EASY TO INSTALL

RELIABLE AND STURDY

ADVANCED KIT

Rino SEC VF140

Vehicle Barrier technical manual

VF140EN • 30-07-2022

Contents

Key

This symbol indicates instructions or notes regarding safety, to which special attention must be paid.

This symbol indicates useful information for the correct operation of the product.

Failure to respect the information given in this manual
may cause personal injury or damage to the device.
Keep these instructions for future reference

This installation manual is intended for qualified personnel only.
Installation, electrical connections and adjustments must be performed in accordance with Good Working Methods and in compliance with the present standards.
Read the instructions carefully before installing the product.
Incorrect installation could be dangerous.
Before installing the product, make sure it is in perfect condition.
Before installing the motorisation device, make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas.
Make sure the existing structure is up to standard in terms of strength and stability.
The motorisation device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorised, or for any deformations during use.
The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account the applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorized gate.
The safety devices must protect the crushing, shearing, trapping and general hazardous areas of the motorised door.
Display the signs required by law to identify hazardous areas.
Each installation must bear a visible indication of the data identifying the motorized gate.

When requested, connect the motorized gate to an effective earthing system that complies with current safety standards.
During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.
The automation protection casing must be removed by qualified personnel only.

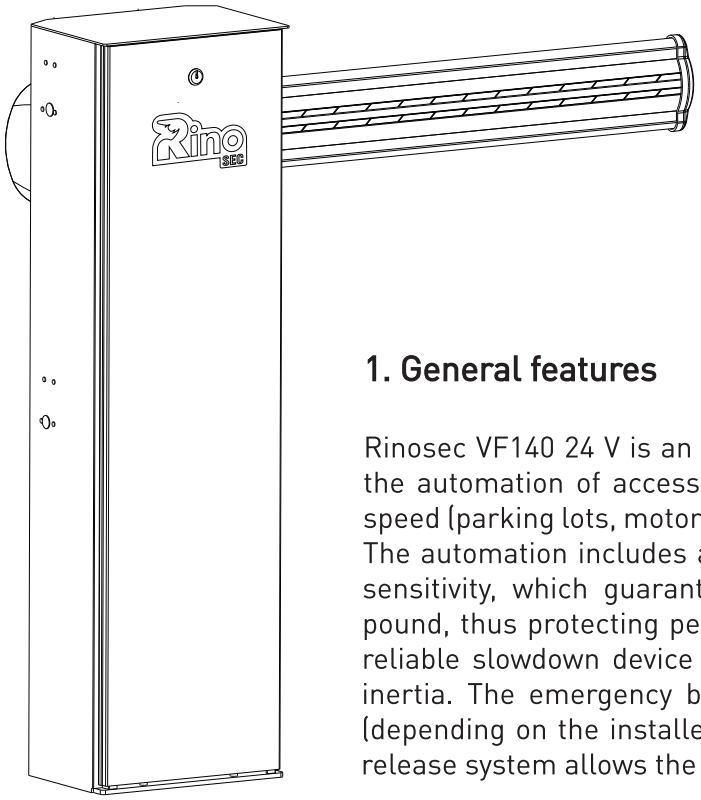
The manufacturer of the motorisation device declines all responsibility if component parts not compatible with safe and correct operation are fitted.
Only use original spare parts when repairing or replacing products.
The installer must supply all information on the automatic, manual and emergency operation of the motorised gate, and must provide the user with the operating instructions.

ELECTRICAL CONNECTIONS - SAFETY INSTRUCTIONS

• Disconnect the battery back up, if included, before disconnecting main power supply.
• Always disconnect power supply during installation or servicing of the product.
• All electrical connections from the control panel's to the operator's must be made in a waterproof junction box.
• The system requires a separate power supply circuit. Check that the main power supply circuit breakers are separated, intended solely for this equipment and rated for 15 AMPS. Visually check that the circuit breakers are in OFF position and mark the circuit breakers USED prior to installation.
• Permanent wiring must be used and installed to the operator as required by local electrical codes and It is recommended to do by a licensed electrician.
It is also recommended to check the local building code requirements before making any type of wiring to be sure that all wirings comply with them. Local building codes will take precedence. It is recommended to use different colours for all wirings' codes.
• Distance for low voltage control wires, i.e., open input, single leaf, open input and stop input, can run up to 3000 feet with 18 AWG wire. Low voltage controls and communication wirings must all be separated by a minimum of 1 foot from high voltage power wiring and in a separate conduit.

GROUNDING

• Good grounding and proper surge suppression are an integral part of proper installation for all operator systems. One or all of the followings may require surge suppressors: high voltage power lines, low voltage power lines, telephone lines, data lines, low voltage control lines and loops. Quantity of surge suppression requires depends on susceptibility of the area to lightning and power surges. Good grounding is essential to realize maximum protection.
• If the circuit breaker box is located close to the gate/barrier operator system, for example, in a guardhouse, then the ground from that circuit can be used to ground the gate operator system. Eliminate all °90 bends in ground wires and keep a minimum distance of three feet between the surge suppressor and the equipment to protect.
• If the power source or circuit breaker box is not located close to the operator system, an Isolated Ground Zone (IGZ) must be created. An IGZ is an imaginary circle drawn around the operator system. An IGZ can also be created, if the circuit breaker box is located close to the operator system. The operator system not nly includes the operator and control panel, but all accessories and devices associated with it at that controlled entry point. This includes loop detectors, card readers, digital entries, telephone entries, any device that has or requires grounding and all the surge suppressors. The ground bus is a common ground point called Single Point Ground (SPG). It is used to bond all the equipments and devices grounded in the IGZ together. The SPG is very important because it helps to eliminate different ground potentials that can be present on the equipment and that could cause damages even with surge suppressors.
• Do not use or connect the ground wire coming from the circuit breaker box. By using an Isolated Ground Zone, you have to separate the operator system from the house or building ground. This eliminates ground potentials. It is recommended the ground bus to be located in a separate NEMA type enclosure. All grounds will be tied to this ground bus.
• Equipment ground wire should be of minimum 12 AWG. The main ground wire from the bus bar to the ground rod should be an 8 or 6 AWG copper wire. Ground rod should be minimum 10 feet in length, (length depends on local soil conditions).
• For more information, regarding good grounding practices check: National Electric Code art. 250; IEEE Emerald Book, standard 100; International Association of Electric Inspectors.



Thank you for choosing a Rinosec 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 ourproducts.

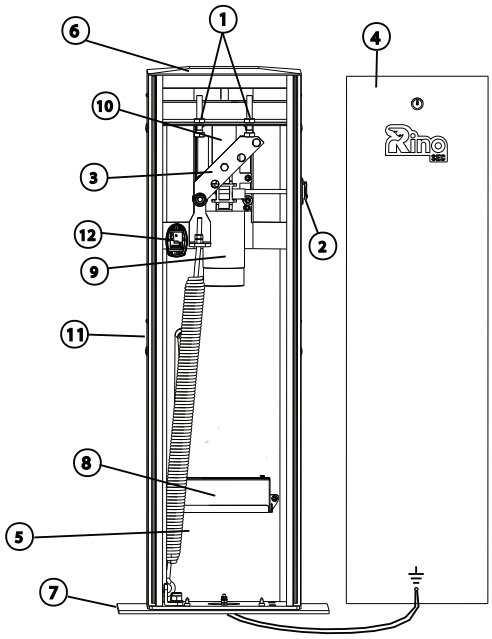
1. General features

Rinosec VF140 24 V is an electro-mechanical barrier 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 includes an anti-crush security system with adjustable sensitivity, which guarantees a barrier force value not exceeding 33 pound, 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 guaranty at least 15 opening cycles (depending on the installed accessories) in case of power failure and a release system allows the manual opening in case of emergency.

The automation system is composed of the following elements:
1 Adjustable mechanical stop
2 Manual release with key
3 Galvanised steel rocker arm.
4 VF140 24V, casing cover with lock and DIN key
5 Balancing spring.
6 Electronic control unit.
7 Foundation plate out of galvanized steel
8 Emergency batteries 2x12V 2Ah.
9 - 2400 rpm electric motor
10 Reduction gear
11 Cataphoresis-treated and polyester painted VF140 24V casing, for outside, protects all included mechanical and electronic devices from fire, flood, lightning, etc.
Predisposed for the application of photocells, key switch, proximity reader. Stainless steel casing available on request.
12 Battery charger circuit.

2. Main components:

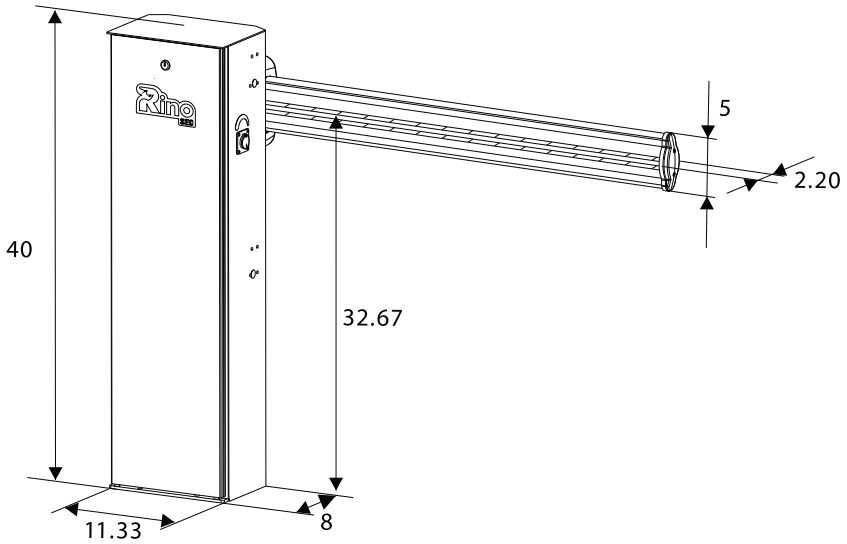
1) Adjustable mechanical stop
2) Manual release system
3) Rocker arm
4) VF140 casing cover
5) Balancing spring
6) Electronic control unit
7) VERG anchoring plate (optional)
8) Emergency batteries 2x12V 2Ah (optional)
9) Electric motor
10) Gearbox
11) VERG casing
12) Battery charger circuit (optional with battery kit)



3. Technical Features:

Supply voltage	: 230 V - 50/60 Hz
Motor tension	: 24V
Absorbed power	: 6 A
Motor power	: 90 W
Motor speed	: 2400 RPM
Working temperature	: °4-F + °131F
Opening/closing time	: Adjustable
Protection class	: IP55
Manual release system	: yes
Usage frequency	: %60
Anti-crushing device	: ammeter
Holding block	: yes
Slowdown	: electronic
Weight	: 39 kg

Overall dimensions (inches):



4.Installation Instructions

Left-hand mounting

Right-hand mounting

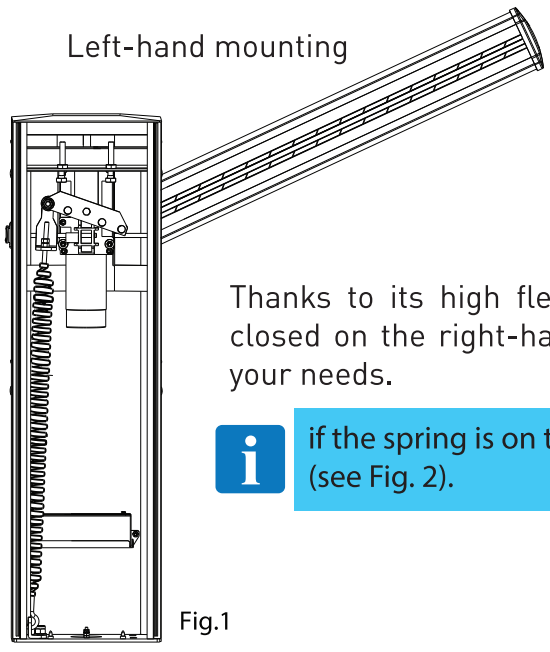


Fig.1

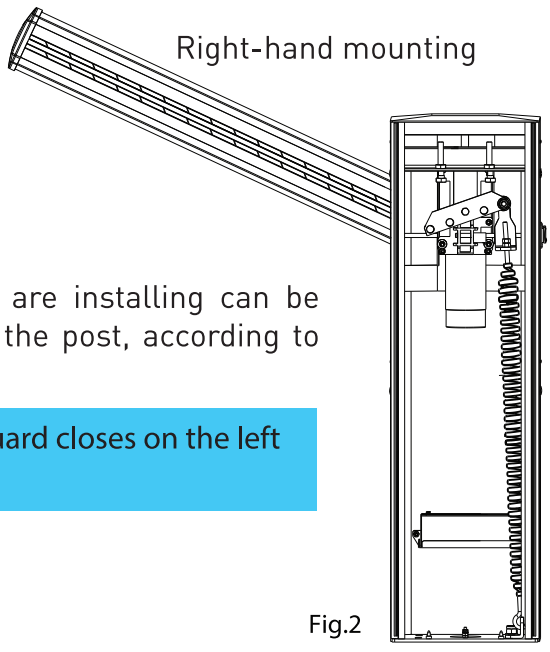


Fig.2

Thanks to its high flexibility, the barrier you are installing can be closed on the right-hand or left-hand side of the post, according to your needs.

if the spring is on the right-hand side, the guard closes on the left (see Fig. 2).

4-1) Foundation plate anchoring

- Make a 19,7'' x 19,7'' x 11,8'' (depth) hole in the ground.
- Widen the foundation plate clamps till they reach approx. °60 (Fig. 3).
- Fill the hole with R425 concrete and place the foundation plate as shown in Fig. 3.
- 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.

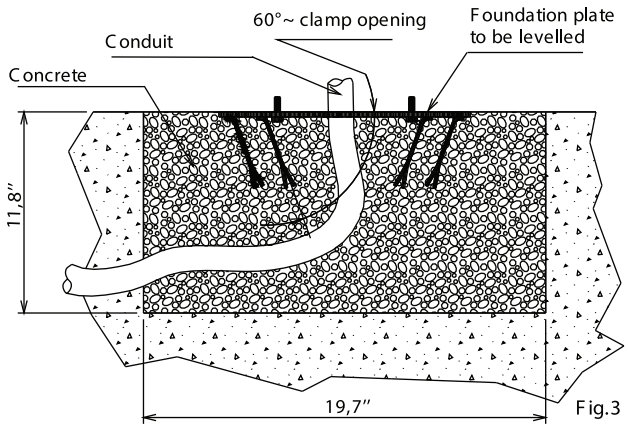


Fig.3

4-2) Post anchoring on the foundation plate

- Place the casing 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 of the casing base.
- Insert the bracket for anchoring the spring: A in case of left-hand
mounting, B in case of right-hand mounting; the bracket must
always be positioned towards the inside as in Fig.4
- Fix the casing on the foundation plate, screwing the supplied
nuts and washers carefully.- Accurately level the plate.

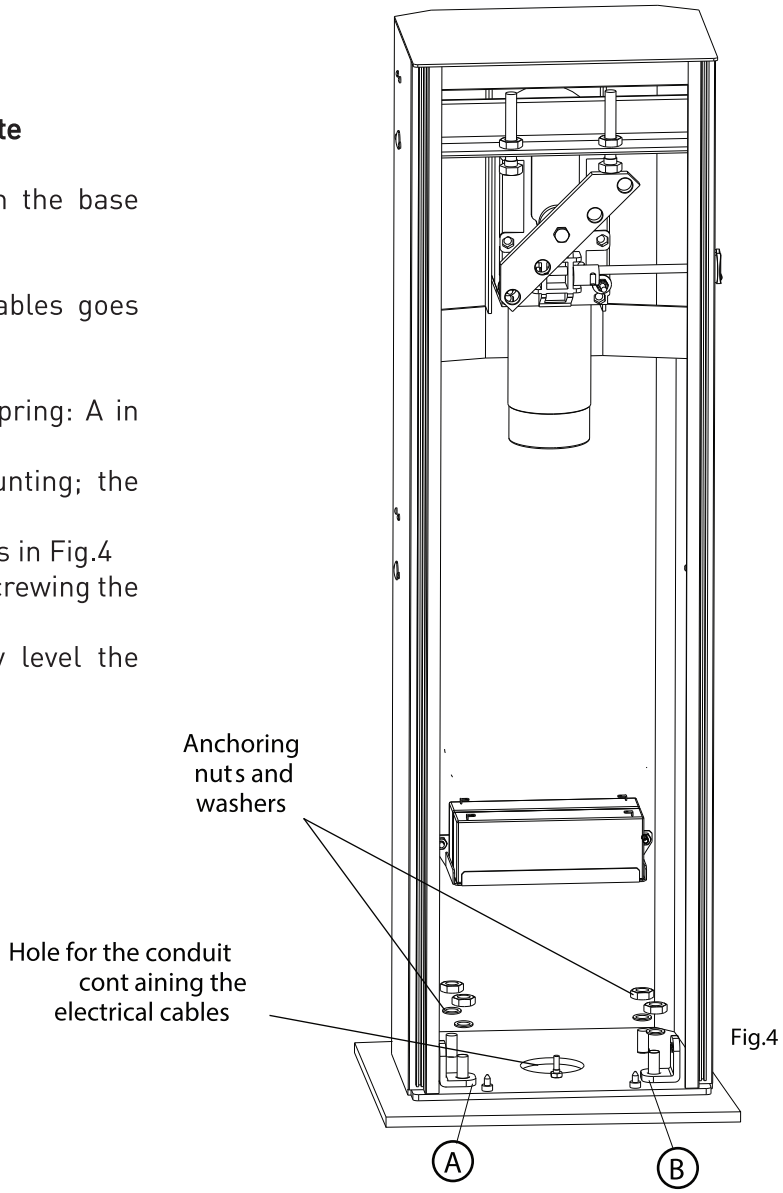


Fig.4

4-3) Fixation of the balance

- Carefully insert the roll bearing (A) into the hole 1 or 2 of the balance in case of left-hand mounting; into hole 3 or 4 in case of
right-hand mounting using hinge P and a nylon hammer.

The choice of the hole varies according to the beam length. (SEE BOARD)
- Lubricate with grease the bearing and the washers
- Mount the resting devices as shown in Fig. 5

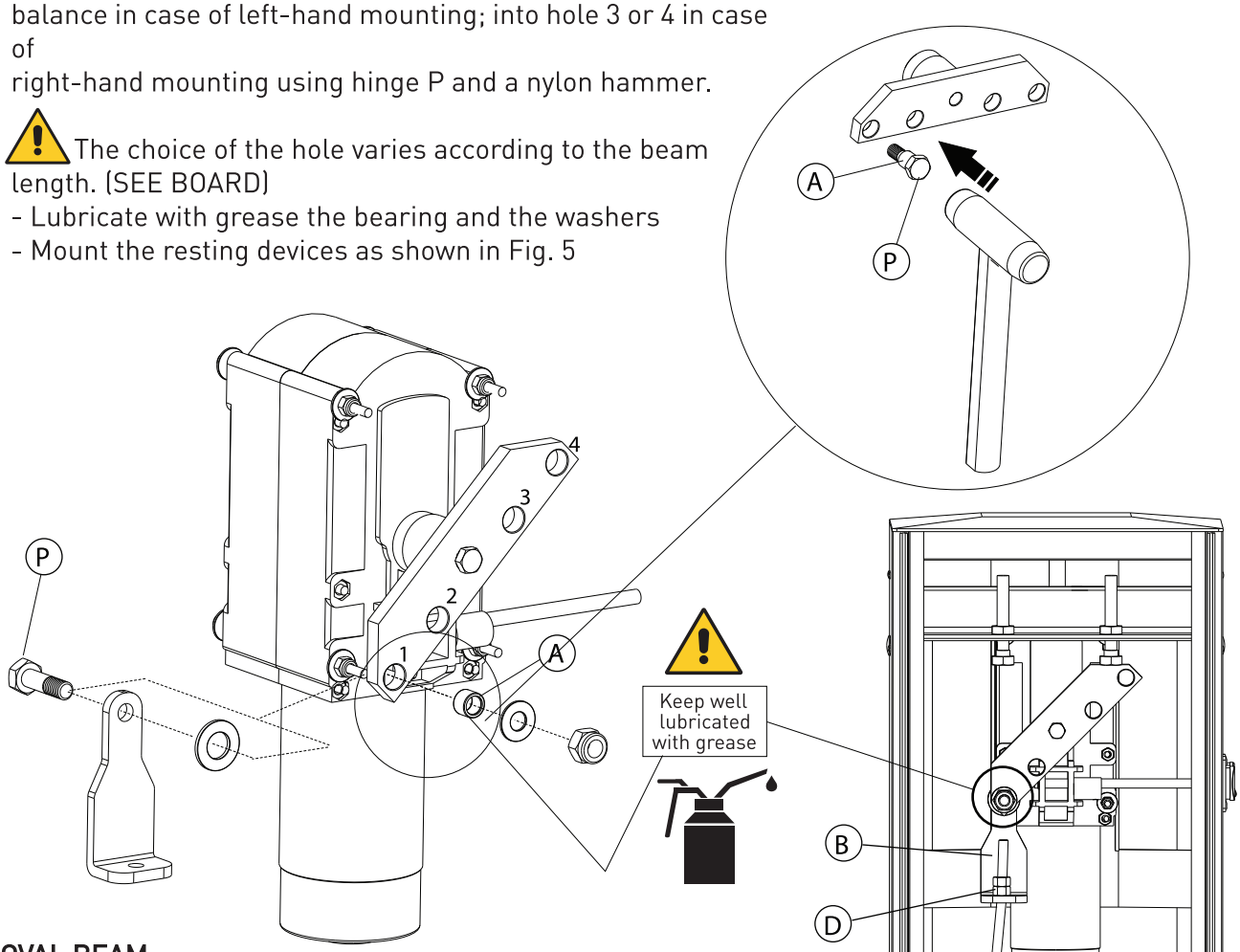


Fig.5

OVAL BEAM

Length (feet)	Balance position	Spring (Ø inc.)	Opening time
9,8	4 / 1	0,23	3" ÷ 4"
13,1	4 / 1	0,29	4" ÷ 5"
16,4	4 / 1	0,33	5" ÷ 6"

Strictly follow the opening time to avoid bad working

The springs and the bracket of anchorage are supplied with the beam

4-4) Mounting of the spring

- Anchor the spring on the bracket which has been mounted before (S)
- Insert the rod of the spring into the bracket (B) and insert the nuts (D)
without tightening them.

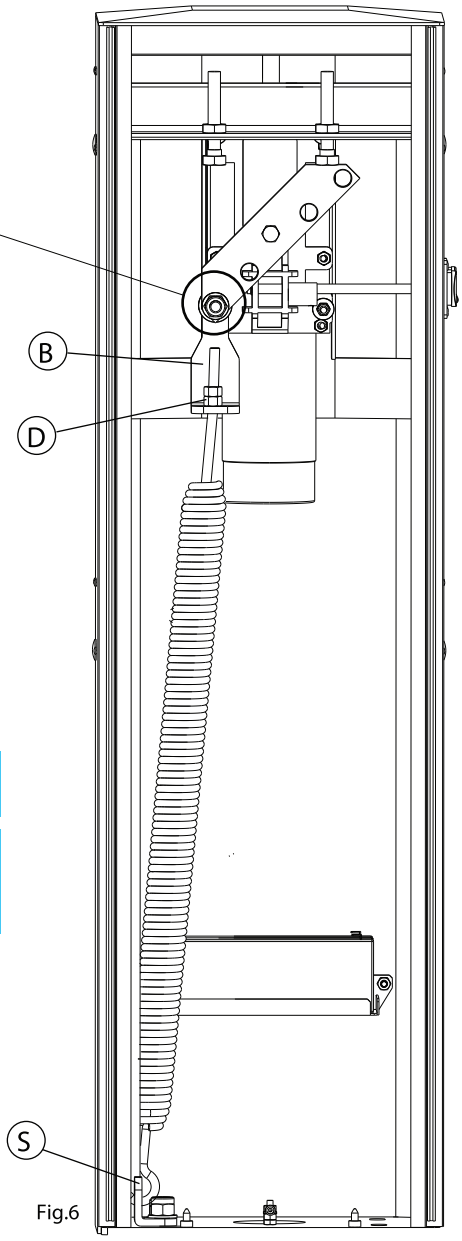


Fig.6

5) Mounting of the oval beam

For 13,1 and 16,4 feet beams it is recommended to use the fork support or the flexible support.

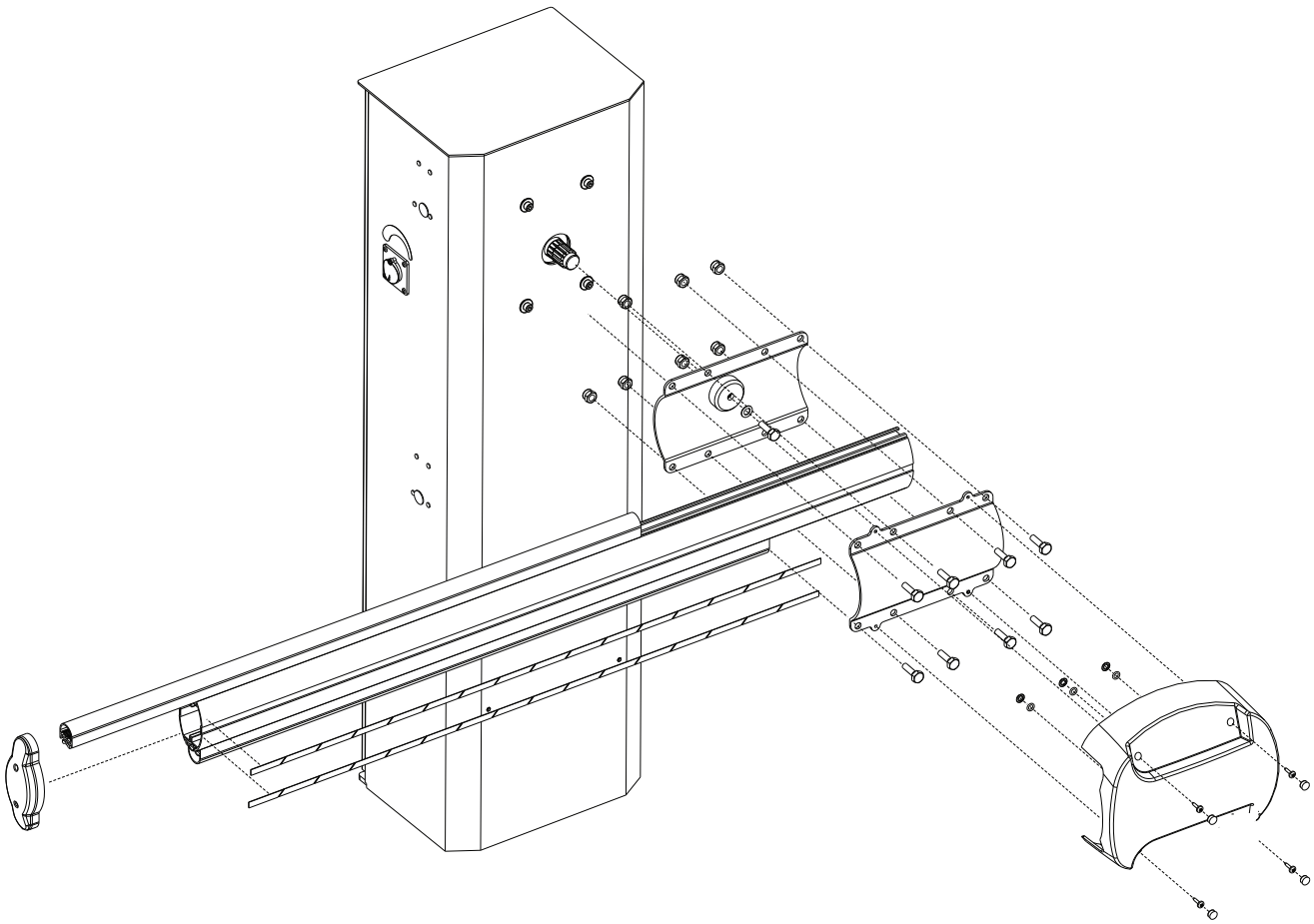


Fig.7

6) Beam balancing

- Release the beam with manual release, so that it is free to be opened and closed manually (Fig.8).
- Place the beam at approx. °45.
- Loosen or tighten the spring stretching nut until the spring counterbalances the weight of the °45 beam (Fig. 8). The best balancing position is obtained when the beam reaches the position shown in Fig. 8.
- After having obtained the balancing, lock the nuts of the spring stretcher with the counter nut and reblock the motor.

Should the balancing of the beam not be perfect and the length of the spring stretcher (T) be too long, cut it about half of its length.

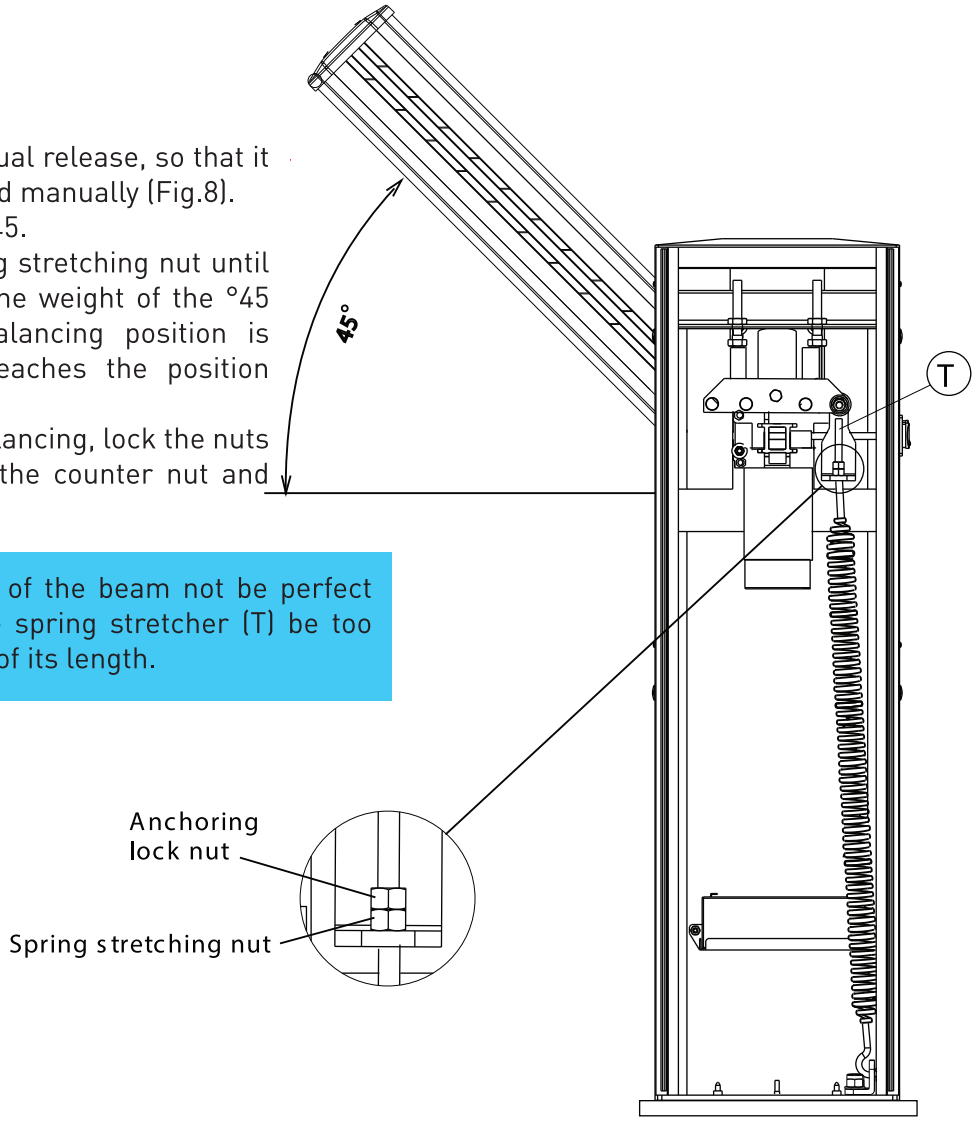


Fig. 8

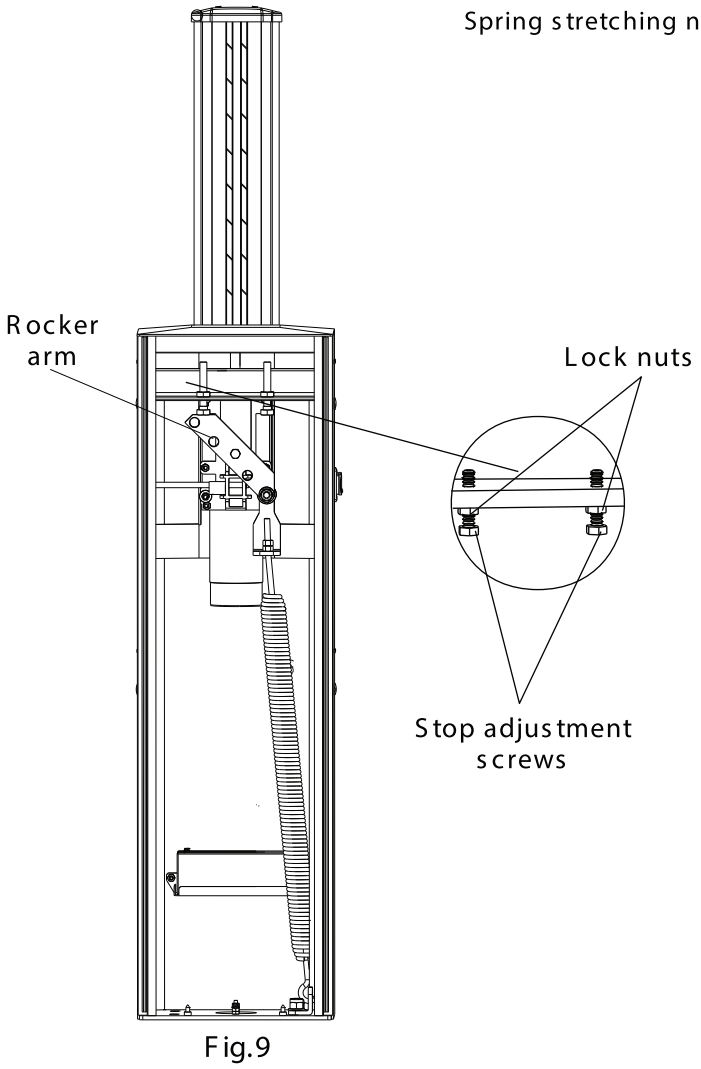


Fig.9

7) Beam levelling

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

- Release the beam with the special manual release so that it is free to open and close manually.
- Release the screws of the limit switch on unscrewing the nuts on the mechanical stops (fig.9).
- Loosen or tighten the stop screws so that the beam is released in its vertical position (opening stage) and horizontal position (closing stage) (Fig. 9).
- After having executed the levelling lock the screws of the limit switch tightening the nuts on the mechanical stops and re-lock the beam.

8) Electrical system

Fig. 10 sketches the electrical system that the barrier requires.
The two numbers located near the electrical cables indicate the cable number and section.

Captions:
-1 VF140 electronic control unit
-2 Transmitting photocell
-3 Receiving photocell
-4 Key switch
-5 Radio receiver
-6 Flashing light
-7 Push-button station
-8 Main switch

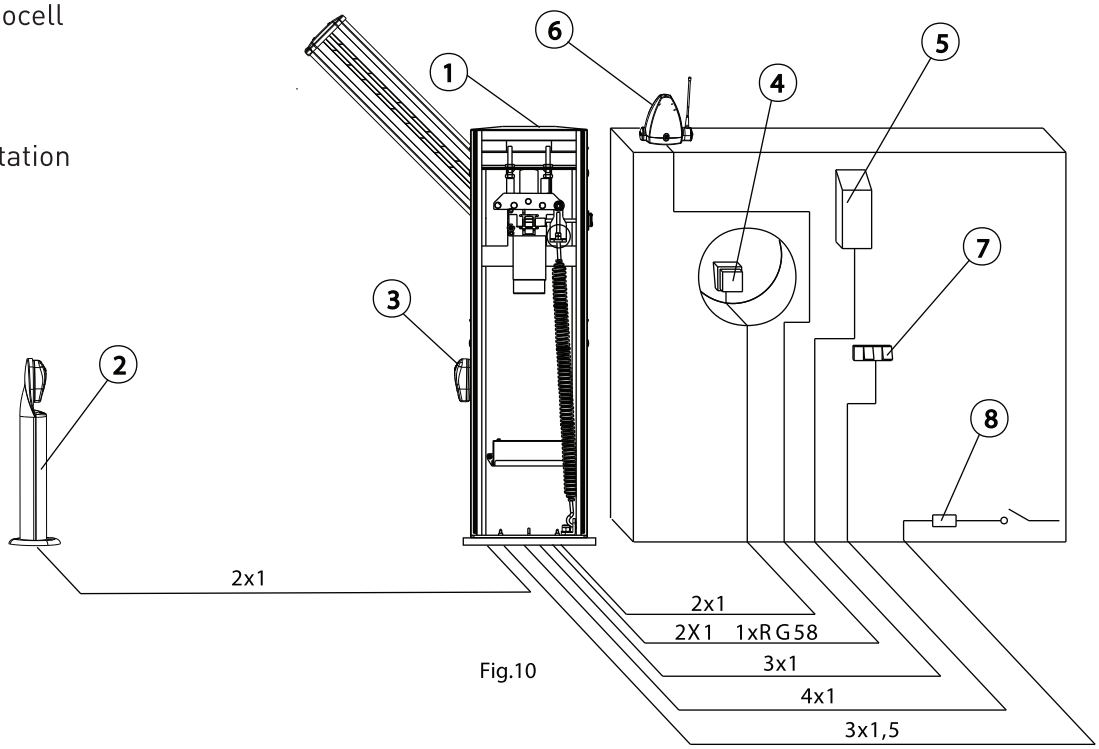


Fig.10

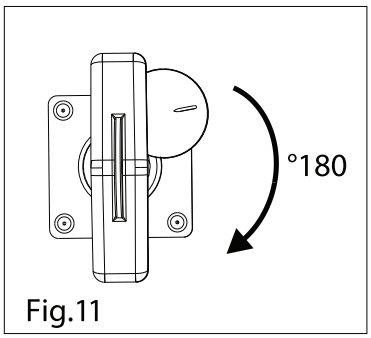


Fig.11

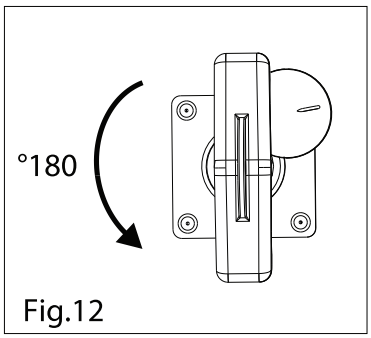


Fig.12

9) Release system

To release operate as follows
- Turn the protection cap of the release.
- Insert the T shaped key and turn it about 180° into clockwise direction until the beam is released (Fig. 11).
- Open manually the beam.

To re-lock operate as follows
- Turn the into anti-clockwise direction (Fig. 12).
- Extract the key.
- Re-close the protection cap.

10) Disposal


The packaging components (cardboard, plastic, etc.) must be separated out for recycling. Refer to the local disposal regulations before proceeding.
The packaging materials must not be discarded in the environment or left within reach of children, as they are a potential source of danger.


To dispose of electrical and electronic equipment, batteries and accumulators correctly, take the product to the differentiated disposal and recycling centres, respecting the regulations in force.