



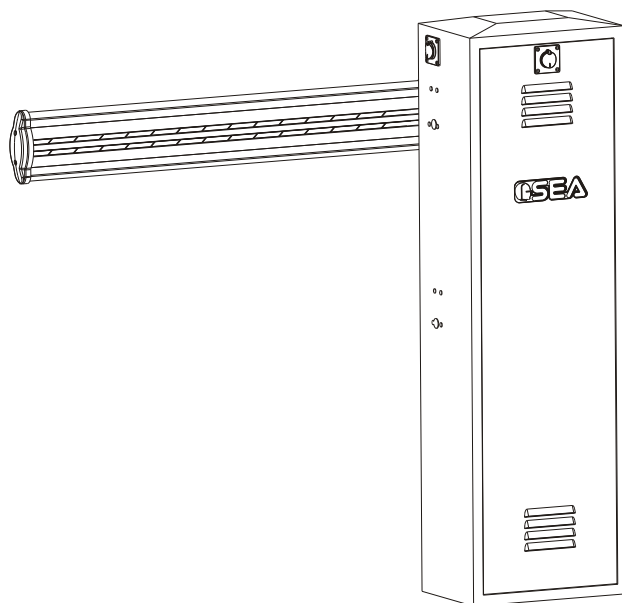
INSTALLATION MANUAL

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

VELA is an electro-mechanical barrier (2, 3, 4, 5 m) recommended for the automation of access points which require a high opening/closing speed (parking lots, motorways, airports, etc.) and frequent use features.

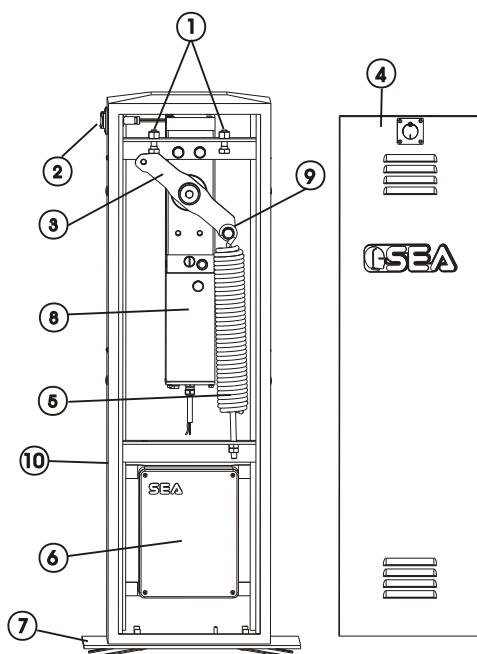
The automation comes with an anti-squeezing safety system through by pass valves for the regulation of the force which doesn't exceed 15 kg on the beam, protecting people and things from possible accidents. A system of hydraulic deceleration (on request) guarantees the total control of the present inertial force in case of lack of power supply 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 DIN key
- 3 Galvanised steel rocker arm
- 4 VELA, casing cover with lock and DIN key
- 5 Balancing spring
- 6 Electronic control unit GATE 1 (code 23001120/1), a complex device which can be used to program and manage all the operation and safety systems
- 7 Fixation plate out of galvanized steel
- 8 Hydraulic unit
- 9 Roller bearing
- 10 Cataphoresis-treated and polyester painted VELA casing, for outside, protects all included mechanical and electronic devices from fire, flood, lightning, etc.

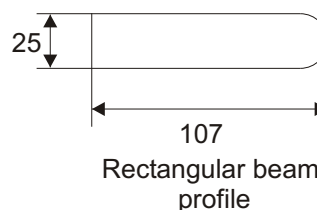
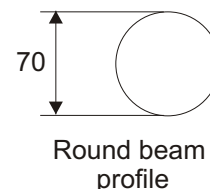
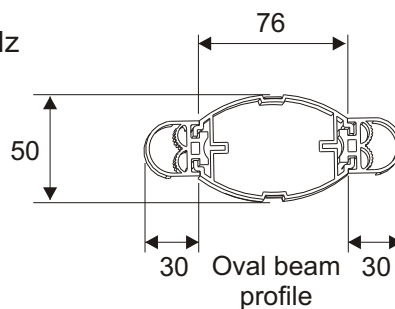
Predisposed for the application of photocells GHOST 40, key switch Key Plus, proximity reader Reader Prox.
Stainless steel casing available on request.



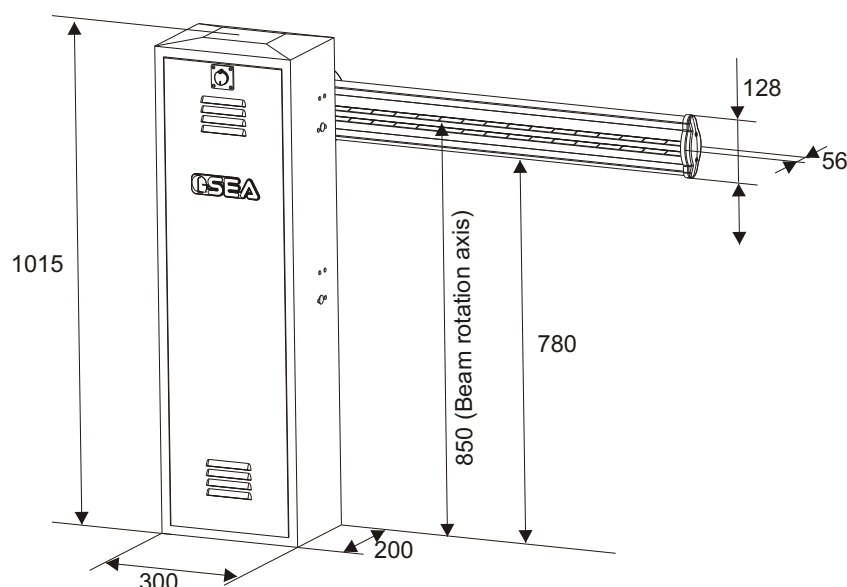


Technical features

| | |
|------------------------|--|
| Supply voltage | : 230 V~ ± 5% - 50/60 Hz |
| Force absorption | : 220W |
| Opening/closing time | : 3,5 - 7,5 s |
| Thermoprotection | : 130° |
| Oil quantity | : 1,8 L |
| Max. Beam length | : 5 m |
| Protection degree | : Ip55 |
| Start condensator | : 12,5 uF |
| Absorbed power | : 1,1 A |
| Working temperature | : -20°C/55°C |
| Manual release system | : yes |
| Usage frequency | : 75% |
| Holding block | : yes |
| Slowdown | : hydraulic (on request) |
| Barrier body treatment | : Cataphoresis treated and polyester painted |
| Weight | : 42 kg |
| Electronic equipment | : GATE 1 (cod. 23001120/1) |



Overall dimensions:



INSTALLATION INSTRUCTIONS

1) Spring position

Left-hand mounting

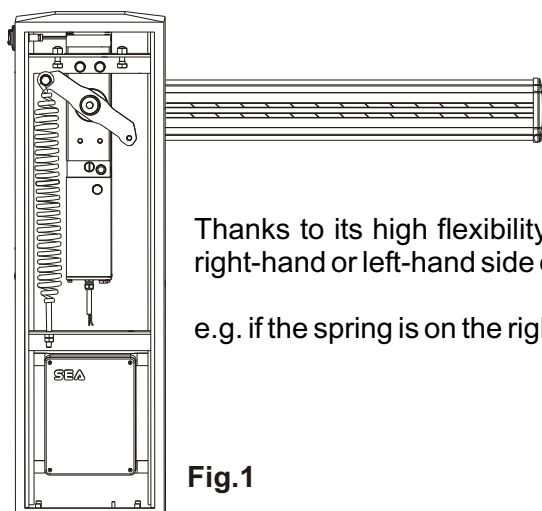


Fig.1

Right-hand mounting

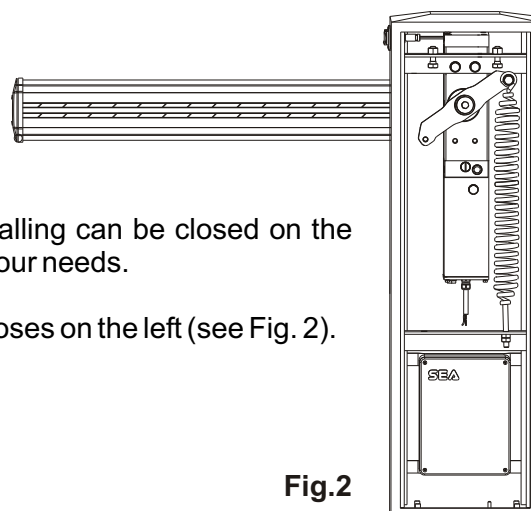


Fig.2

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.

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



2) Foundation plate anchoring

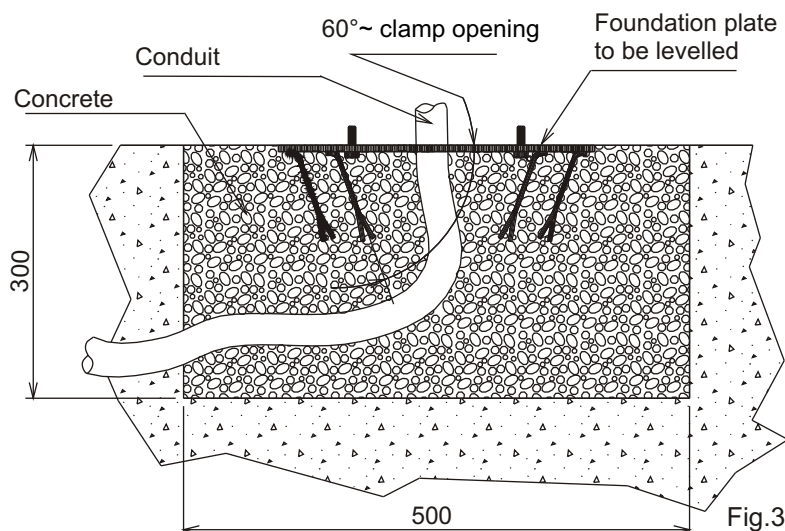
Make a 500 x 500 x 300 mm (depth) hole in the ground.

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

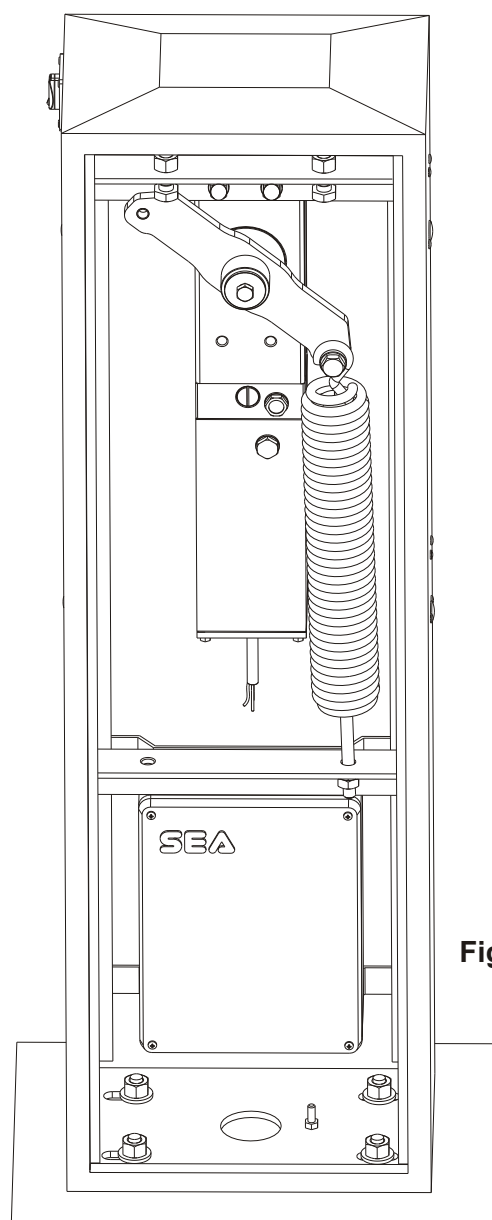


3) Post anchoring on the foundation plate

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.

Fix the casing to the foundation plate screwing with care the delivered dice and washers





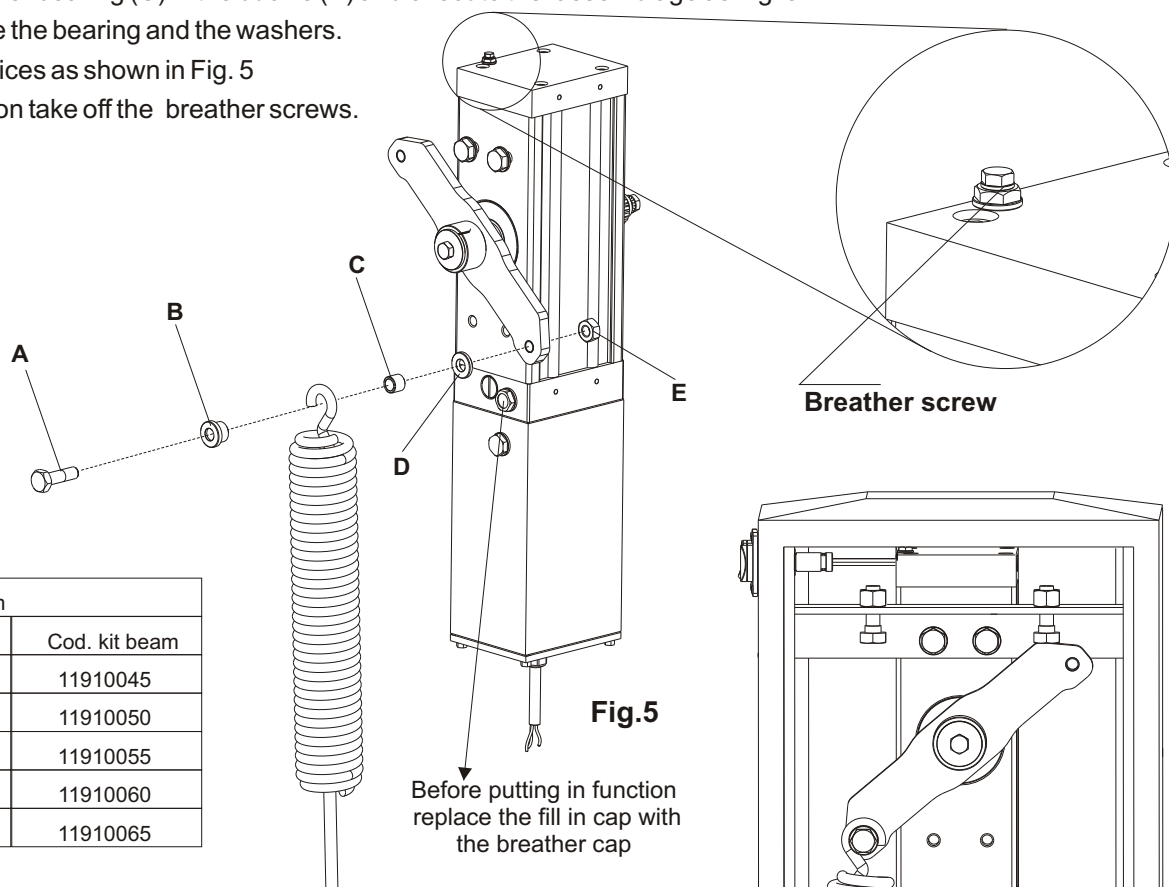
4) Fixing of the spring on the rocker arm

Insert with care the roller bearing (C) in the buckle (B) and execute the assemblage as Fig. 5.

Lubricate with grease the bearing and the washers.

Mount the resting devices as shown in Fig. 5

At the end of installation take off the breather screws.



| Round beam | | |
|----------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 2 | 5 mm | 11910045 |
| 2.5 | 5,5 mm | 11910050 |
| 3 | 6 mm | 11910055 |
| 4 | 6,5 mm | 11910060 |
| 5 | 7 mm | 11910065 |

| Rectangular beam | | |
|------------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 2 | 5,5 mm | 12710180 |
| 3 | 6 mm | 12710185 |
| 4 | 7 mm | 12710190 |
| 5 | 8 mm | 12710195 |

| Rectangular beam + skirt | | |
|--------------------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 3 | 6,5 mm | 12710091 |
| 3,5 | 7 mm | 12710092 |
| 4 | 8 mm | 12710093 |

| Articulated beam dx sx | | |
|------------------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 3 | 7 mm | 11902010 |
| 3 | 7 mm | 11902020 |
| 3,5 | 8 mm | 11902005 |
| 3,5 | 8 mm | 11902015 |

| Opening times | |
|---------------|--------------|
| Pump | Opening time |
| 1 | 7,5 s |
| 1,5 | 5,0 s |
| 2 | 3,5 s |
| 2 speed | 2,5 s |

| Oval beam | | |
|----------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 2 | 5,5 | 16400005 |
| 2,5 | 6 | 16400008 |
| 3 | 6 | 16400008 |
| 4 | 7 | 16400015 |
| 5 | 8 | 16400026 |

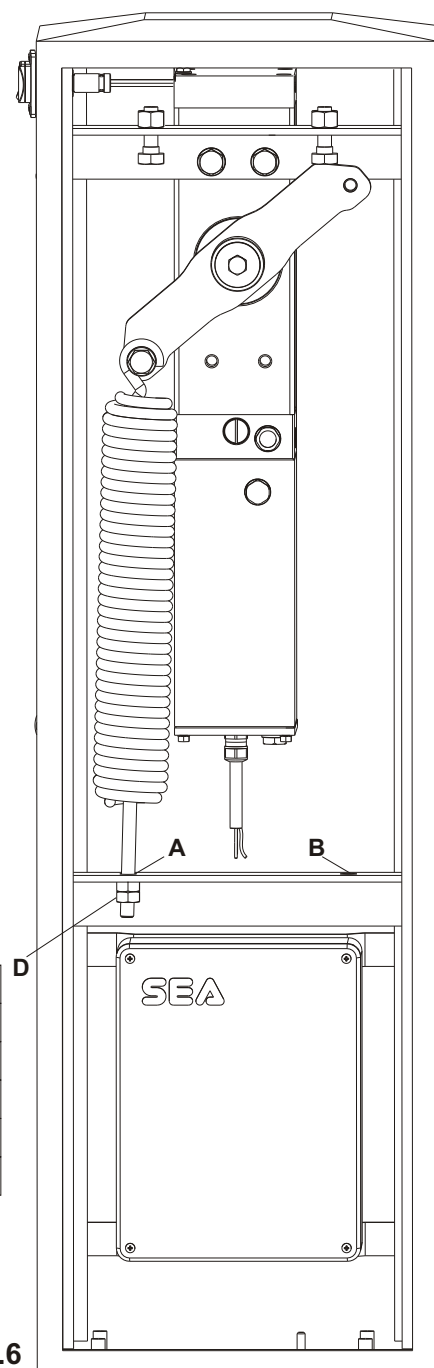
| Oval beam + skirt | | |
|-------------------|-----------|---------------|
| Barrier Length | D. Spring | Cod. kit beam |
| 2 | 5,5 | 16400005 |
| 2,5 | 6 | 16400008 |
| 3 | 6,5 | 16400010 |
| 4 | 8 | 16400026 |

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

5) Mounting of the spring

-Insert the connecting rod of the spring into the hole (A or B) and insert the dice (D) without locking them (Fig.6).

Fig.6





6) Beam installation

Rectangular beam installation (from 2 to 5 meters)

Insert the beam in vertical position and fix it with the special screw and the washer.

Insert the beam on the bracket with the rubber turned to the closing side and fix it with the special screws, washers and nuts (Fig.8)

Mounting of the round beam (from 2 to 5 meters)

Insert the bracket of beam anchorage in vertical position and fix it with the special screw and washer.

Insert the beam on the bracket and fix it with the special screws, the washers and the nuts (Fig.7).

Attention: Before inserting the bracket of anchorage, insert the screws of anchorage into the same.

Screw and dice for
locking the rod/beam

Tightening screw
and washer

Grooved
shaft

Beam anchoring
bracket

Round
beam

Fig.7

beam anchoring
bracket

Grooved
shaft

Tightening
screw
and washer

Rectangular
beam

Fig.8



Mounting of the oval beam

Note: For 4 and 5 m beams it is recommended to use the fork support or the flexible support.

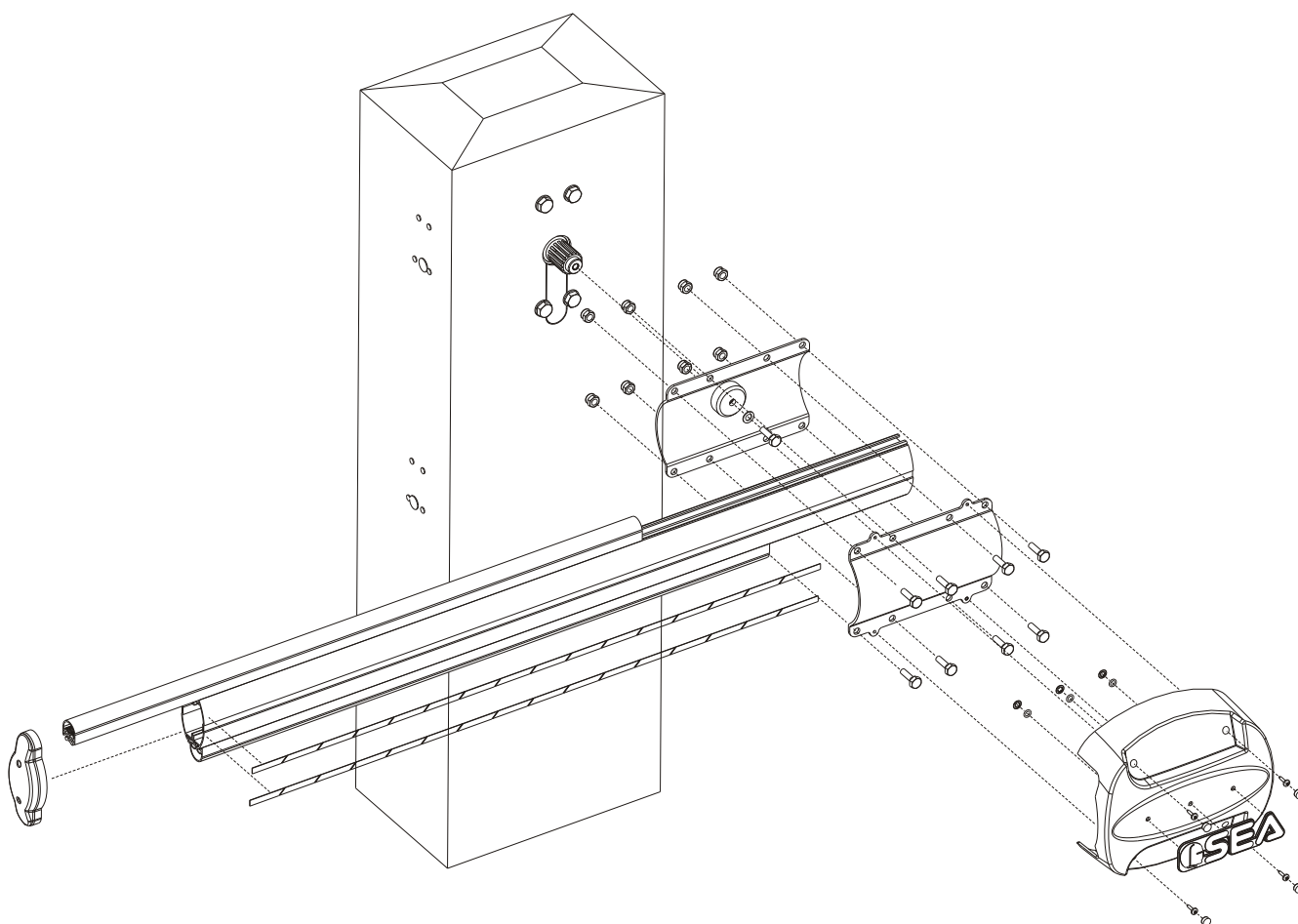


Fig.9



7) Mounting of the skirt on the beam

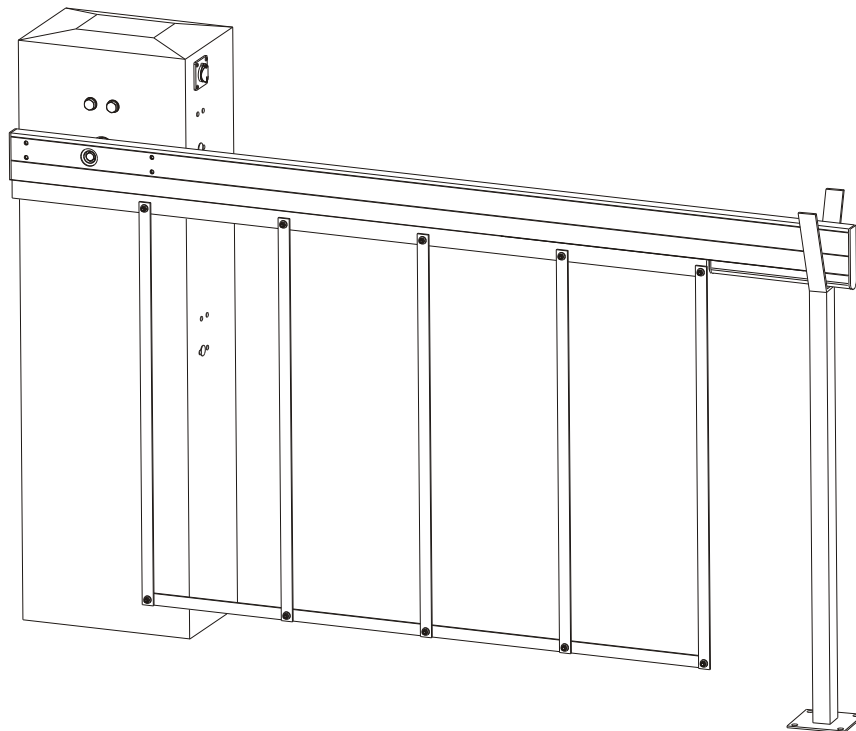


Fig.10

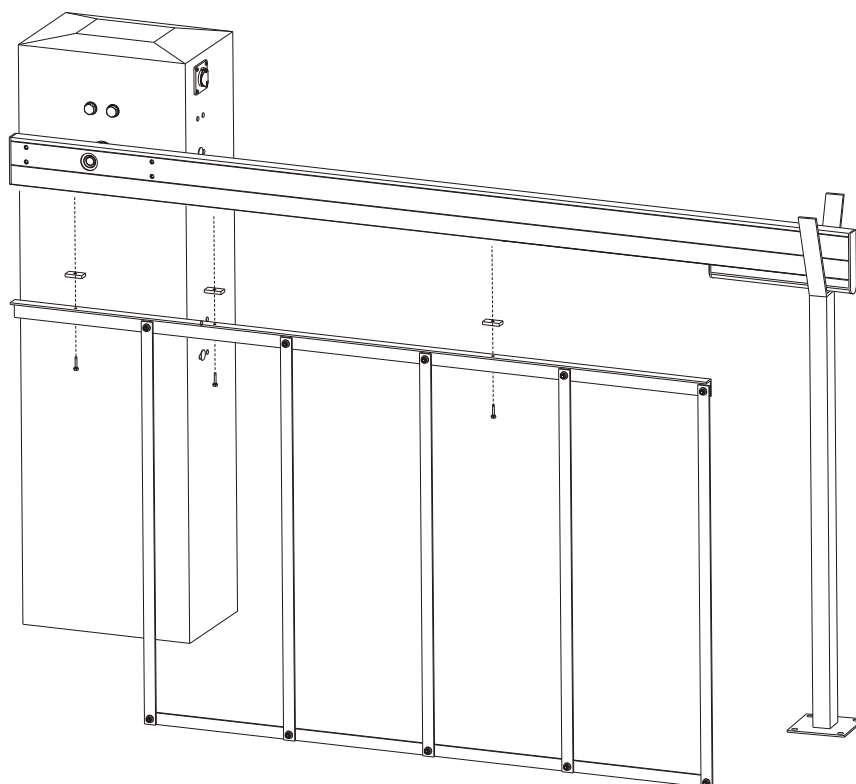


Fig.11



Mounting of the skirt on the oval beam

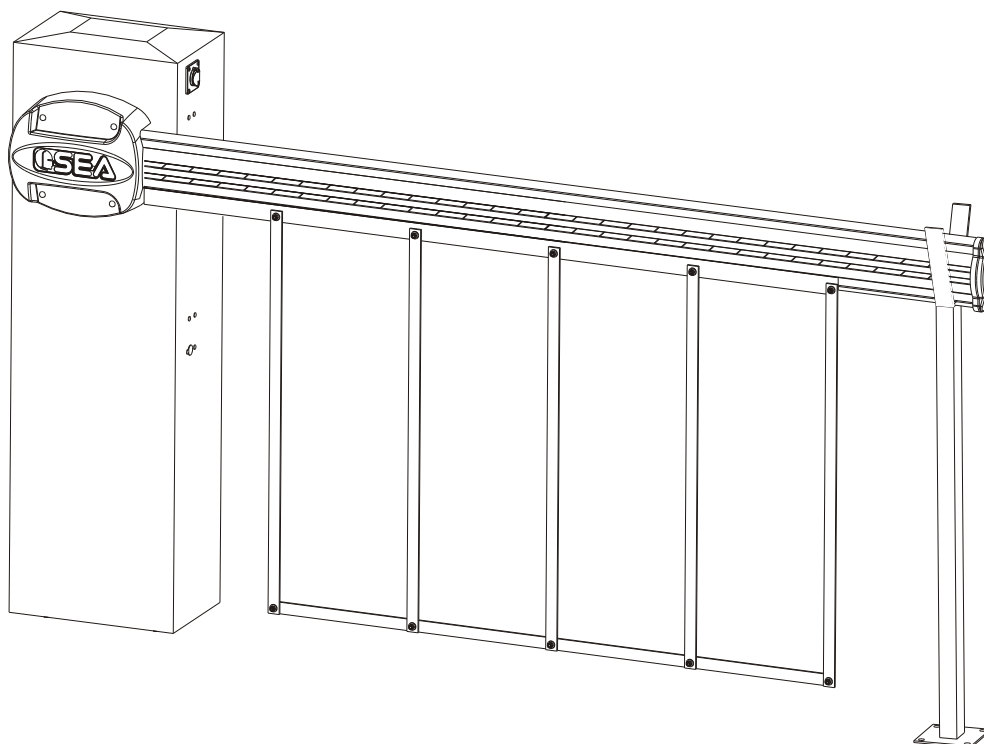


Fig.12

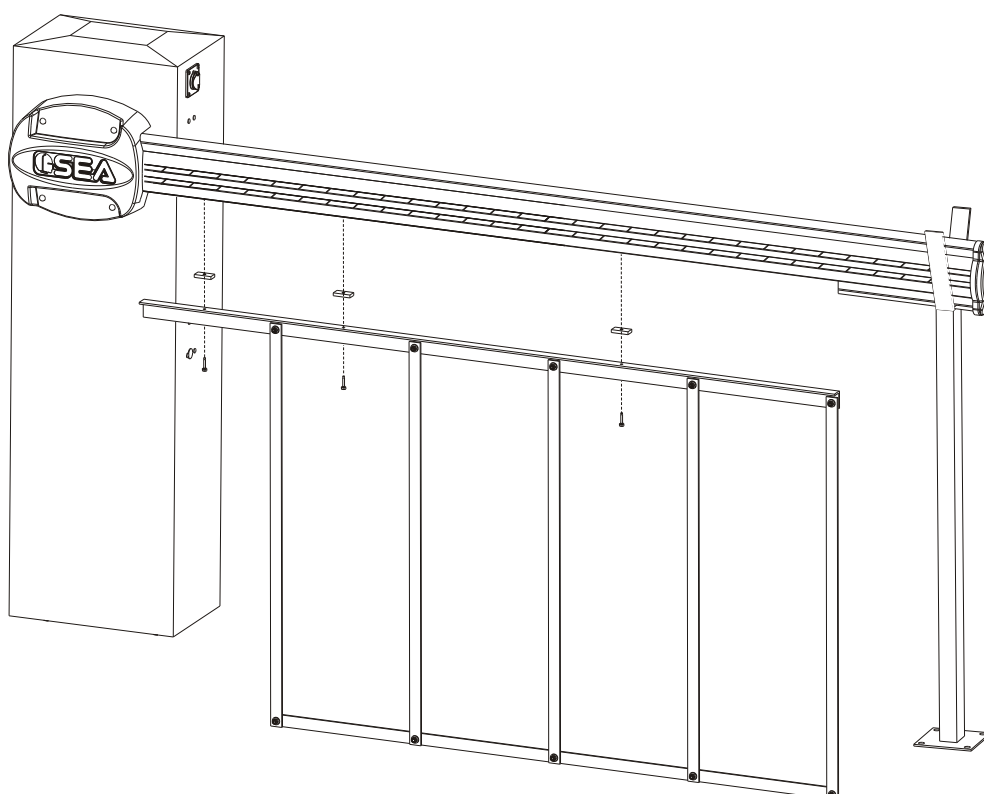


Fig.13



8) Beam balancing

Release the beam with manual release, so that it is free to be opened and closed manually (Fig.18).

Place the beam at approx. 45°.

Loosen or tighten the spring stretching nut until the spring counterbalances the weight of the 45° beam (Fig. 14). The best balancing position is obtained when the beam reaches the position shown in Fig. 14.

After having obtained the balancing, lock the nuts of the spring stretcher with the counter nut and re-block the motor.

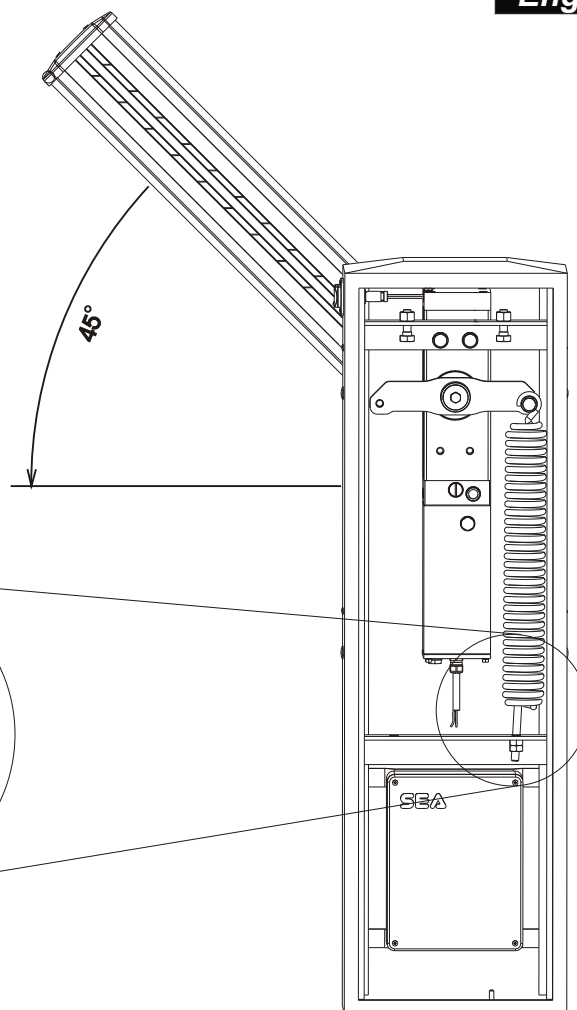


Fig. 14

Spring stretching nut

Anchoring lock nut

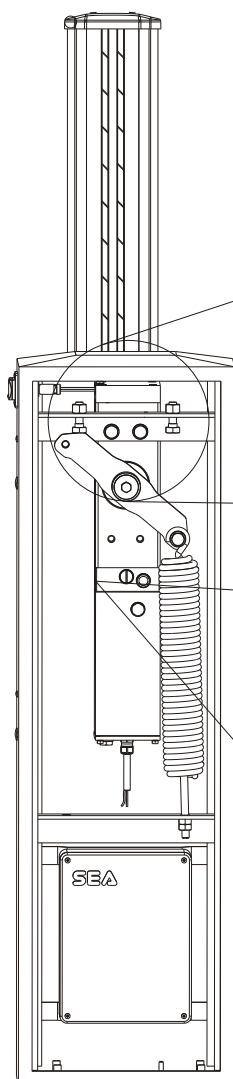
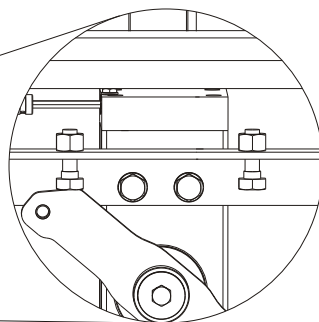


Fig. 15



9) Force adjustment

If necessary the force of thrust of the beam can be adjusted through the two calibration screws (grey and yellow) placed on the side of the hydraulic unit (Fig.16).

*The automation is adjusted at 15 kg force ex works so to guarantee the anti-crush safety. We recommend to adjust it only in case of necessity.

10) Beam levelling

Note: 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. 15).

Loosen or tighten the stop screws so that the beam is released in its vertical position (opening stage) and horizontal position (closing stage) (Fig. 15).

After having executed the levelling lock the screws of the limit switch tightening the nuts on the mechanical stops and re-lock the beam.

Fig.16



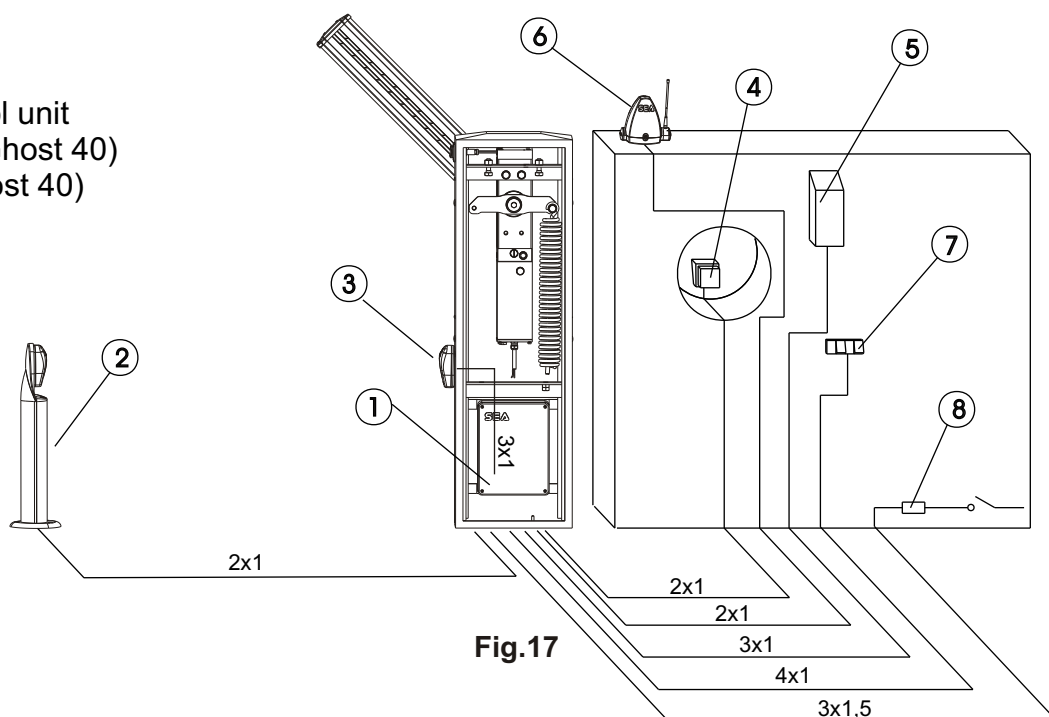
11) Electrical system

Fig. 17 sketches the electrical system that the barrier requires.

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

Captions:

- 1- GATE 1 electronic control unit
- 2- Transmitting photocell (Ghost 40)
- 3- Receiving photocell (Ghost 40)
- 4- Key switch (Key Plus)
- 5- Radio receiver
- 6- Flashing light (Flash)
- 7- Push-button station
- 8- Differential switch



ACCESSORIES FOR VELA



KEY SWITCH



GHOST 40 - GHOST 50



SKIRT



WARNING LAMP



ARTICULATED BEAM



* FORK SUPPORT



* FEXLIBLE SUPPORT
(ONLY BEAM)

* it is reccommended to mount with beams which are longer than 3 m.



To the attention of users and technicians

12) Release system

To release operate as follows

- Turn the protection cap of the lock.
- Insert the key into the same and turn it about 180° into anti-clockwise direction until the beam is released (Fig. 18).
- Open manually the beam.

To re-lock operate as follows

- Turn the key into clockwise direction until it's blocked. (Fig. 19).
- Extract the key in vertical position.
- Re-close the protection cap.

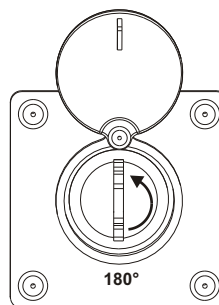


Fig.18

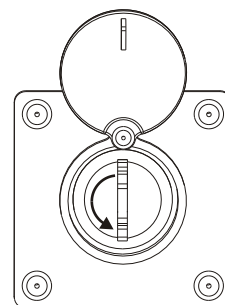


Fig.19

PERIODICAL MAINTENANCE

| | |
|--|----------|
| Check the functionality of the release | Annually |
| Lubricate the bearing of the balance | Annually |
| Check the efficiency of the spring | Annually |
| Check the beam fixing screws and the balance and the casing | Annually |
| Check the integrity of the connexion cables | Annually |
| Check and eventually adjust the efficiency of the By pass valves | Annually |

All above mentioned operations must be executed exclusively by authorized installers.

INITIAL CHECK AND PUTTING IN SERVICE

After having completed all necessary operations, for the correct installation of the product VELA, described in the present manual and after having valued all resting risks which could arise in whatever installation **is necessary to test the automation to guarantee the max. security** and in particular way to guarantee the respect of what foreseen by the law and the normatives in force. In particular the test must be executed following the **EN12445** ruel which establishes the testing methods for the testing of the gate operators respecting the established limits by the **EN 12453 law**.

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.

Note: The beam is not equipped with movement inversion system in case of obstacles. To respect the laws EN 12453 and EN 12445 it is recommended to insert external disposals into it.

INTENDED USE

VELA 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

VELA automation system complies with the following standards:

2006/42/CE (Machine Directive)



2004/108/CE (Electromagnetic Compatibility Directive)

2006/95/CE (Low Voltage Directive)



To the attention of users and technicians

STORAGE

| STORAGE TEMPERATURE | | | |
|---|---|-------------------------|--------------------------|
| T _{min} | T _{max} | Humidity _{min} | Humidity _{max} |
| -30°C  | +60°C  | 5% without condensation | 90% without condensation |

When being transported this product must be properly packaged and handled with care.

LONG-TERM STOP AND MAINTENANCE

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

GUARANTEE LIMITS

VELA 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

ARRANGEMENTS

Read attentively the installation manual as it gives important indications concerning safety, installation, use and maintenance.

Installation, maintenance, reparation, controls and eventual putting out of function of the product must be executed by qualified staff only.

For the security of people it is important to follow with attention all the advises and instructions in this manual. A wrong installation or a wrong use of the product can cause sever damages to people.

The max. length of the power supply cable between control unit and motors is 10m, use cables with 2,5 mm² section.

Use wirings with double insulated cables (cables with sheath) up to the immediate proximities of the terminals especially for the power supply cable (230V~).

The control unit must not be used by people (including children) whose physical, sensory or mental ability is reduced, or with lack of experience or knowledge, unless they are guarded or have been instructed on how to use the control unit by a person responsible for their safety. Children must be guarded to make sure that they don't play with the control unit.

Foresee on the power supply net of the automation a device that assures the complete omnipolar disconnection from the net, with a distance of opening of the contacts on each pole of at least 3mm. Those devices of disconnection have to be foreseen on the power supply net accordingly to the rules of installation, and they have to be directly connected to the power supply terminals.

It is necessary to keep in adequate distance (at least 2.5 mm in the air) the low tension conductors (230V~) from the very low tension conductors (SELV) or to use a suitable sheath of at least 1 mm which supplies an additional insulation.

Make sure that during installation the power supply and interconnection cables cannot come into contact with pointed or sharp extremities.



To the attention of users and technicians

Dispose of the package materials (plastics, carton, polistirene, etc.) respecting the laws in order. Keep nylon and polistirene bags out of the reach of children.

Save these instructions for further information attaching them to the technical documents.

This product has been projected and built exclusively for the use described in this instruction manual. Uses not indicated in this manual could damage the product and be source of danger.

SEA declines all responsibility for improper or different use from the one for which it has been planned and described in the present manual.

Don't install the product in explosive atmospheres.

SEA declines all responsibility for the non-observance of the good technique in the construction of closings (doors, gates, etc.), as well as for the deformations which could occur during the use.

Remove the power supply before any intervention on the installation. Disconnect also possible battery buffers if present.

Make sure that the earth installation has been correctly made: connect all the metallic parts of the closing (doors, gates, etc.) and all the components of the installation provided with earth terminals.

Apply all the safety devices (photocells, sensitive edges, etc.) which are necessary to protect the area from dangers of crushing, conveying, cutting.

SEA declines all responsibility for safety and for the correct functioning of the automation if parts of other producers are used.

Use only original parts for any maintenance or repairation.

Do not modify the parts of the automation if not explicitly authorized by SEA.

Instruct the user of the installation on the applied command systems and how to manually open the gate in case of emergency.

What is not explicitly contained in these instructions is not permitted.