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

MERCURY

INSTALLATION AND CONNECTION INSTRUCTIONS

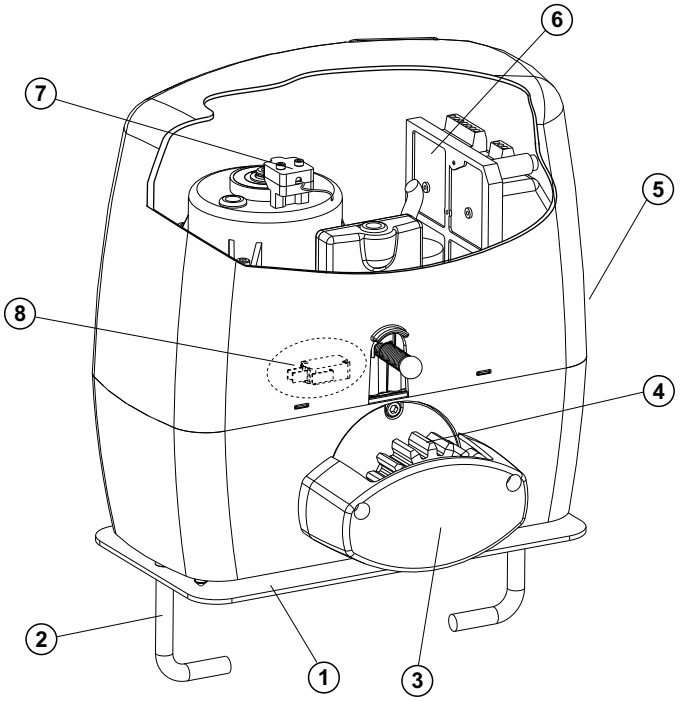
CE

ENGLISH

MERCURY is a sliding gate motor with grease lubricated gear. The irreversibility of the motor grants a perfect and safe gate closing, avoiding the need of an elecric lock. In case of electric power cut, the lock device placed on the front part of the motor allows the manual opening and closing of the gate. The operator is equipped with an electronic clutch device providing the thrust adjustment on the gate. The **electronic inversion system** (optional) through **encoder** makes the Mercury a safe and reliable operator in compliance with the laws in force in the country where the product has to be installed.

MAIN PARTS

1 Adjustable foundation plate
2 Anchor bolts
3 Pinion protection
4 Pinion
5 Gear release lever
6 Electronic unit
7 Magnetic encoder (If present)
8 Micro switch (If present)

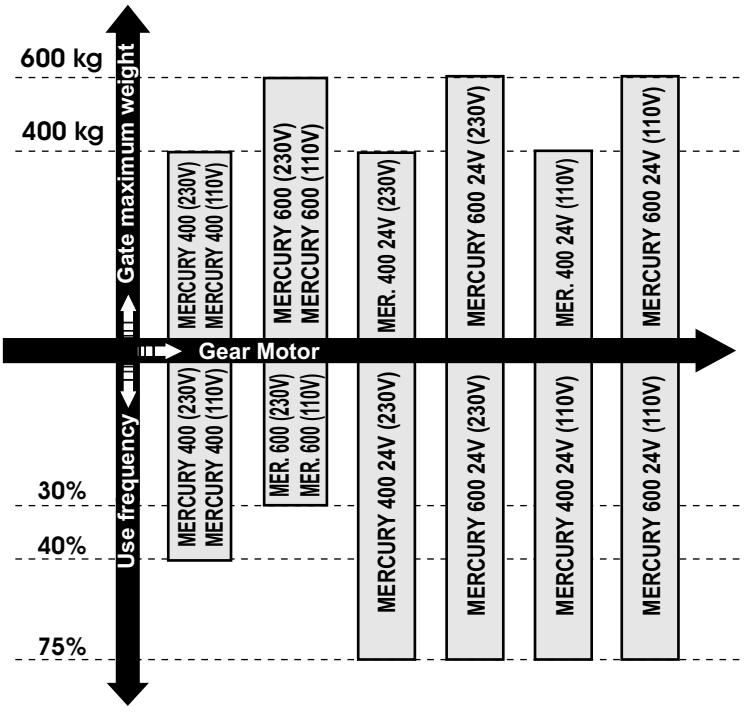


TECHNICAL DATA	*400 - 230V*	*600 - 230V*	*400 - 24V*	*600 - 24V*
Power supply	230 V~ 50/60 Hz			
Absorbed power	320 W		80 W	110W
Opening speed	0.15 m/s		Adjustable	
Working frequency	40%	30%	75%	
Maximum torque	18 N m	25 N m	0/20 N m	0/30 Nm
Working Temperature	-20°C ⅄ +55°C ⅄			
Thermoprotection	130°C		-	-
Weight	6.8 kg	7.2 kg	7.0 kg	7.5 kg
Gate maximum weight	400 kg	600 kg	400 kg	600 kg
Anti-crushing clutch	Electronic			
Protection degree	IP 55			
Motor capacitor	8 µf	10 µf	-	-
Limit switch	Mechanical			

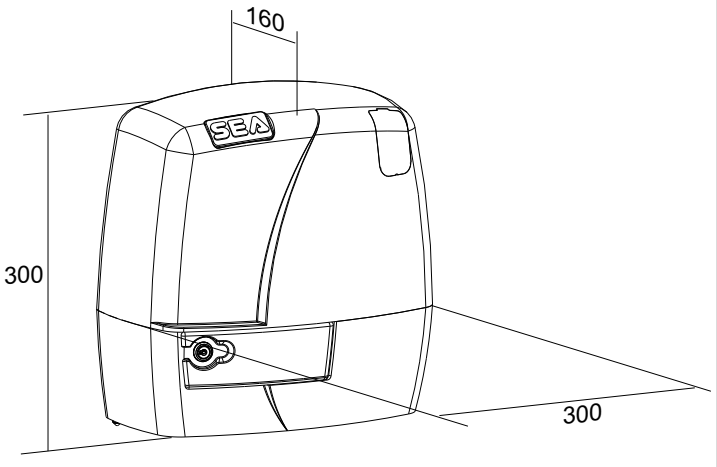
TECHNICAL DATA	*400 - 110V*	*600 - 110V*	*400 24V-110V*	*600 24V-110V*
Power supply	115 V~ 50/60 Hz			
Absorbed power	285 W		80 W	110W
Opening speed	0.15 m/s		Adjustable	
Working frequency	40%	30%	75%	
Maximum torque	18 N m	25 N m	0/20 N m	0/30 Nm
Working Temperature	-20°C ⅄ +55°C ⅄			
Thermoprotection	130°C		-	-
Weight	6.8 kg	7.2 kg	7.0 kg	7.5 kg
Gate maximum weight	400 kg	600 kg	400 kg	600 kg
Anti-crushing clutch	Electronic			
Protection degree	IP 55			
Motor capacitor	50 µf	60 µf	-	-
Limit switch	Mechanical			

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

MERCURY MOTOR FREQUENCY OF USE



DIMENSIONS (mm)



1. GATE ARRANGEMENT

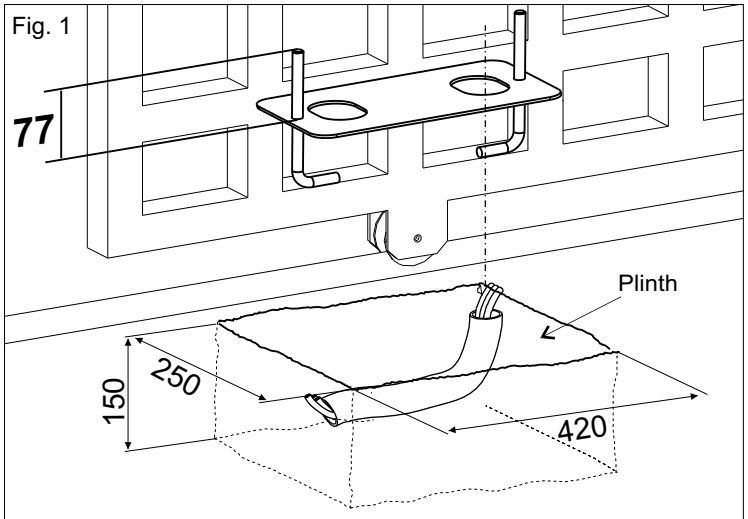
Before starting the installation check if all the gate parts (fixed and mobile) have a strong and as less as possible deformable structure, also make sure that :
a) The leaf is rigid and compact;
b) The inferior slideway is perfectly straight, horizontal and without any obstacles which could obstruct the gate sliding;
c) The inferior sliding wheels are equipped with greasable or water tightened bearings;
d) The superior slideway has been produced and placed in the manner that the gate is in a perfect vertical position;
e) Mechanical stops are always installed in order to avoid possible derailment of the leaf.

2. FOUNDATION PLATE ANCHORING

For the installation of the foundation plate you have to:
2.1. Prepare a concret basement with the dimensions shown in Fig. 1 (only Mercury 24V) and Fig. 2 (only Mercury 230V) where the foundation plate and the anchoring bolts will be cemented.

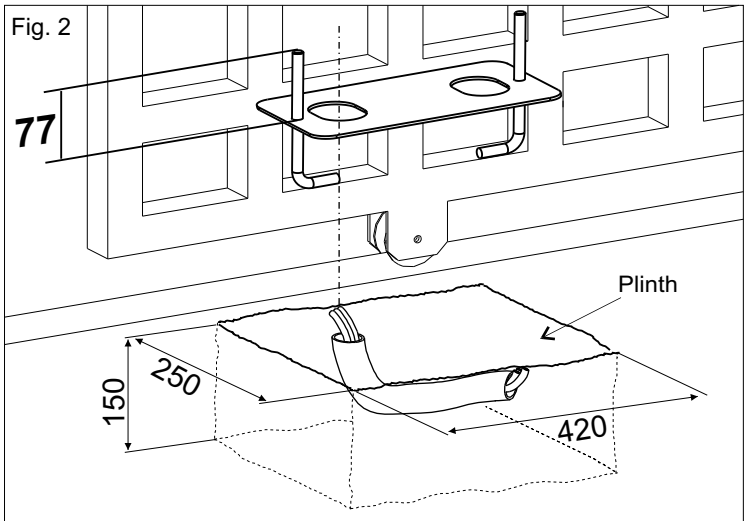
NOTE: It is recommended (gate structure permitting) to lift the foundation plate about 50 mm from the ground, in order to avoid eventual water stagnation.

Fig. 1



ONLY 24V VERSION **DIMENSIONS (mm)**

Fig. 2



ONLY 230V VERSION **DIMENSIONS (mm)**

2.2. Before cementing the plate insert a flexible plastic duct of at least 30mm in diameter into the special hole of the plate.

2.3. Before cementing the plate, make sure that it's perfectly leveled and that the distance of 63-68 mm as shown in Fig. 3 is respected.

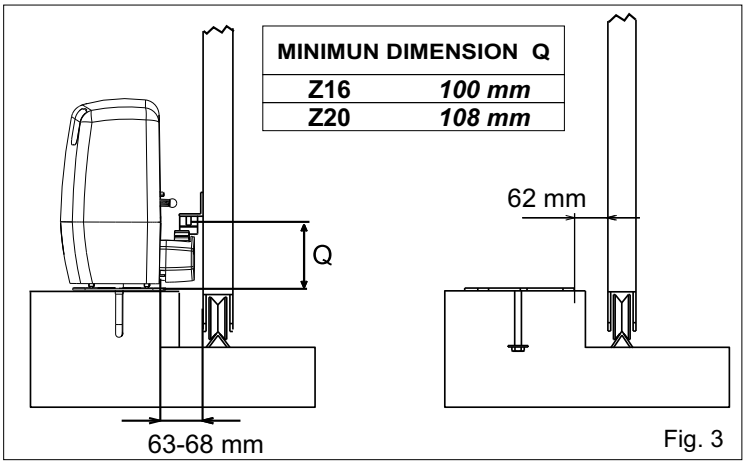


Fig. 3

3. CABLES PASSAGE ARRANGEMENT

Mercury is provided with seven holes for electric cables passage.
Important: Always run mains carrying cables (230V ~) inseparate holes to low voltage cables (24V) Fig. 4.

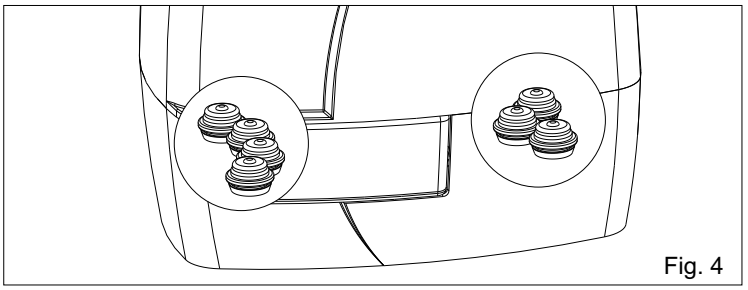


Fig. 4

4. FITTING OF THE MOTOR

4.1. Insert the 4 grub screws into the special holes for the adjustment of the motor height on the plate (Fig. 5).
At the end of installation check if the 4 grub screws are well gripped on the foundation plate.
4.2. Fix the motor on the foundation plate with the 2 included nuts, adjusting the side position (Fig. 6) so to respect the shown quota in (Fig. 3).

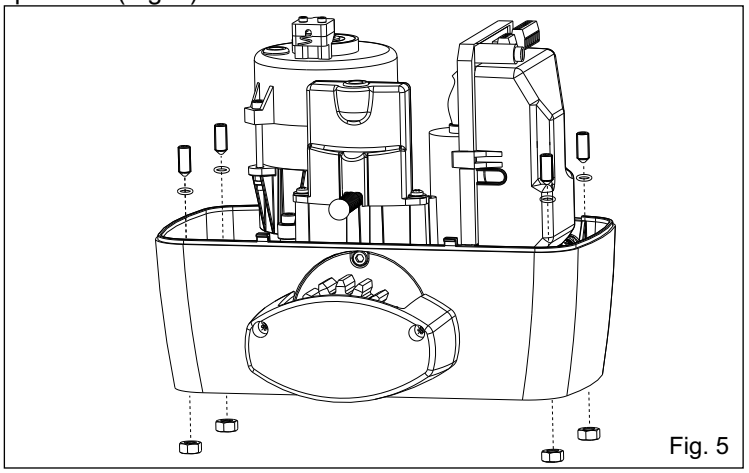


Fig. 5

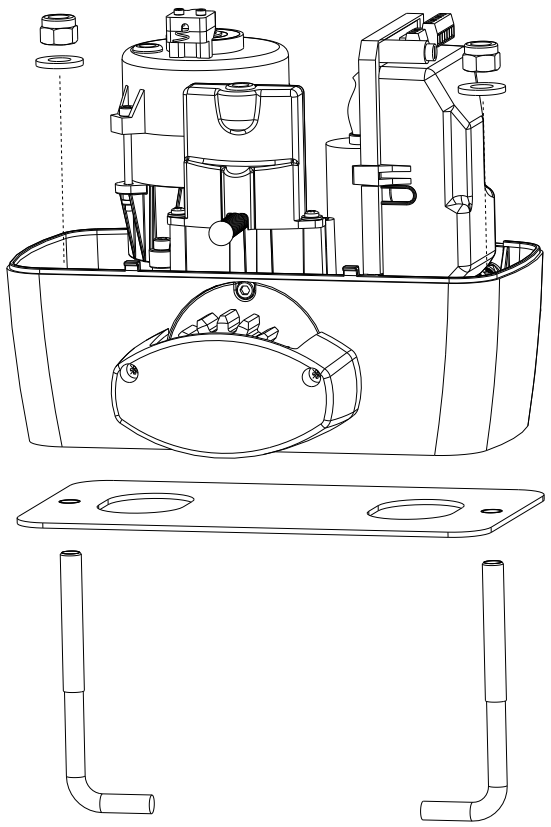


Fig. 6

5. GEAR RACK MOUNTING

5.1. Release the motor and open the leaf completely;

5.2. Fix on each gear rack element the support pawls with the appropriate lock screws, make sure to put them in the upper part of the hole (Fig. 7) ;

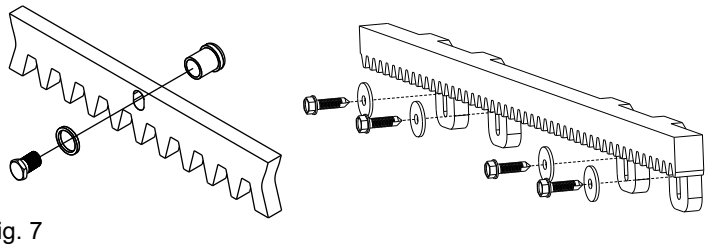


Fig. 7

Steel rack (to weld)

Plastic rack, steel core (to screw)

5.3. Lean the gear rack element on the toothed pinion of the motor in parallel to the ground slideway of the gate, as shown in Fig. 8 and electrically weld the central pawl B to the gate structure (Fig. 9).
Manually move the gate until pawl C is placed corresponding to the pinion and fix it through electric welding. Repeat the same procedure for pawl A after having placed it corresponding to the pinion;

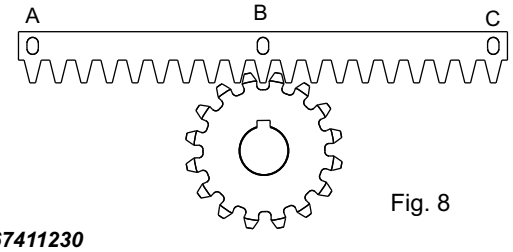


Fig. 8

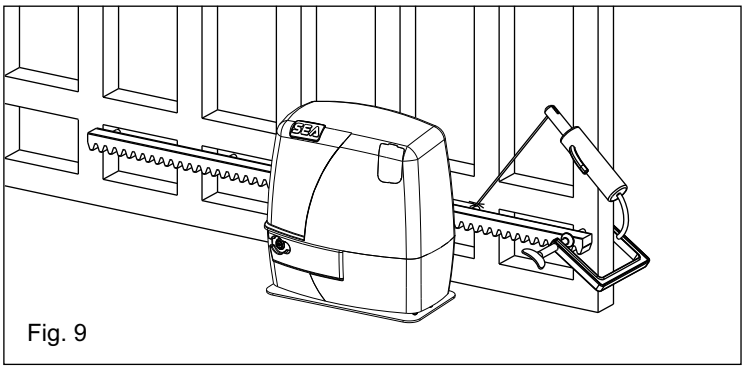


Fig. 9

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.10;

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.11) 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;

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

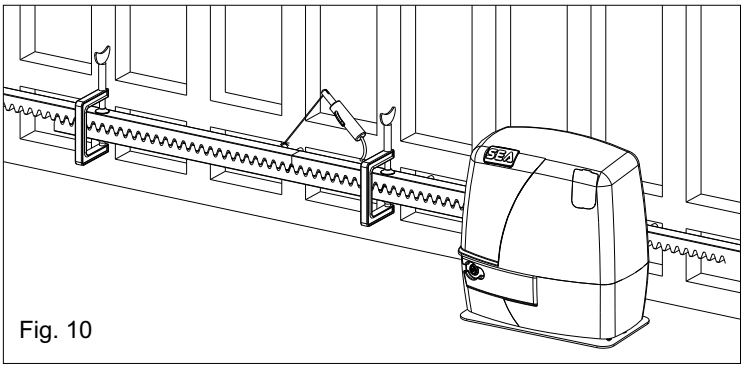


Fig. 10

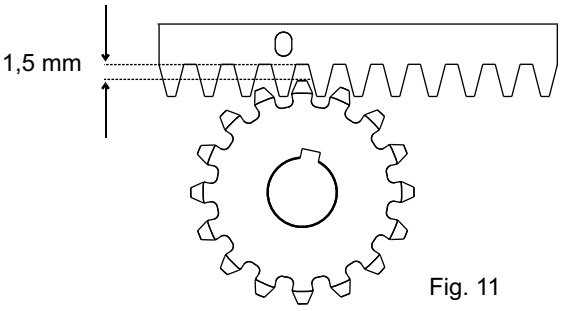


Fig. 11

6. LIMIT SWITCH ADJUSTMENT

6.1. To install and adjust the limit switches in opening procede as follows (Fig. 12):
- Completely open the gate.
- Place the plate on the rack in order to have the lever of the mechanical limit switch (Fig. 13) at the point X that is 50 mm from the bent side of the plate and fix it with the delivered screws (Fig. 14).

6.2. To install and adjust the limit switches in closing the gate must be completely closed.

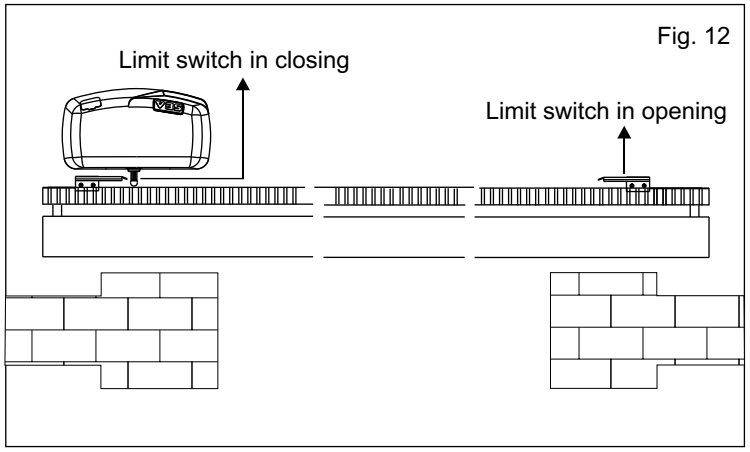


Fig. 12

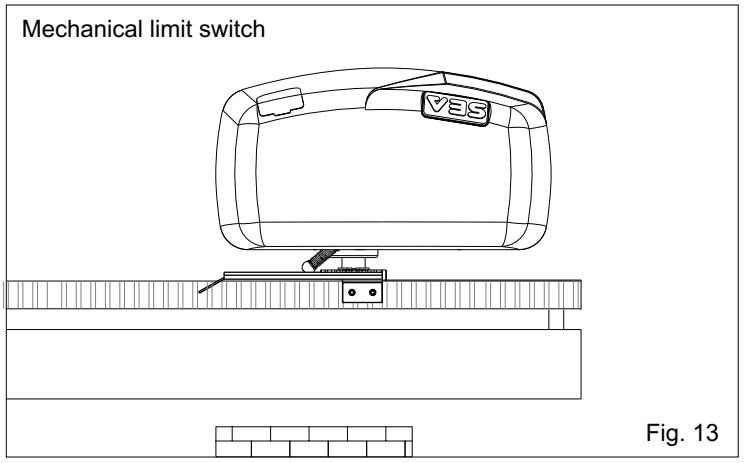


Fig. 13

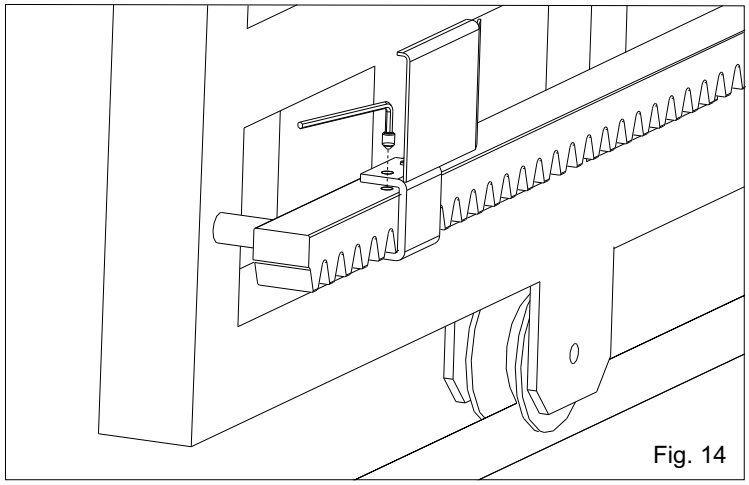
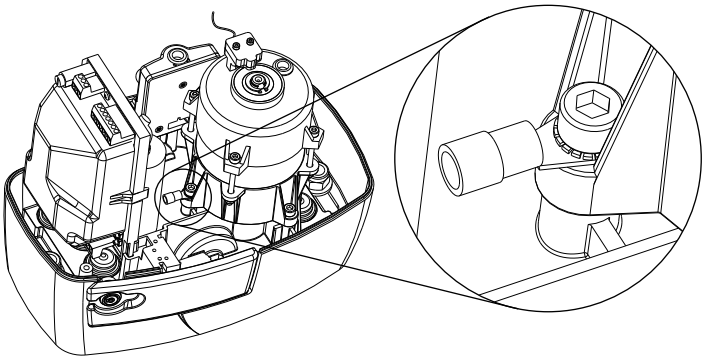


Fig. 14

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

7. GROUNDING (Fig. 15 - Fig. 16)



Example: Mercury 230V

Fig. 15

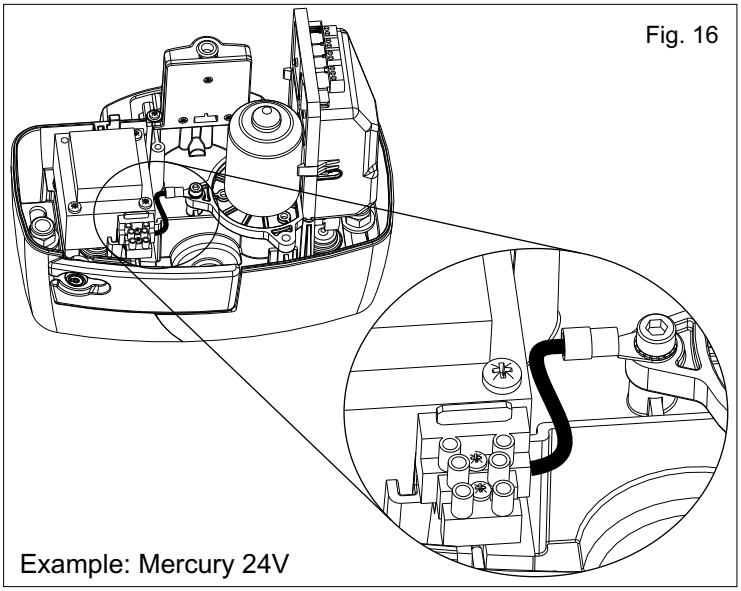


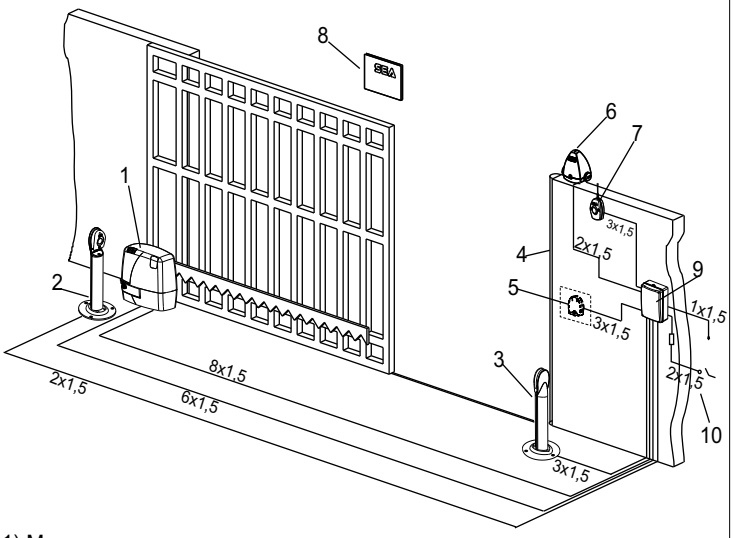
Fig. 16

Example: Mercury 24V

8. ELECTRIC CONNECTIONS OF THE INSTALLATION (Fig. 17)

The cable mesures are indicated in mm^2

Fig. 17



1) Mercury
2) Photocell Sx
3) Photocell Dx
4) Mechanical safety edge
5) Key push botton
6) Flasher
7) Receiver
8) Warning notice
9) Junction box
10) Differential 16A - 30mA

Page for both instaler and user

9. RELEASE SYSTEM

9.1. To release procede as follows:
- Insert the key, **push** and turn about 90° clockwise (Fig. 18).
- Pull the release lever until it stops, about 90° (Fig. 19).

Note: when pulling the release lever the electronic control unit receives a stop impulse through the micro-switch placed on the inside (if present).

9.2. To relock procede as follows:
- Push the release lever to complete closing.
- Rotate the key counter-clockwise and extract it.

Once the lock has been restored the electronic control unit is reactivated (only if a micro-switch is mounted) .

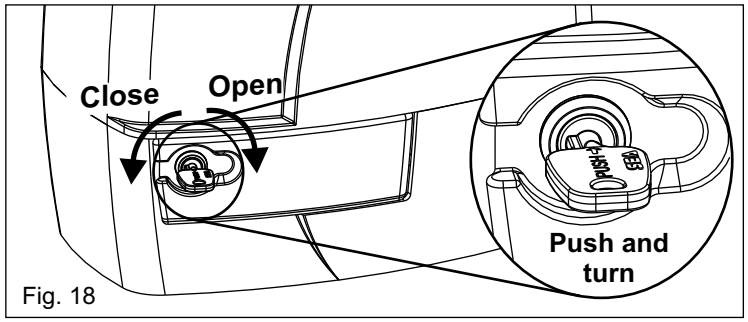


Fig. 18

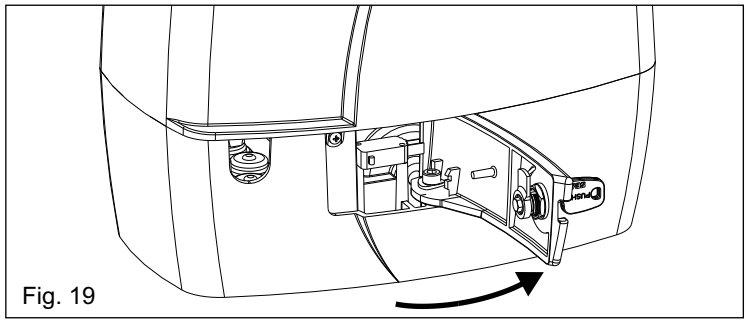


Fig. 19

10. RISK EXAMINATION

The points pointed by arrows in Fig. 20 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.)

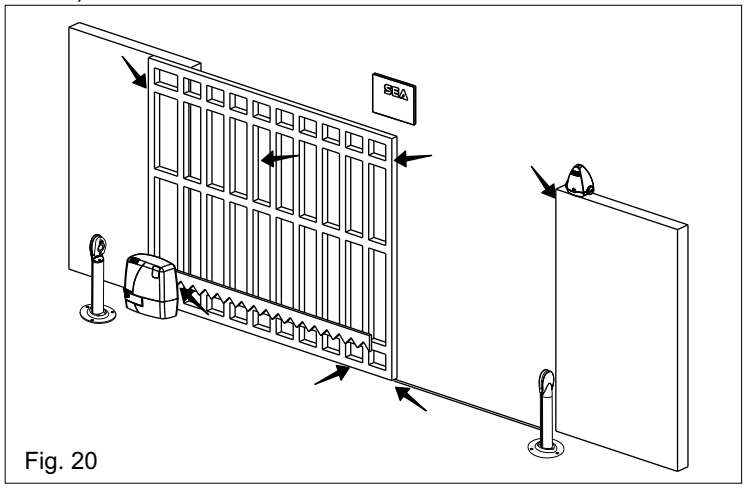


Fig. 20

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 and hand over to the final user. 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 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.

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.

SEA reserves the right to do changes or variations that may be necessary to its products with no obligation to notice.

PERIODIC MAINTENANCE

Check the efficiency of the electronic anti-crushing clutch	Annual
Check the release functionality	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.