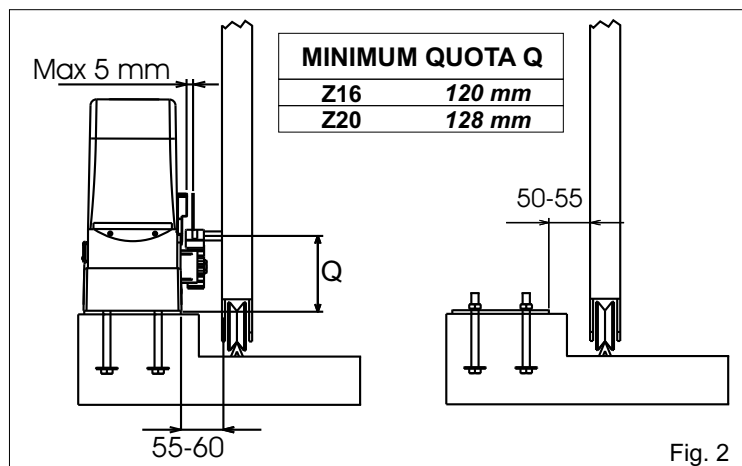


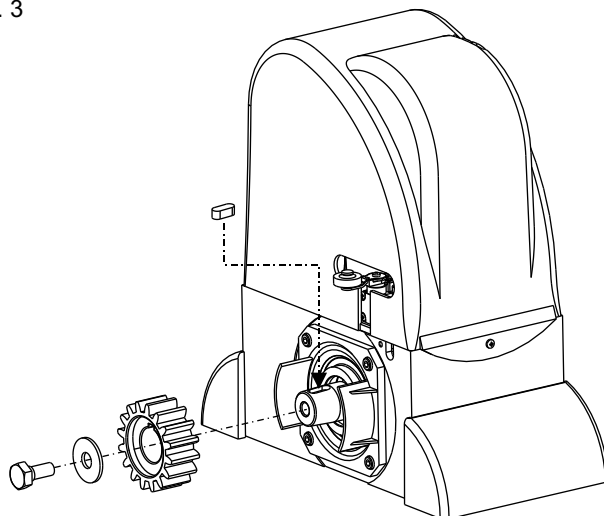
Fig. 2

## 3. PINION ASSEMBLING

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

**3.2.** Assemble the pinion to the motor reducer fixing it with the provided bolt (Fig. 3).

Fig. 3



## 4. FITTING OF THE UNIT

**4.1.** Fix the side fixing angulars to the motor-reducer with the provided screws (Fig. 4)

**4.2.** Fix the motor-reducer to the foundation plate adjusting the side position and its height (Fig. 4 - Fig. 5) considering the mentioned measurements in Fig. 2.

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

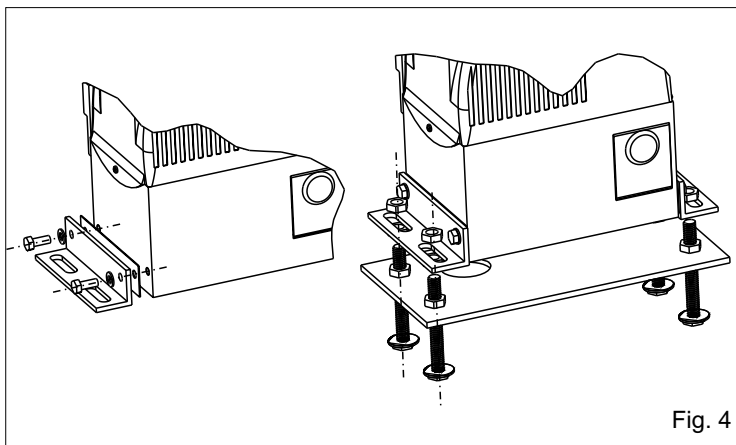


Fig. 4

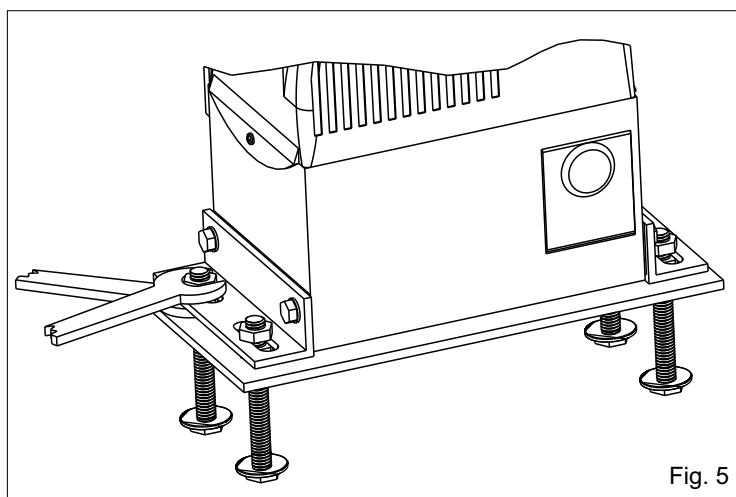


Fig. 5



## 5. RELEASE SYSTEM

### 5.1. To release act as follows

- Put the key in and turn it to open the small door which protects the plastic handle (Fig. 6).
- Grab the handle of the release and pull outward winning the resistance of the inner spring (Fig. 7).
- Turn the handle of 90° towards left or right and leave it folding it to 90° to let the small door close.
- Close the small door and take the key away.

### 5.2. To stop again act as follows:

- Put the key in and turn it to open the small door which protects the plastic handle (Fig. 6).
- grab the handle and turn it of 90° towards left or right
- pull it inward until the stop
- move the leaf by hand until the gears are not inserted again, after this the system is re-established for the automatic use.

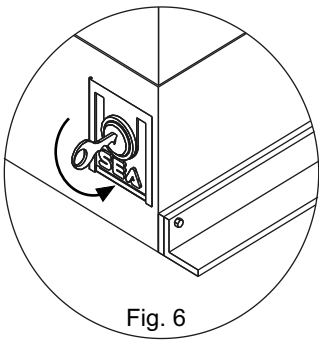


Fig. 6

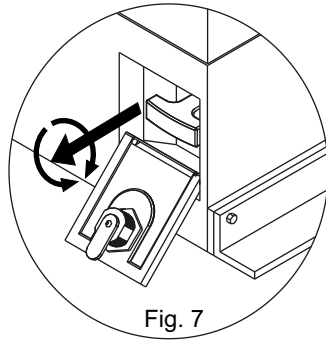


Fig. 7

## 6. RACK FITTING

6.1. Release the unit and open the gate completely .

6.2. Fit the bolts to each section of rack using the provided blocking screw. Make sure the bolts are placed in the upper part of the holes (See Fig. 8) ;

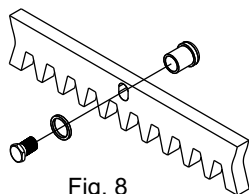


Fig. 8

6.3. Lay the section of rack on the pinion of the operator as in Fig. 9 so that it results parallel to the pavement guide of the gate and tack weld the central bolt B to the gate (Fig. 10). Manually slide the gate to set the bolt C close to the pinion and tack weld them; repeat with bolt A.

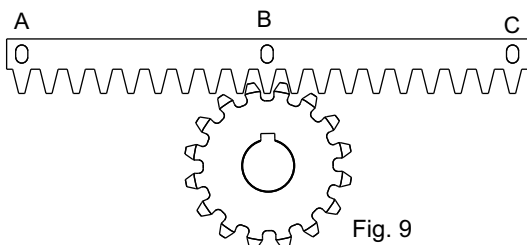


Fig. 9

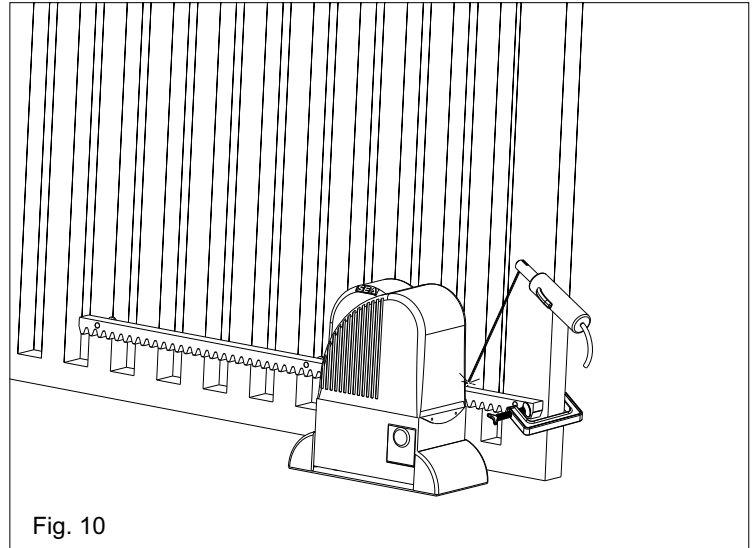


Fig. 10

6.4. Repeat this method for all the pieces of rack that require to be fitted.

6.5. Check all the rack pieces are perfectly aligned and placed correctly (serrations in phases). When fitting the next section of rack use a third piece as shown in Fig. 11 to ensure a good mesh.

6.6. Set the rack 1.5 mm higher to avoid the gate weight loading on the pinion (Fig. 12),

**Notice:** Keep a gap of about 0,5 mm between pinion cog and gear rack tooth.

6.7. Slide the gate back and forth to check that the rack always stays in the middle of the pinion. If required adjust the length of the spacers.

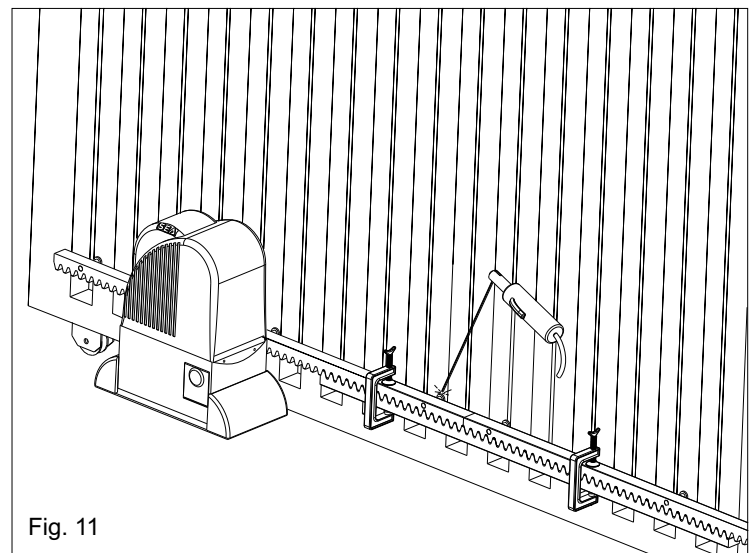


Fig. 11

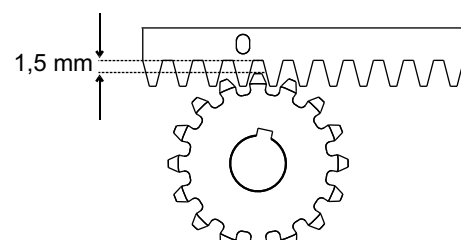


Fig. 12

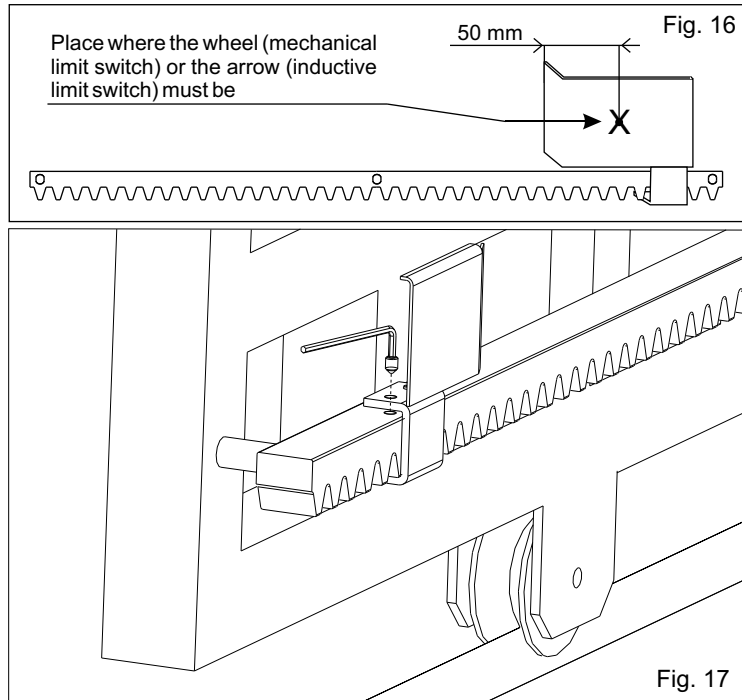
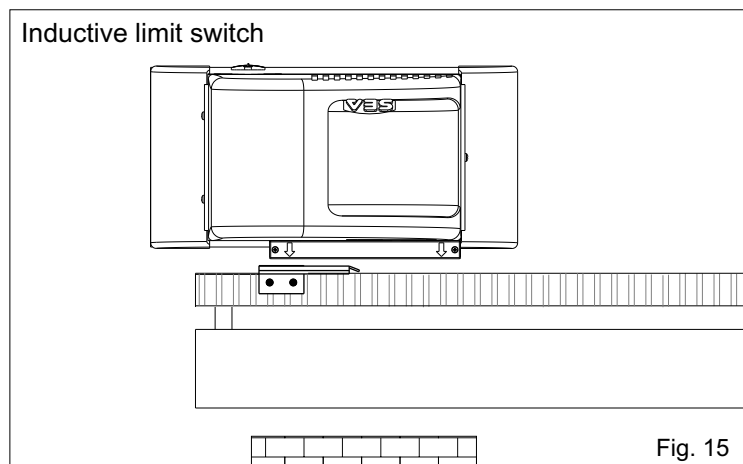
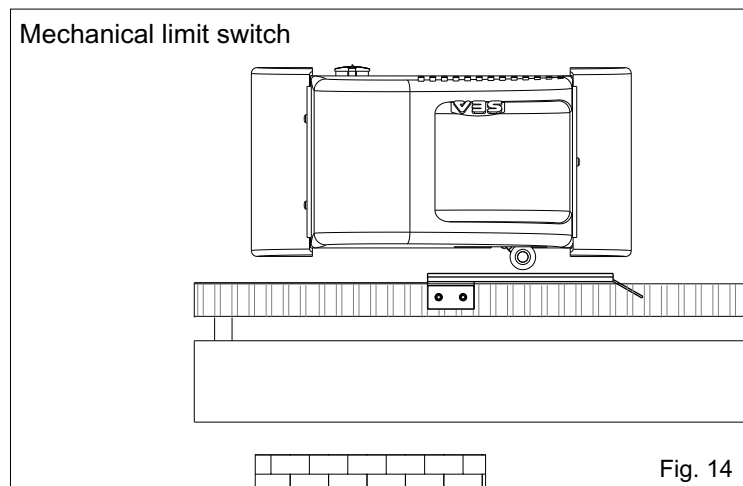
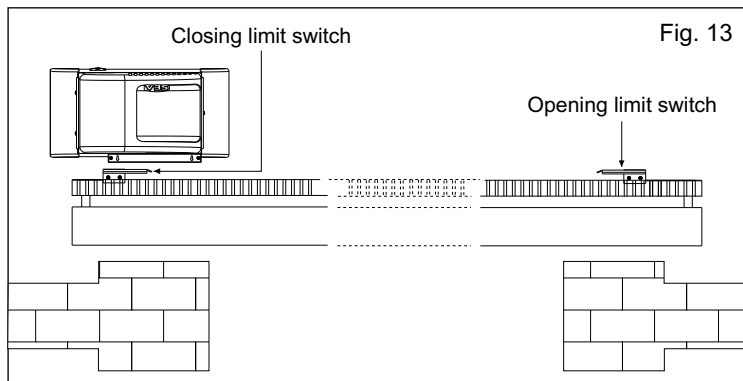
## 7. LIMIT SWITCH ADJUSTMENT

**7.1.** To set up and adjust the limit switches in opening, follow the instructions written here (Fig. 13):

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

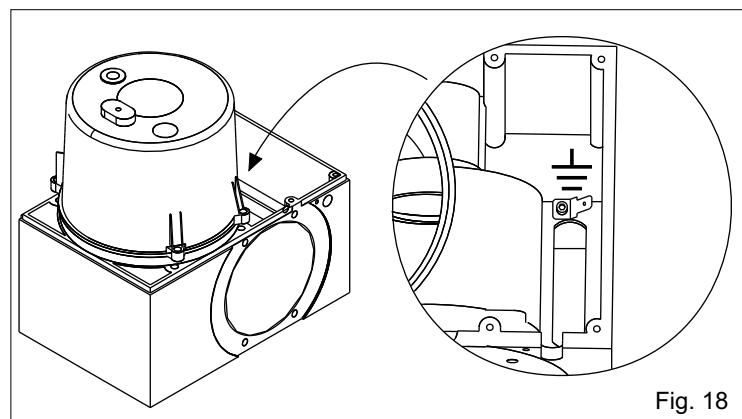
**7.2.** To set up and adjust the limit switches in closing, follow the instructions written here (Fig. 13):

- Bring the gate in complete closing,
- Place the limit switch plate on the gear rack to have the limit switch in correspondence with the X point which is 50 mm from the folded side of the plate (Fig. 16) and fix it with the supplied screws (Fig. 17).



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

## 8. GROUNDING (Fig. 18)

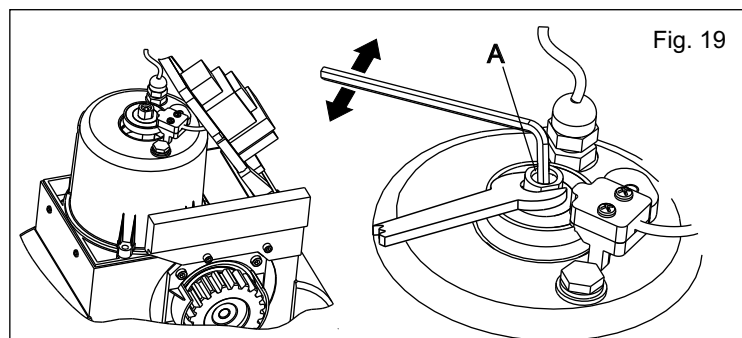


## 9. CLUTCH ADJUSTMENT

**9.1.** Take power supply tension off.

**9.2.** To adjust the clutch act as follows:

- Act on the "A" screw (Fig. 19) in the following way:
- Clockwise = less clutch sensibility and more pushing force
- Anti-clockwise = more clutch sensibility and less pushing force





## 10. ASSEMBLING OF THE CHAIN SYSTEM

The assembling of the main parts which include the whole chain automation is illustrated in Fig. 20.

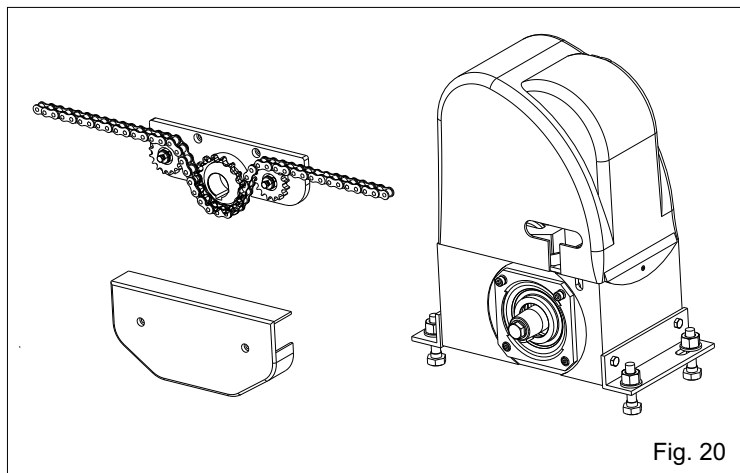


Fig. 20

In the pictures 21 and 22 it is possible to see the correct installation with opened and closed gate respectively; notice the obliged run of the chain inside the pinion group which must not be modified.

For a correct installation follow carefully the indications written below:

**10.1.** Weld two strong pierced brackets to the two extremities of the gate to couple the chain.

**Notice:** the holes for the chain tensioner and so the chain itself must be to a minimum distance of 45 mm from the gate (Fig. 23).

**10.2.** Install the chain making it pass through the pinion group as in Fig.20.

The chain must be always in line both vertically (Fig. 21) and orizontally (Fig.23), if not perfectly aligned (Fig. 24 and 25) it may derail from the pinion group or the motor reducer risks a greater effort not allowing the right operating of the system.

**10.3.** Set up a fillet chain tensioner to the two extremities of the gate to regulate the tension of the chain.

**Notice:** do this last operation with the engine completely unlocked through the special unlocking key (5).

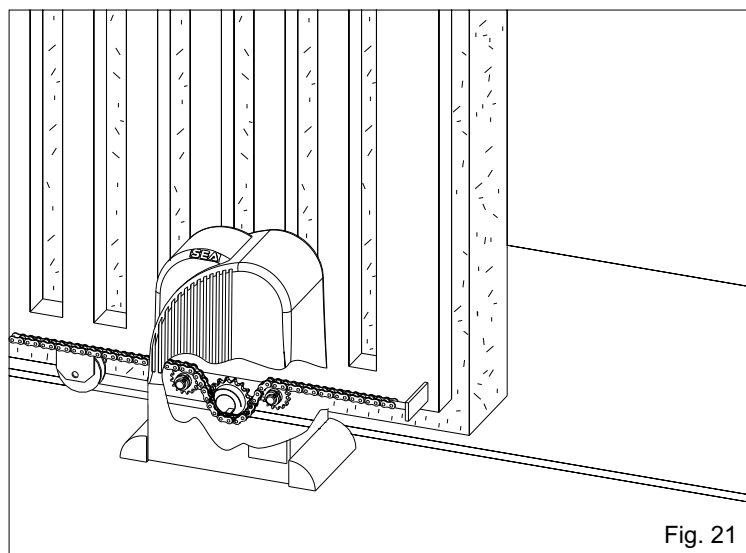


Fig. 21

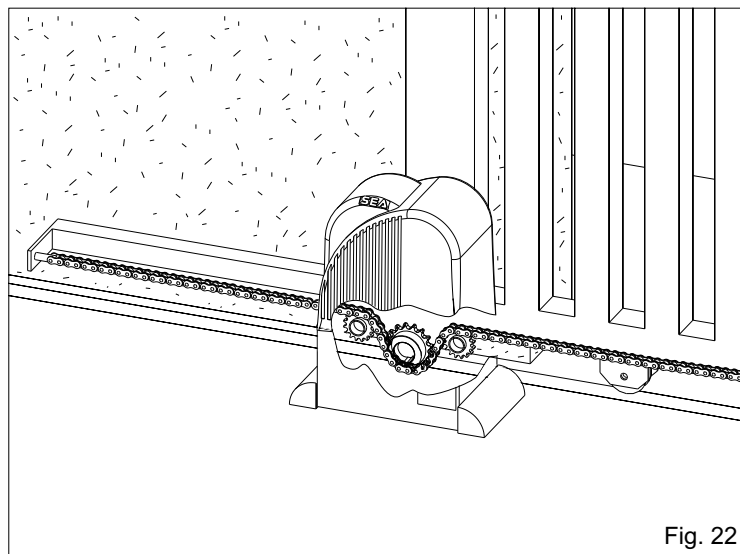


Fig. 22

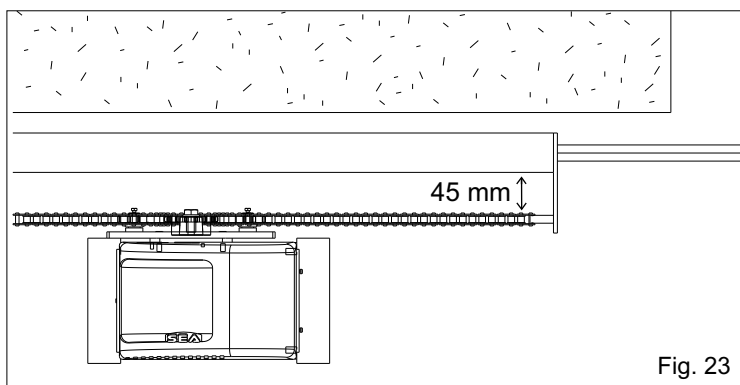


Fig. 23

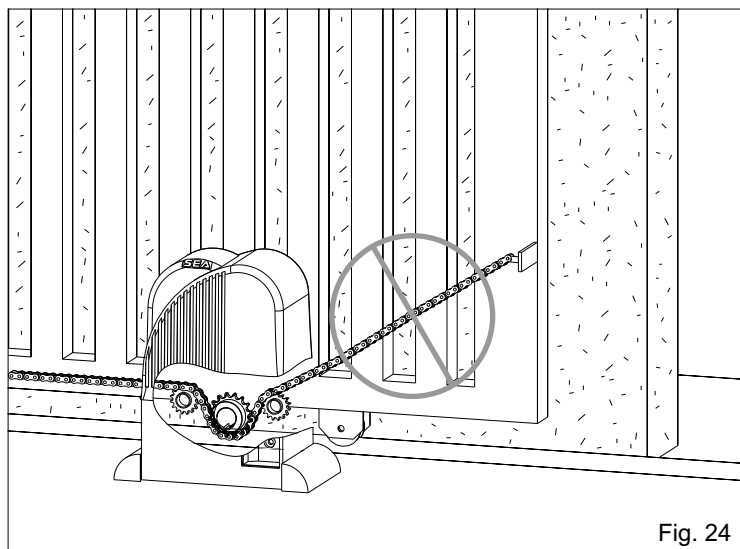


Fig. 24

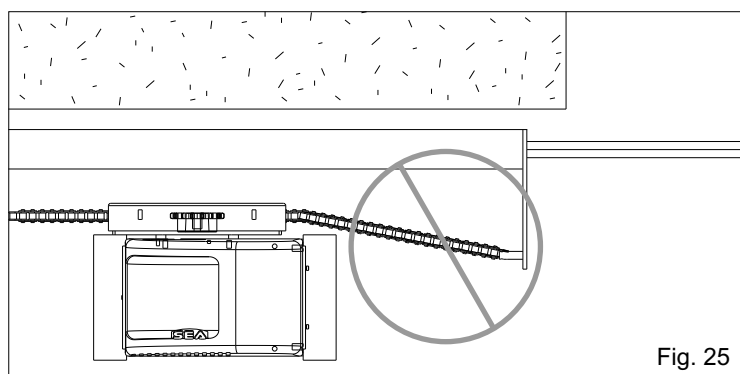
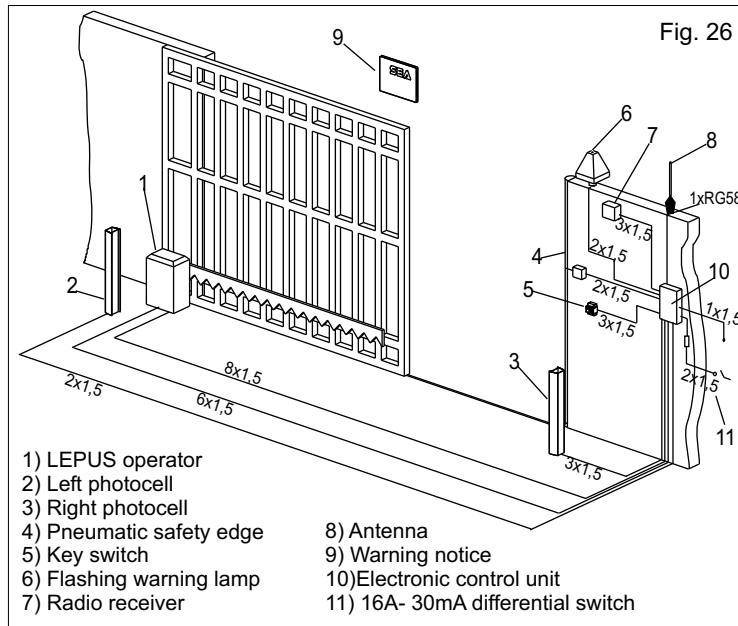


Fig. 25

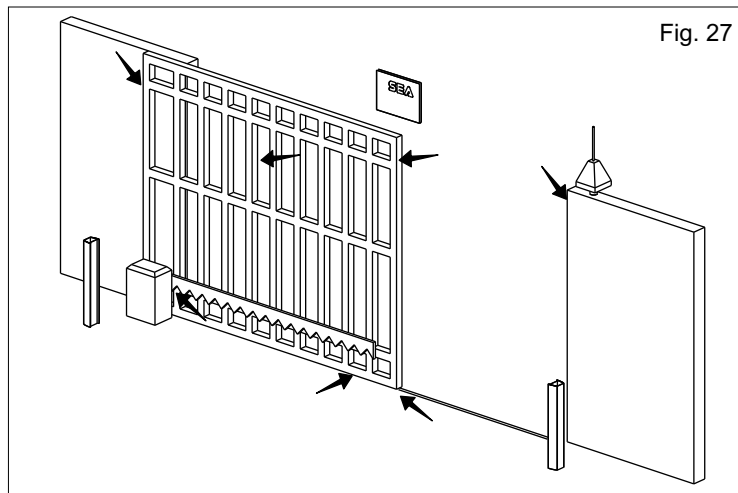


## 11. CABLE LAYOUT (Fig. 26)



## 12. RISK EXAMINATION

The points pointed by arrows in Fig. 27 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.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. 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.

## DECLARATION OF CONFORMITY

SEA declares under its responsibility that the products

*Lepus 800, Lepus 800 CONTINUO, Lepus 1200, Lepus 1800, Lepus 2000 THREE-PHASE*

meet the essential requisites provided for by the following European Directive and following changes:

**89/392/CEE (Machine Directive)**

**89/336/CEE (Electromagnetic Compatibility Directive)**

**73/23/CEE (Low Tension Directive)**

### 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.

### INTENDED USE:

The Lepus 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 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 (trasparent cap placed on the side of the bell)	Annual
Change the oil	4 years
Check the release function	Annual
Check the clutch function on the gate	Annual
Check the distance between the pinion and the rack	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.