



**TORG** is composed by an aluminum pressure die-cast monobloc, into which reduction gears are contained. If there is an obstacle in front of the gate while it is moving, the **mechanical clutch** guarantees the **anti-crushing safety**.

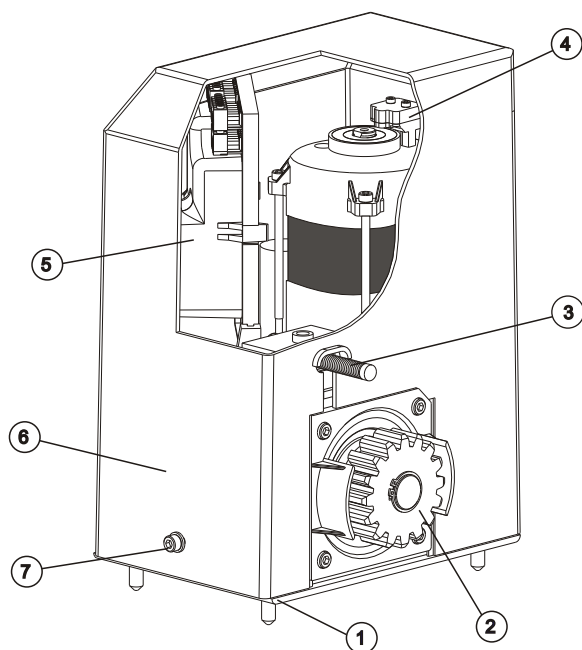
In case of power supply or servicing lacking, **TORG** has a release system which allows the uncoupling of the gears in a rapid and easy way through a key supplied with the operator.

The limit switch is of mechanical type.

The electronic managing equipment together with the **encoder** (optional fitting purchasable separately) keeps control on all the functions of the automation system and on the reversing of the movement in case of obstacle.

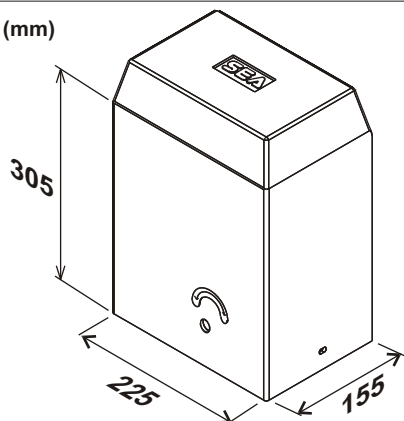
### MAIN PARTS NOMENCLATURE

- |                            |                           |
|----------------------------|---------------------------|
| 1 Mounting plate           | 5 Electronic control unit |
| 2 Pinion                   | 6 Carter                  |
| 3 Mechanical limit switch  | 7 Fixing carter screw     |
| 4 Encoder (where foreseen) |                           |



TECHNICAL DATA	Torg 600	Torg 800
Power supply	230 V ( $\pm 5\%$ ) 50/60 Hz	
Power	320 W	340 W
Motor rotation speed	1400 rpm	
Reduction ratio	1/32	
Room temperature	-20°C +55°C	
Thermal protection intervention	130°C	
Weight of the unit	13,5 Kg	14 Kg
Capacitor	10uF	16uF
Protection rating	IP44	
Gate speed	10 m/min	
Maximum weight of the gate	600 Kg	800 Kg
Mechanical limit switch		

### DIMENSIONS (mm)



## 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.

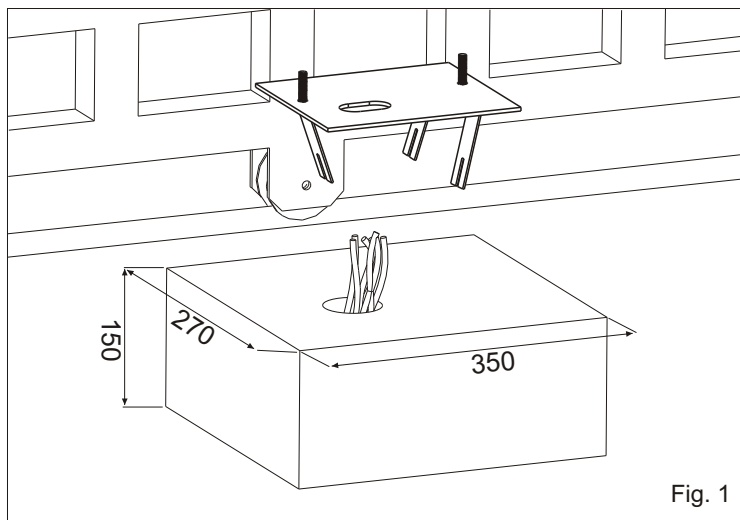


Fig. 1

**2.2.** When you are concreting in the plate install any necessary cable ducts ( $\varnothing$  35 mm 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.

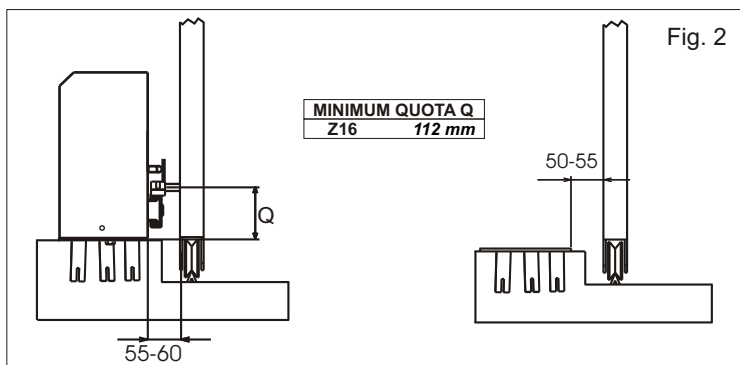


Fig. 2

## 3. FITTING OF THE UNIT

**3.1.** Take the carter away unscrewing the screws placed in the two sides of the motor reducer.

**3.2.** Adjust the motor reducer height using the four supplied grains (Fig. 3) respecting the quotes mentioned in Fig. 2. The adjusting grains can be used to correct a previous and imperfect levelling of the foundation plate.

**3.3.** Fix the motor reducer to the foundation plate with the supplied dices and washers (Fig. 4)

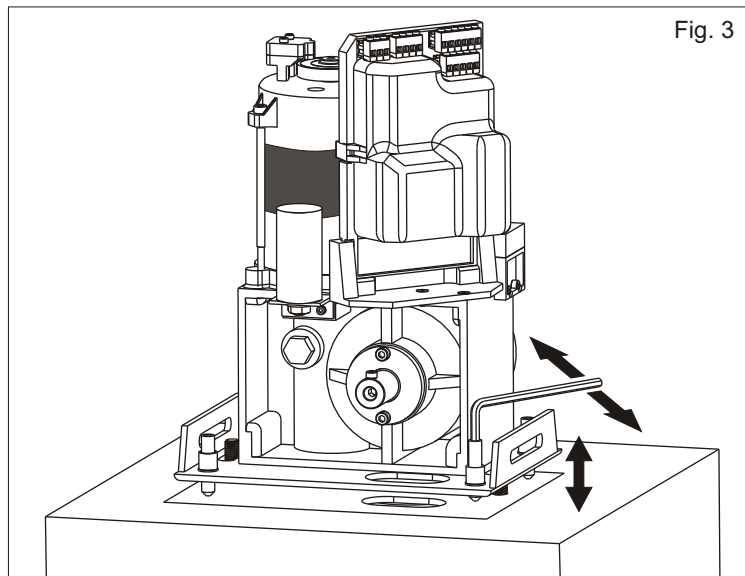


Fig. 3

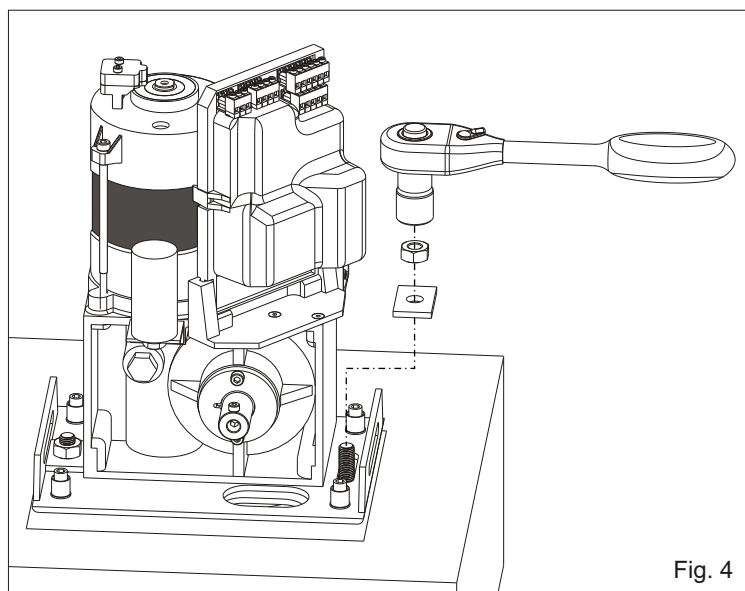


Fig. 4

## 4. RELEASE SYSTEM

### 4.1. To release act as follows:

- Open the little door of the release turning it towards the right or the left side to enter the release system (Fig. 5)
- Insert the hexagonal T-shaped key without forcing and turn it clockwise until it stops (Fig. 6).
- Close the little door
- Open or close the leaf by hand.

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

- Open the little door of the release turning it towards the right or the left side to enter the release system
- Insert the hexagonal T-shaped key and turn it anti-clockwise.
- Move the leaf in both directions **by hand** until the unit mechanism reconnects.
- Close the little door

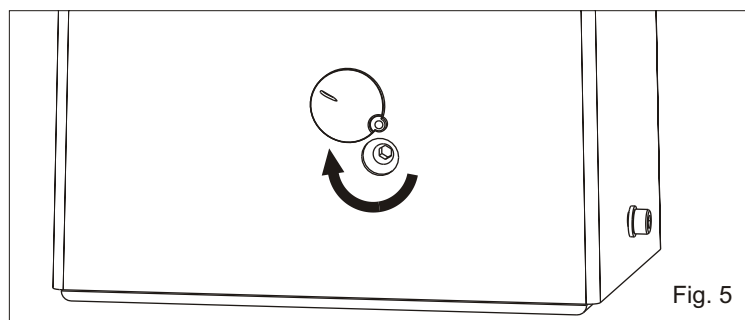


Fig. 5

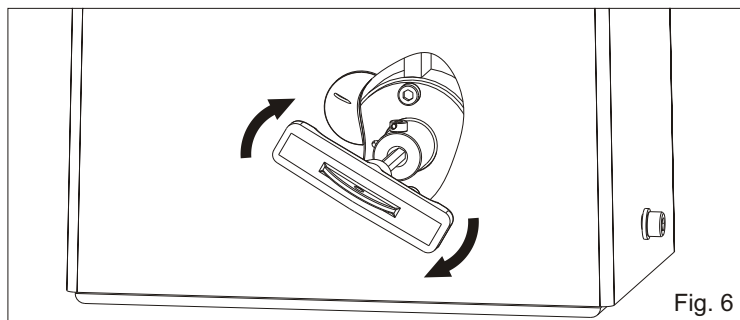


Fig. 6

## 5. RACK FITTING

5.1. Release the unit and open the gate completely .

5.2. 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. 7) ;

5.3. Lay the section of rack on the pinion of the operator as in Fig. 8 so that it results parallel to the pavement guide of the gate and tack weld the central bolt B to the gate (Fig. 9). Manually slide the gate to set the bolt C close to the pinion and tack weld them; repeat with bolt A.

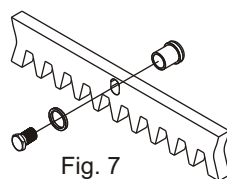


Fig. 7

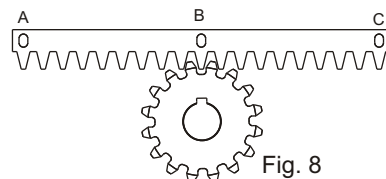


Fig. 8

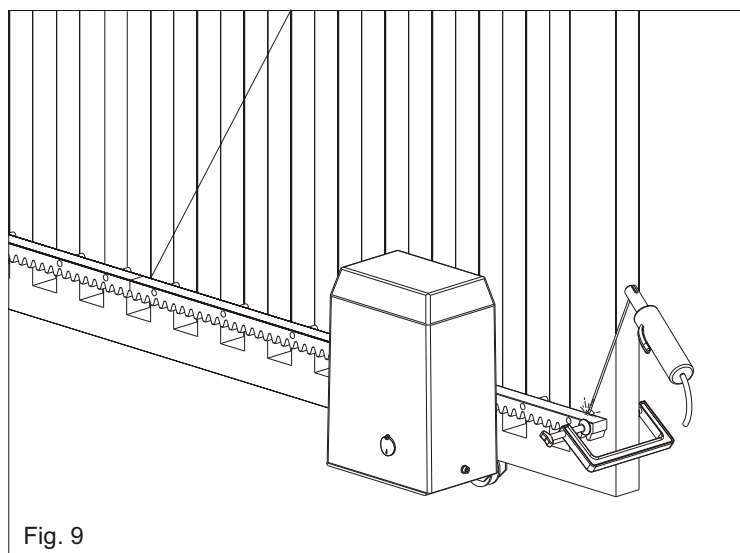


Fig. 9

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

5.5. 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. 10 to ensure a good mesh.

5.6. Set the rack 1.5 mm higher to avoid the gate weight loading on the pinion (Fig. 11).

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

5.7. 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.

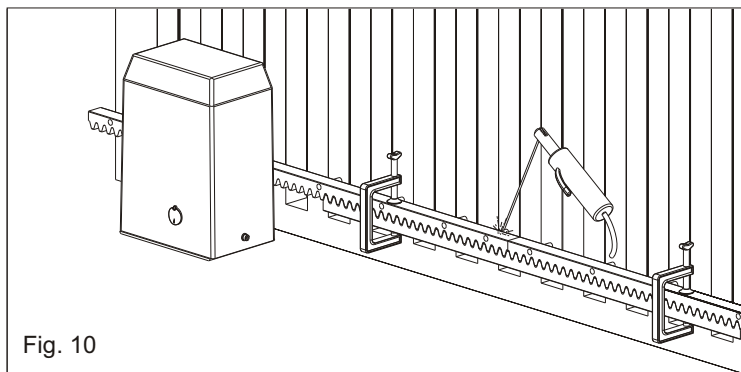


Fig. 10

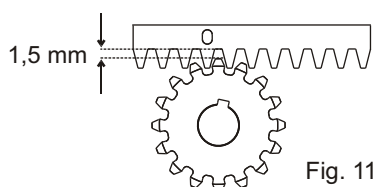


Fig. 11

## 6. LIMIT SWITCH ADJUSTMENT

**6.1.** To set up and adjust the limit switches in opening, follow the instructions written here (Fig. 12):

- Bring the gate in complete opening,
- Place the limit switch plate on the gear rack to have the limit switch (spring in case of mechanical limit switch (Fig. 13)) in correspondence with the X point which is 50 mm from the folded side of the plate (Fig. 14) and fix it with the supplied screws (Fig. 15).

**6.2.** To set up and adjust the limit switches in closing, follow the instructions written here (Fig. 12):

- 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. 14) and fix it with the supplied screws (Fig. 15).

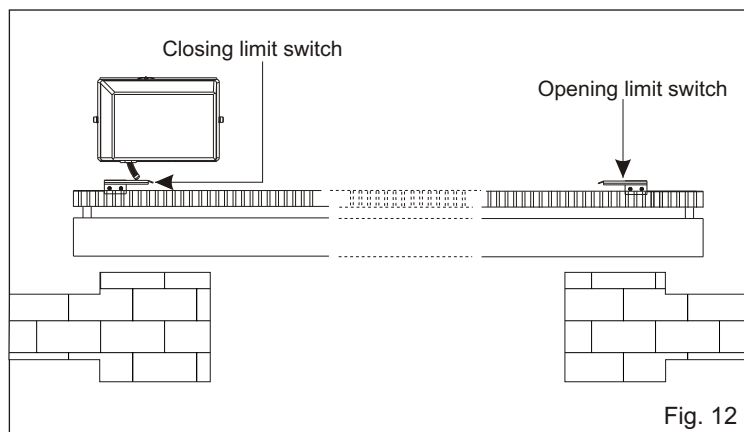


Fig. 12

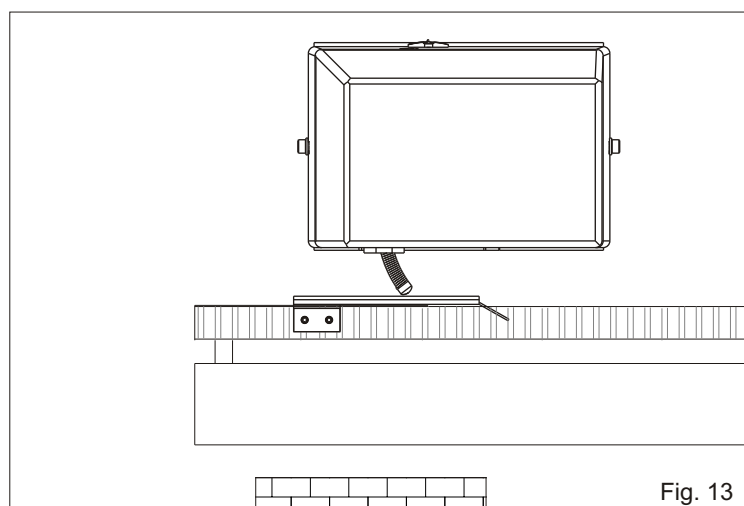


Fig. 13

Place where the spring (mechanical limit switch)

50 mm

Fig. 14

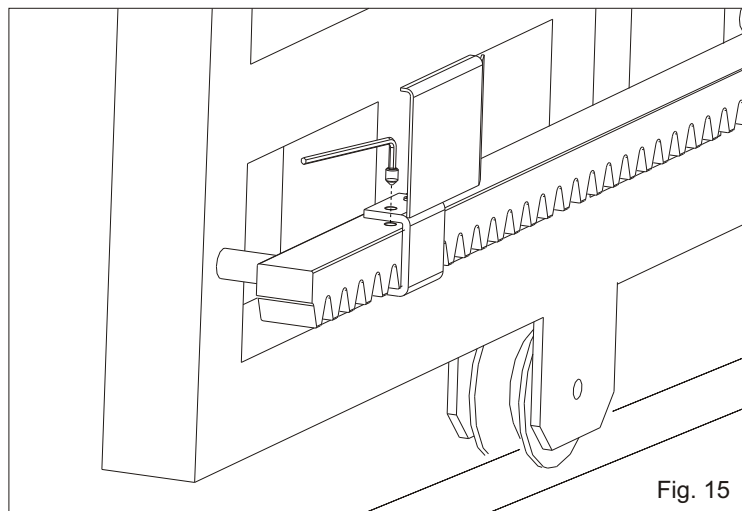
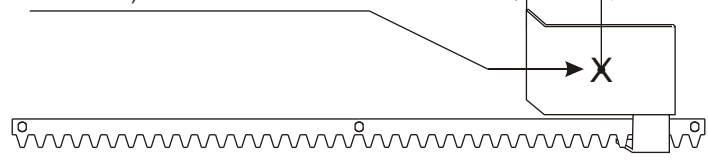
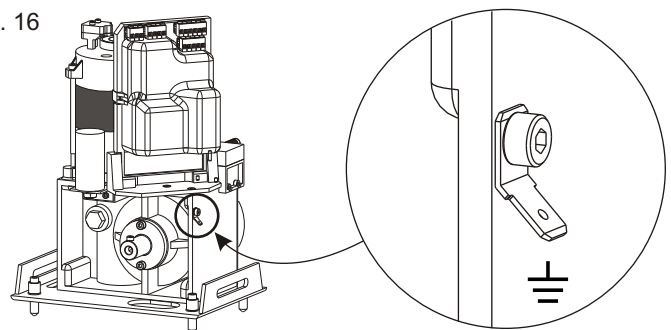


Fig. 15

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

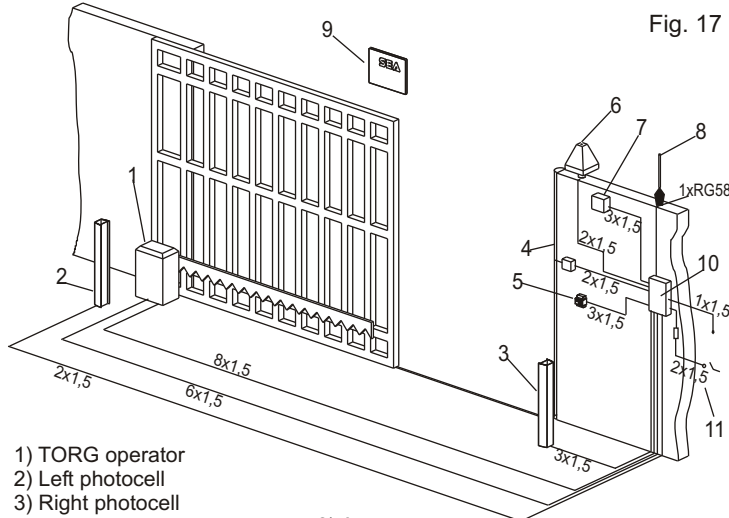
## 7. GROUNDING (Fig. 16)

Fig. 16



## 8. CABLE LAYOUT (Fig. 17)

Fig. 17



- 1) TORC operator
- 2) Left photocell
- 3) Right photocell
- 4) Pneumatic safety edge
- 5) Key switch
- 6) Flashing warning lamp
- 7) Radio receiver

- 8) Antenna
- 9) Warning notice
- 10) Electronic control unit
- 11) 16A- 30mA differential switch



## 9. RISK EXAMINATION

The points pointed by arrows in Fig. 18 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.)

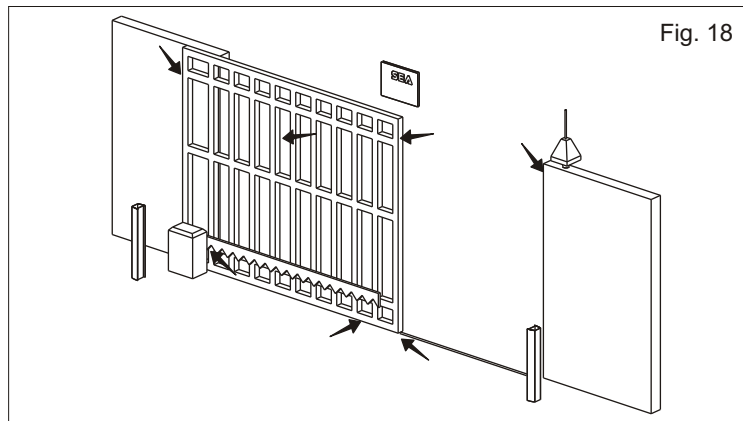


Fig. 18

## 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.

## PERIODICAL MAINTENANCE

Check the release function	Annual
Verify the functioning of the electronic clutch	Annual
Check the distance between the pinion and the rack (1.5 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.

## IMPORTANT:

SEA advises the installation of Encoder system for higher anti-crushing security where not foreseen.

## DECLARATION OF CONFORMITY

SEA declares under its responsibility that the product

*Torg*

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 Torg 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.*

