



SEA
Sistemi elettronici
di Aperture Porte e Cancelli

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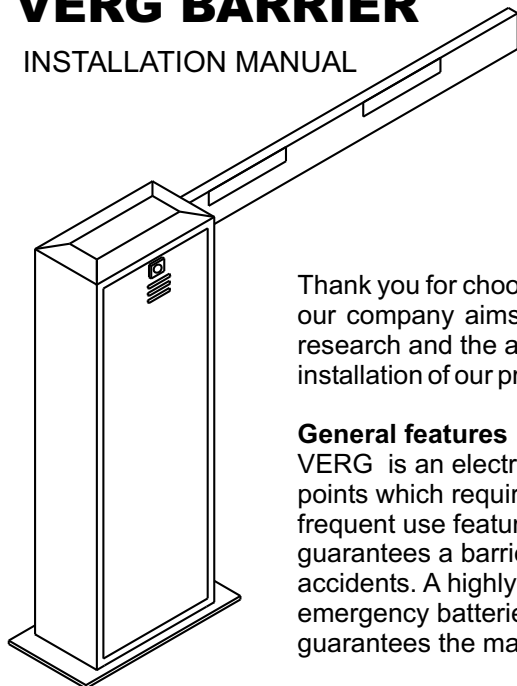
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English

VERG BARRIER

INSTALLATION MANUAL



BARRIER "VERG 11320120 (RECTANGULAR BEAM 2 m, OPENING TIME 2 s.)" "VERG 11320125 (RECTANGULAR BEAM 2.5 m, OPENING TIME 2 s.)" "VERG 11320130 (RECTANGULAR BEAM 3 m, OPENING TIME 2 s.)" "VERG 11320007 (CIRCULAR BEAM 4 m, OPENING TIME 4 s.)"

Thank you for choosing a SEA s.r.l. product. This choice will give you the opportunity to understand that our company aims at combining high-tech and remarkable reliability and safety, thanks to studies, research and the accurate analysis of our customers' needs, without undermining the simple use and installation of our products.

General features

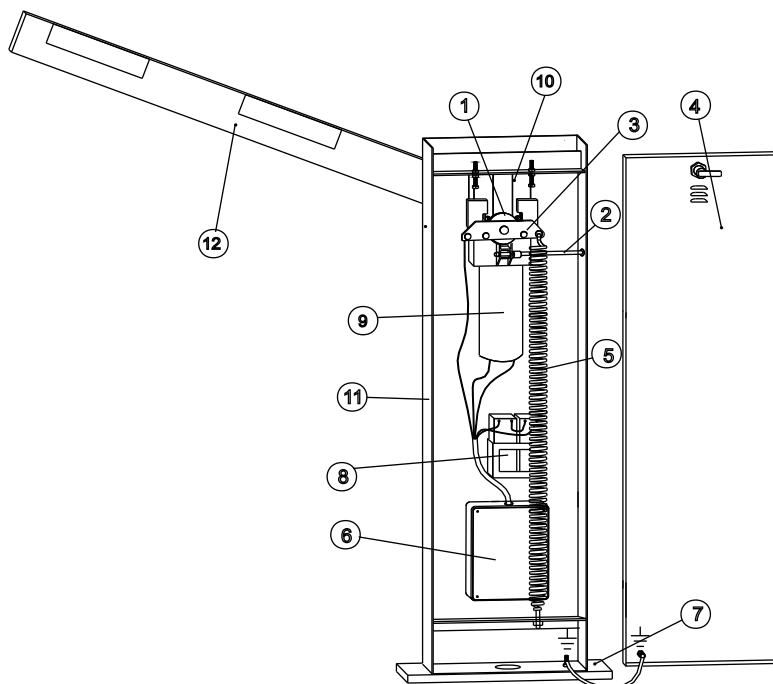
VERG is an electro-mechanical barrier (2, 2.5, 3 m) recommended for the automation of access points which require a high opening/closing speed (parking lots, motorways, airports, etc.) and frequent use features. The automation system is equipped with an anti-crushing safety device, which guarantees a barrier force value not exceeding 15 kg, thus protecting people and objects from any accidents. A highly reliable slowdown device guarantees the total control of the forces of inertia. The emergency batteries assure up to 100 operations in case of power cut and the release lever guarantees the manual opening in emergency conditions.

The automation system is composed of the following elements:

- 1 Stop cam enabling the micro-switch, micro-switch to adjust the device slowdown time.
- 2 Manual release system composed of a lever with an eccentric.
- 3 Galvanised steel rocker arm.
- 4 VERG casing cover with lock and customised key.
- 5 Balancing spring.
- 6 Electronic control unit 93400021, a complex device which can be used to program and manage all the operation and safety systems.
- 7 Foundation plate made of galvanised sheet steel.
- 8 Emergency batteries.
- 9 24V electric motor
- 10 Reduction gear
- 11 VERG casing to protect all the mechanical and electrical devices from extreme weather conditions. The casing is made of cataphoresis-treated and epoxy powder-painted sheet steel. We supply a stainless steel casin upon request.
- 12 Extruded aluminium bar, with rectangular section for 2, 2.5 and 3 m. long beams, with circular section for 4 m. long beams.

Main components:

- 1) Stop cam
- 2) Manual release system
- 3) Rocker arm
- 4) VERG casing cover
- 5) Balancing spring
- 6) Electronic control unit 93400021
- 7) VERG anchoring plate
- 8) Emergency batteries
- 9) 24V electric motor
- 10) Gearbox
- 11) VERG casing
- 12) Aluminium bar





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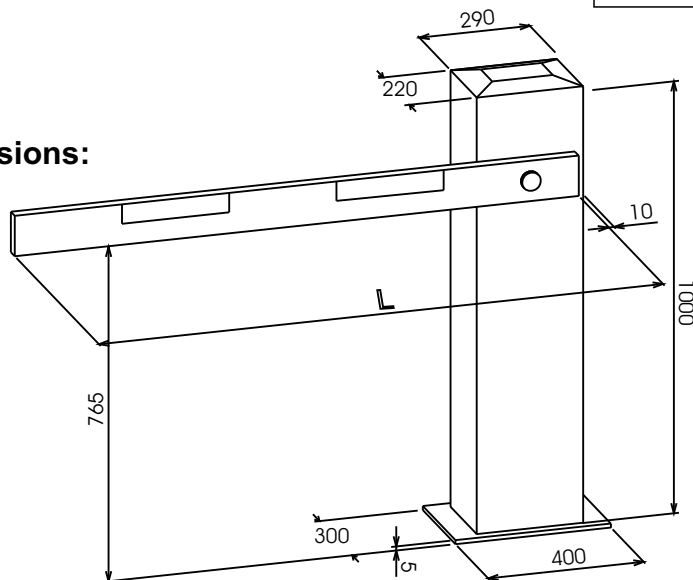
Technical features

Supply voltage	: 230 Vac $\pm$ 5% - 50/60 Hz single-phase
Absorbed power	: 6 A
Motor power	: 90 W
Motor speed	: 1400 RPM
Working temperature	: -25 + 55°C
Opening/closing time	: 2 s.
Protection class	: IP55
Manual release system	: mechanical
Usage frequency	: 100%
Anti-crushing device	: current sensor
Holding block	: mechanical
Slowdown	: electronic
Barrier body treatment	: cataphoresis and RAL 1021 powder-paint
Bar length	: 2 2.5 - 3 m
Weight	: 51Kg
Electronic equipment	: for barrier (Part no. 93400021)

Beams:

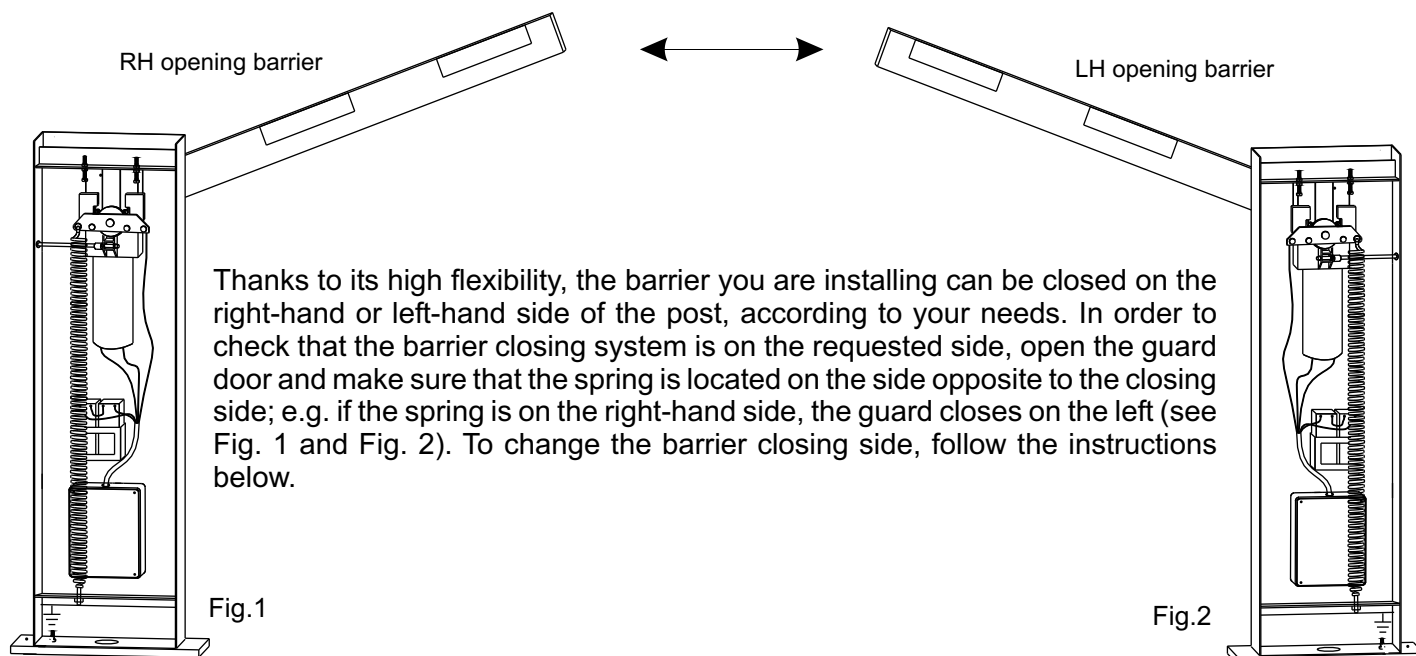
	OPENING TIME 2 s.	
	VERG 11320120:	2 meters - PROFILE 1
	VERG 11320125:	2.5 meters - PROFILE 1
	VERG 11320130:	3 meters - PROFILE 1
Profile 1 Weight for linear m. 1.3Kg		
	OPENING TIME 4 s.	
	VERG 11320007:	4 meters - PROFILE 2
Profile 2 Weight for linear m. 1.1Kg		

Overall dimensions:



INSTALLATION INSTRUCTIONS

1) Spring position





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Example:

Barrier with closing system on the left (Fig. 2)

Requested closing side: right-hand (Fig. 1)

Loosen the spring pre-loading and lock nut.

Remove the spring.

Install the spring on the left and apply a slight pre-load by means of the nut.

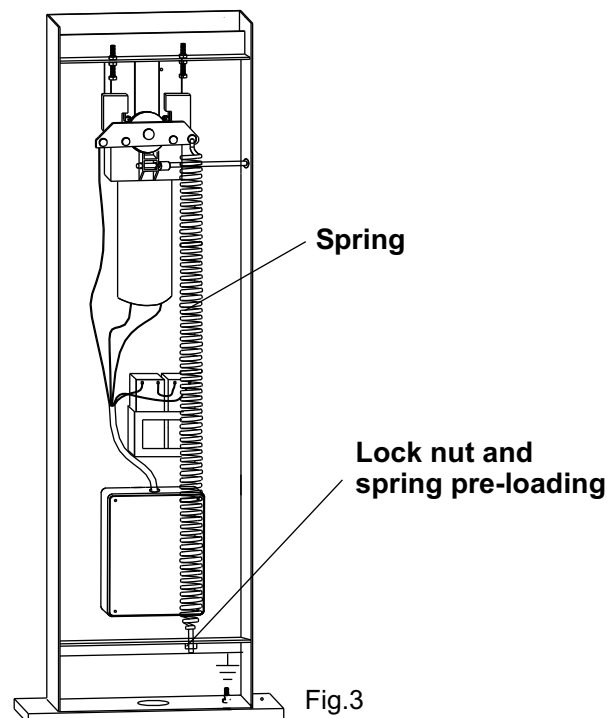


Fig.3

2) Foundation plate anchoring

Make a 500 x 500 x 300 mm (depth) hole in the ground.

Widen the foundation plate clamps till they reach approx. 60° (Fig. 4).

Fill the hole with R425 concrete and place the foundation plate as shown in Fig. 4.

Accurately level the plate.

* The middle hole of the plate must be used for cable routing. Therefore, make sure that the conduit connected to the hole complies with current regulations, before filling the hole with concrete.

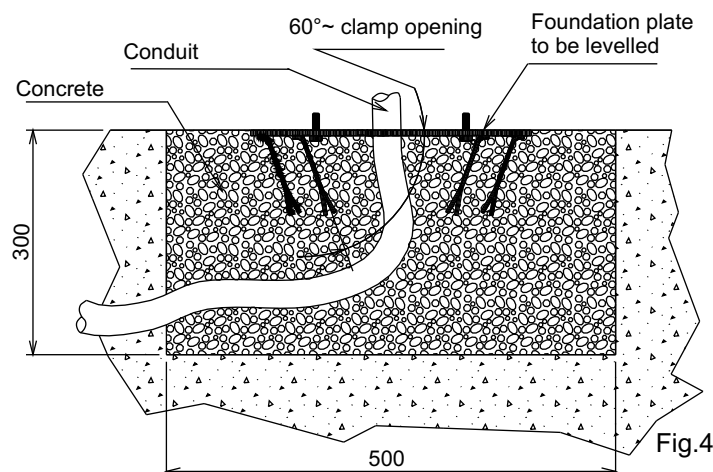


Fig.4

3) Post anchoring on the foundation plate

Place the post so that the holes on the base match the screws located on the foundation plate.

Make sure that the conduit for the cables goes through the large hole on the post base.

Anchor the post onto the foundation plate by tightening the supplied nuts and washers.

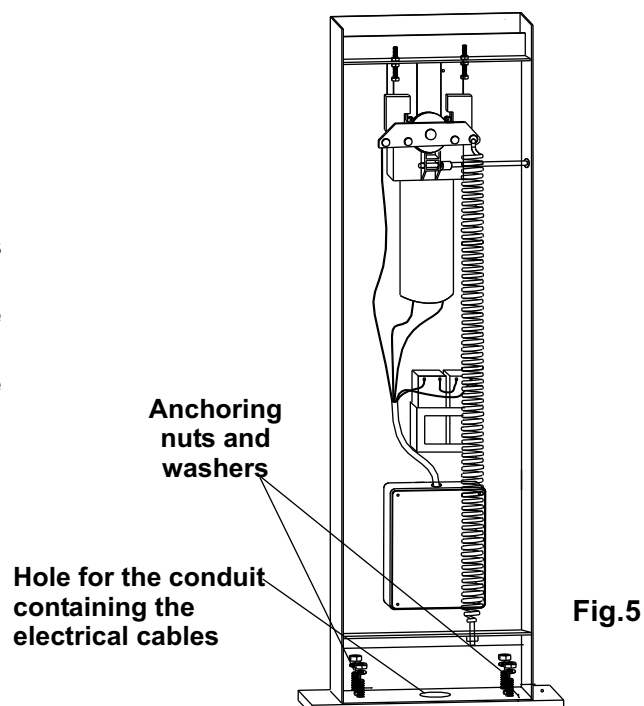


Fig.5



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4) Bar installation

Rectangular bar installation

Place the bar PERFECTLY VERTICAL on the grooved shaft end.

Anchor the bar by tightening the supplied nut and washer (Fig.7)

NOTE: The bar is supplied with the anchoring bracket already installed. If it is not pre-installed, anchor it by means of the supplied screws.

Circular bar installation

Place the bar PERFECTLY VERTICAL on the grooved shaft end.

Anchor the bar by tightening the supplied nut and washer (Fig.6)

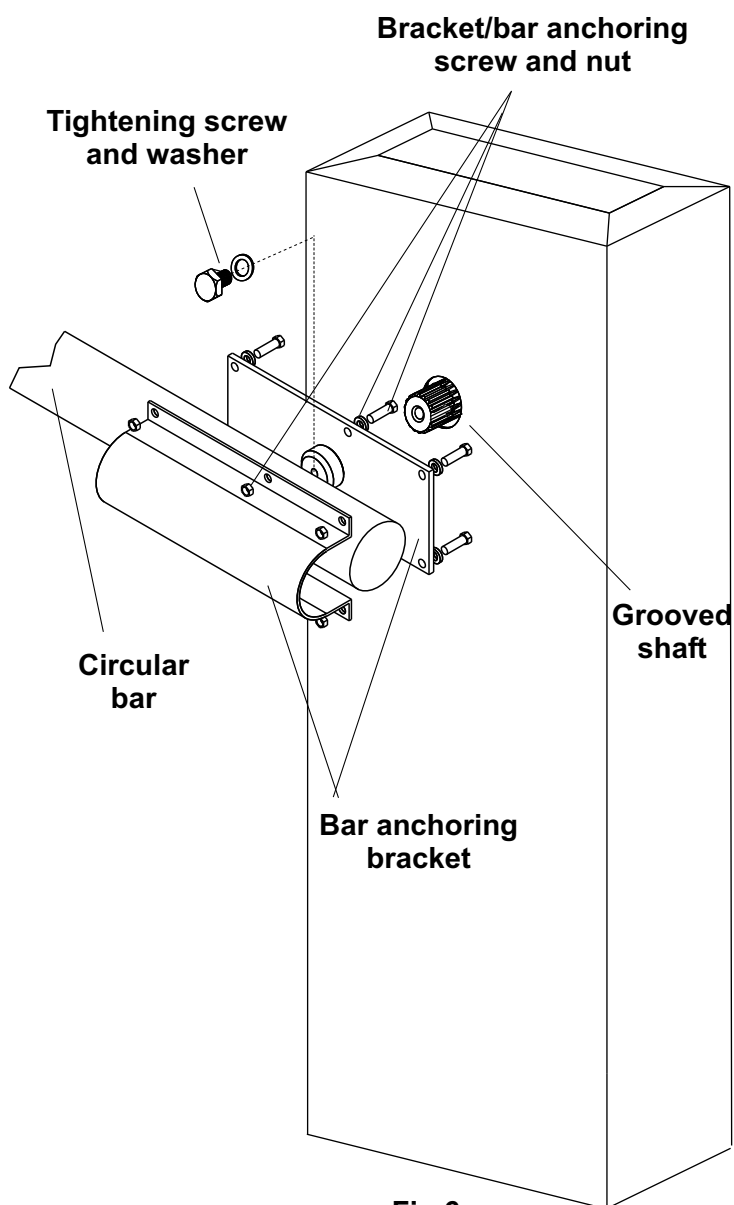


Fig.6

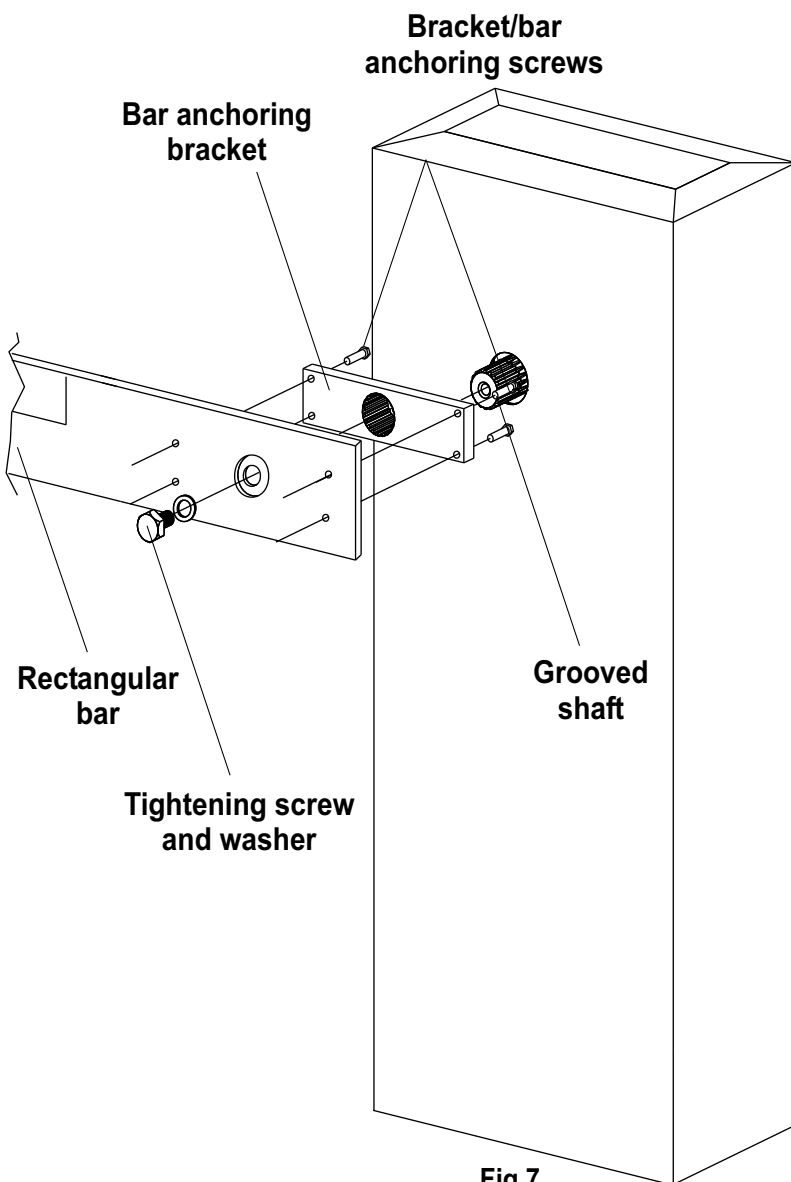


Fig.7



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5) Bar balancing

Release the bar by means of the release lever, so that the bar can be manually opened and closed (see Fig.8).

Place the bar at approx. 45°.

Loosen or tighten the spring tensioning nut until the spring counterbalances the weight of the 45° bar (Fig. 8). The best balancing position is obtained when the bar reaches the position shown in Fig. 8.

When the balancing procedure is over, tighten the spring tensioning nut with the lock nut and re-tighten the bar.

6) Electronic slowdown

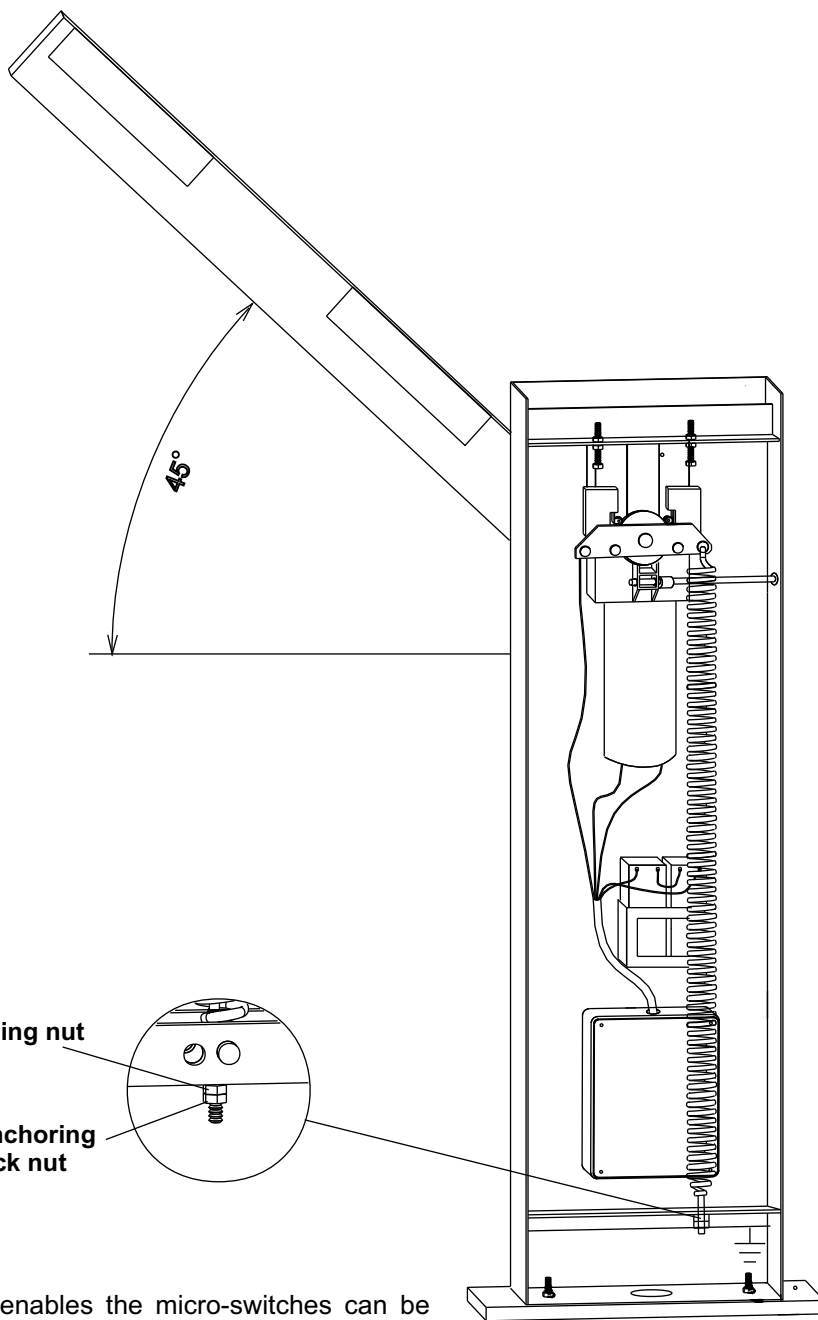
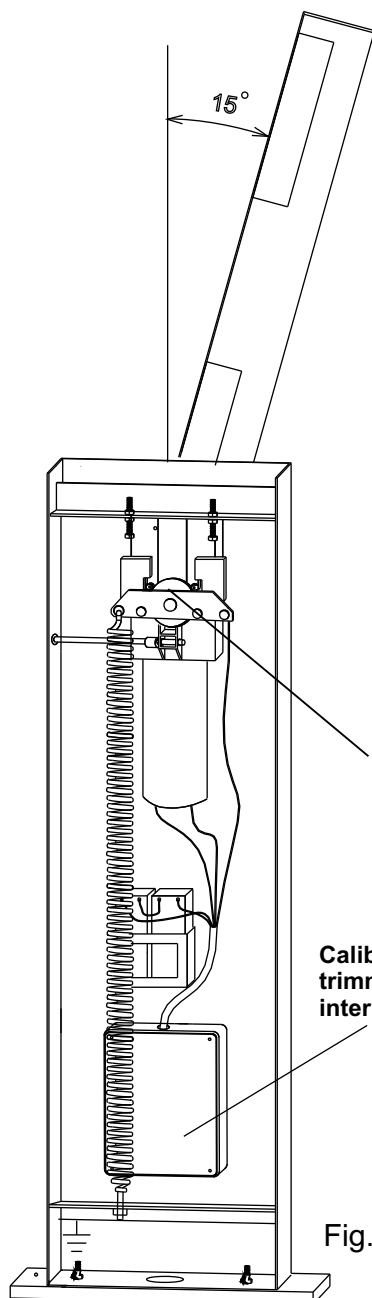


Fig.8



Calibration
trimmer on the
internal card

Fig.9

The stop cam which enables the micro-switches can be rotated around the rocker arm shaft by loosening the grub screw located on the cam. Thanks to this operation, the opening slowdown can be advanced and the closing slowdown can be postponed and vice versa. When the adjustment procedure is complete, anchor the cam on the shaft by tightening the grub screw.

7) Barrier supply

Supply 230VAC 50/60 Hz to the barrier. For additional details, please refer to the section describing the **connector connection** (section 11).

8) Thrust adjustment

If necessary, the piston thrust and braking can be adjusted by means of four trimmers located on the electronic card.

* The automation system is pre-calibrated at 15 Kg to guarantee the perfect operation of the anti-crushing device; therefore this value should be changed only if really necessary.



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9) Bar levelling

Note: this operation must be carried out only if the bar is not perfectly horizontal (closing stage) or vertical (opening stage) at the end of its stroke.

Release the bar by means of the release lever, so that the bar can be manually opened or closed.

Release the stop screws by loosening the lock nuts on the rocker arm holder (Fig. 10).

Loosen or tighten the stop screws so that the bar is released in its vertical position (opening stage) and horizontal position (closing stage) (Fig. 10).

When the levelling procedure is completed, tighten the stop screws by tightening the lock nuts on the rocker arm holder and block the bar.

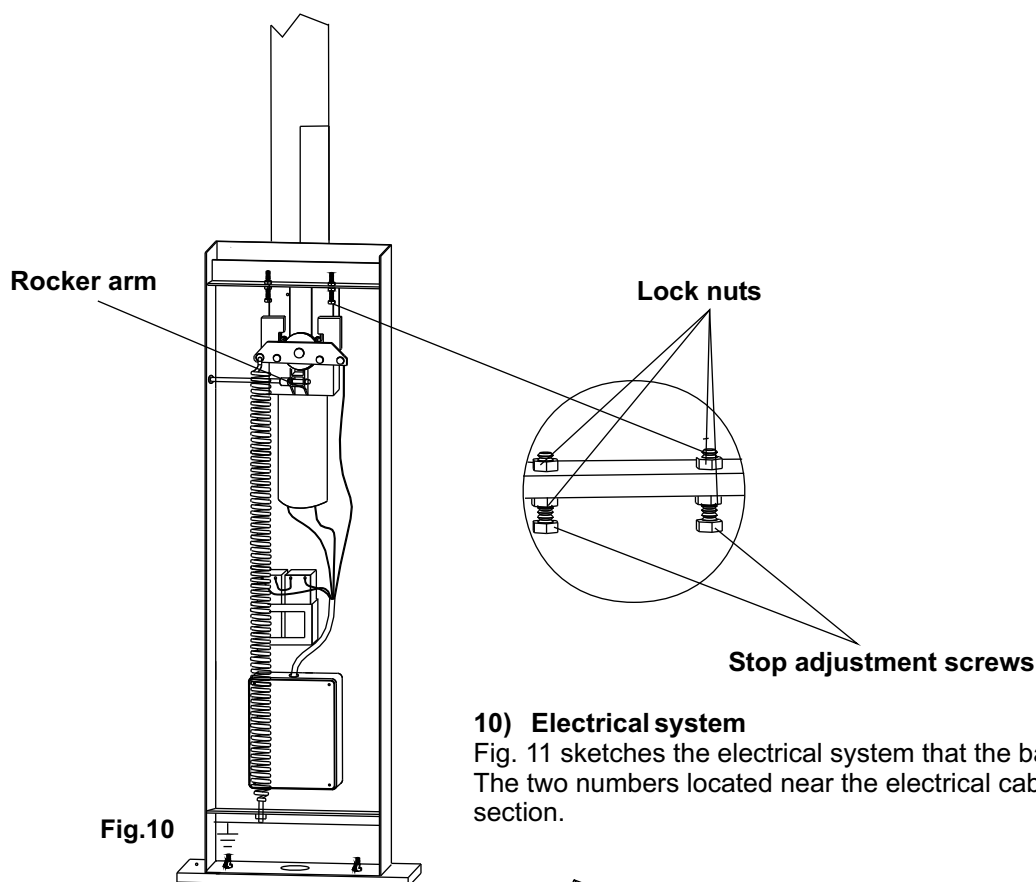


Fig.10

10) Electrical system

Fig. 11 sketches the electrical system that the barrier requires.

The two numbers located near the electrical cables indicate the cable number and section.

Captions:

- 1- VERG electronic control unit
- 2- Transmitting photocell
- 3- Receiving photocell
- 4- Key switch
- 5- Radio receiver
- 6- Flashing light
- 7- Push-button station
- 8- Differential switch

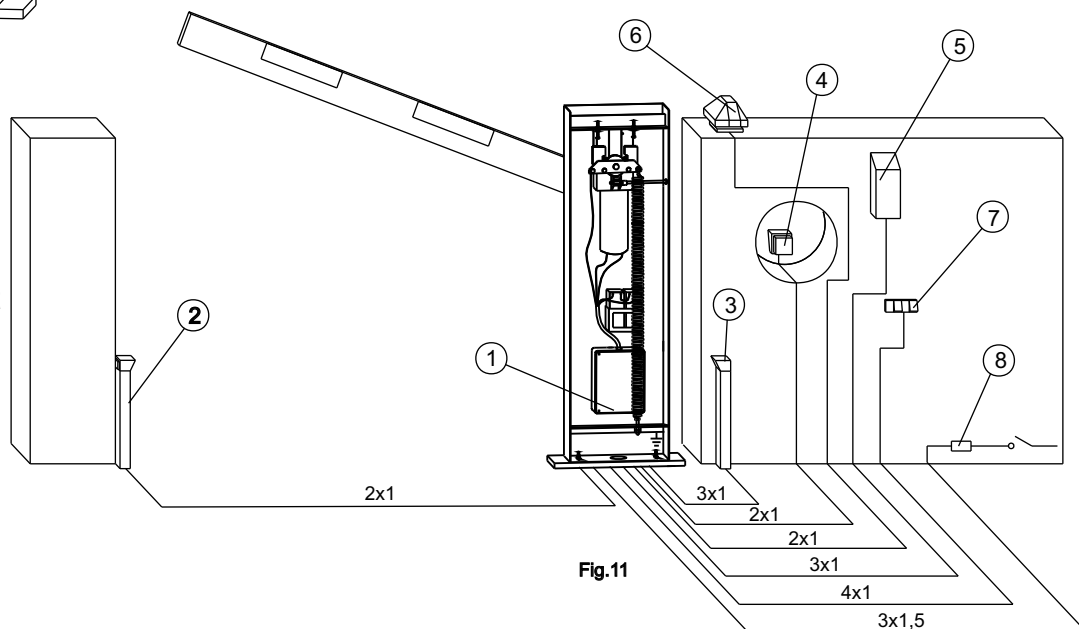


Fig.11



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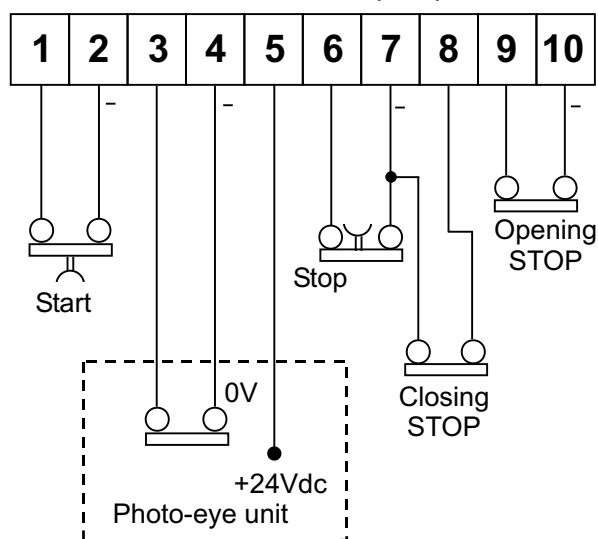
11) Connector connection

The electronic system is located in the electronic unit box **Model 93400021**; this system manages and controls any automation operation. Thanks to its advanced technology, the most suitable operation logics can be programmed

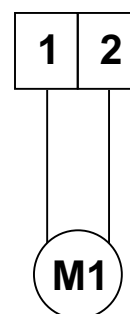
Note: Please refer to the “**Electronic system**” manual for additional information on the electronic system and operation logics programming.

CONNECTOR CONNECTION

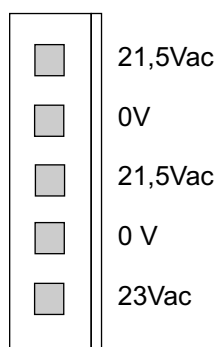
MAIN TERMINAL STRIP (CN1)



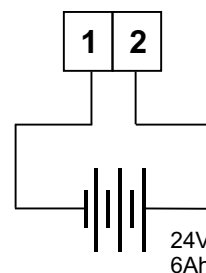
MOTOR CONNECTOR (CN5)



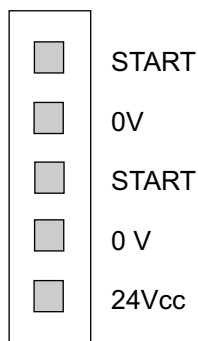
TRASFORMER CONNECTOR (CN3)



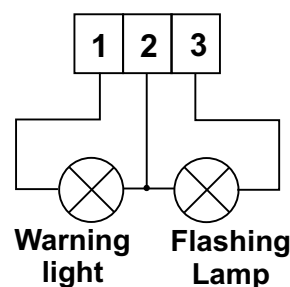
BATTERY CONNECTOR (CN6)



RADIO CONNECTOR (CN2)



FLASHING LAMP AND WARNING LIGHT CONNECTOR (CN4)



Note: if Stop device and photoeye are not connected the relative terminals must be bridged (3 with 4 , and 6 with 7 for CN1).



NOTES

The electrical installation and the operation logics must comply with current regulations. Keep the power cables (motors, power supply) separated from the control cables (push-buttons, photo-eyes, radio, etc.). Separate conduits should be used to prevent noise issues.

Note: Use "cable clips" and/or "duct/box pipes" fitting close to the control panel box so to protect the interconnection cables against pulling efforts.

INTENDED USE

VERG system has been designed exclusively for the automation of barriers.

SPARE PARTS

The spare parts orders must be sent to:

SEA s.r.l. Zona Ind.le, 64020 S.ATTO Teramo Italy

SAFETY AND RESPECT FOR THE ENVIRONMENT

We recommend not to spoil the environment with product and circuit packing material.

CONFORMITY REQUIREMENTS

VERG automation system complies with the following standards:

89/392/CEE (Machine Directive)

89/336/CEE (Electromagnetic Compatibility Directive)

73/23/CEE (Low Voltage Directive)

STORAGE

STORAGE TEMPERATURE			
T _{min}	T _{max}	Humidity _{min}	Humidity _{max}
-40°C	+80°C	5% without condensation	90% without condensation

The product must be handled using suitable means.

LONG-TERM STOP AND MAINTENANCE

The disassembly and/or stop and /or maintenance of the VERG automation system must be carried out by skilled and expert technicians.

GUARANTEE LIMITS

VERG system is guaranteed for 24 months, starting from the date stamped on the product. The product is covered by the guarantee provided that the damaged was not caused by inappropriate use, changes or tampering.

The warranty shall be valid only for the original buyer.

NOTE: THE MANUFACTURER SHALL NOT SHOULD ANY RESPONSIBILITIES IN CASE OF DAMAGE CAUSED BY INAPPROPRIATE, WRONG OR CARELESS USE.

SEA reserves the right to make all the necessary changes and modifications of the products and / or manuals without giving prior notice.
