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di Aperture Porte e Cancelli

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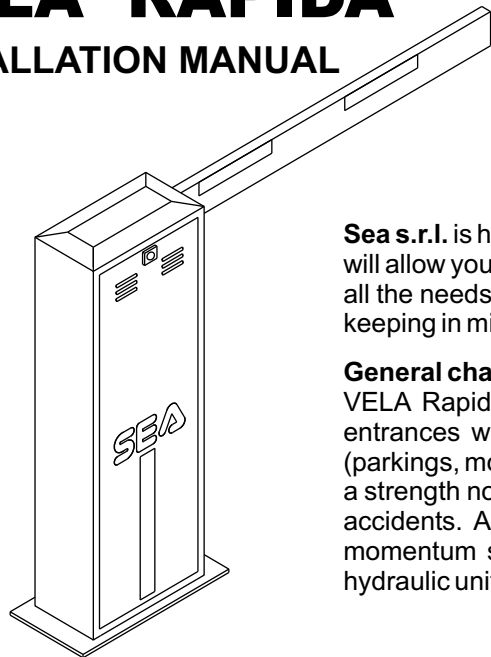
**CE**



English

# VELA RAPIDA

## INSTALLATION MANUAL



BARRIER Mod. : "VELA RAP 11705010", "VELA RAP 11705011", "VELA RAP 11705110", "VELA RAP 11705111"

Sea s.r.l. is happy to congratulate and thank you for choosing our product. Your choice will allow you to understand how our factory, according to studies, research and above all the needs of our clients, wants to gather technology, reliability and safety together keeping in mind use and installation easiness.

### General characteristics

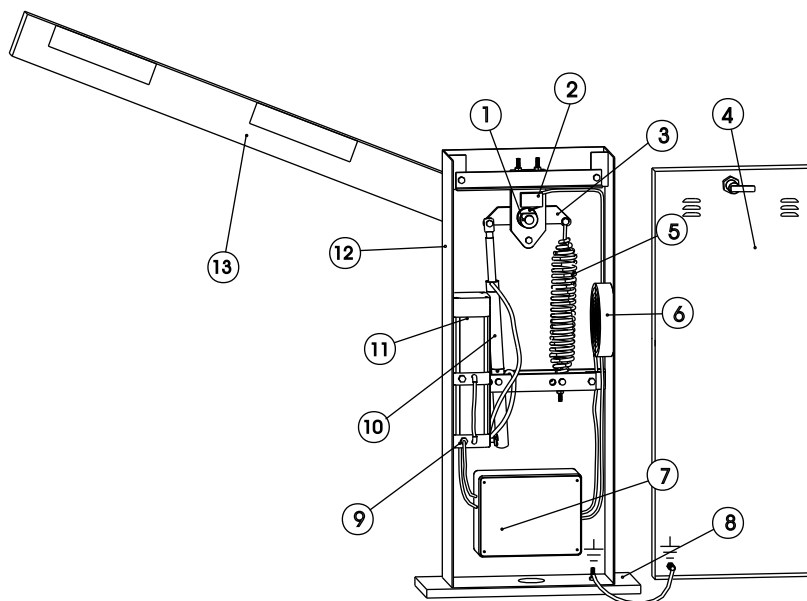
VELA Rapid is a hydraulic barrier (2 -2.5 - 3 m) for the automation of all those entrances where intensive cycles and high opening/closing speed are necessary (parkings, motorways, airports ...). It is provided with an anti-crush device that ensures a strength not higher than 15 Kg on the beam so to ensure people and things against accidents. An accurate slowing down system guarantees the total control of the momentum strength. The manual release makes the beam independent from the hydraulic unit so to allow the manual closing and opening.

### The automation is constituted by:

- Limit Switch cam, with the aim of operating the micro switch intervention.
- Micro Switch for limit switch, which allows to regulate the system slowing down time.
- Steel beam balance assembly coated with zinc.
- VELA Rapid case lid provided with lock with personalized key from 1 to 32.
- Balancing spring which is available in 2 different sizes so to accomplish with the 3 beam lengths (See spring tab.).
- Electro-fan.
- 23010016 electronic control unit, an advanced device which allows for the programming and control of all working and safety systems.
- Mounting plate built with steel coated with zinc.
- Sensor for hydraulic unit temperature monitoring and starting up cooling fan.
- 10 Double effect hydraulic piston which gives movement to the beam by the beam balance assembly.
- 11 Hydraulic unit with manual release for the manual opening of the beam in case of damages and two screws for couple adjustment.
- 12 Vela Rapid case which protects all mechanic and electric devices from atmospheric agents. It is made by a steel sheet which is processed with cathaphoresis and epossidic dust painting. On request SEA provides the inox steel case.
- 13 Beam in extruded aluminium, available in 3 sizes: 2, 2.5 and 3 m.

### Name of the most important parts:

- 1 Limit Switch cam
- 2 Micro Switch for Limit Switch
- 3 Beam balance assembly
- 4 Vela Rapid case lid
- 5 Balancing spring
- 6 Electro-fan
- 7 23010016 Electronic Control Unit
- 8 Vela Rapid mounting plate
- 9 Temperature sensor
- 10 Piston
- 11 Hydraulic pump unit
- 12 Vela Rapid case
- 13 Aluminium beam





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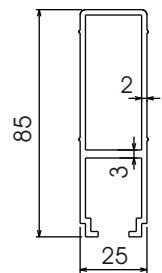


**Technical data:**

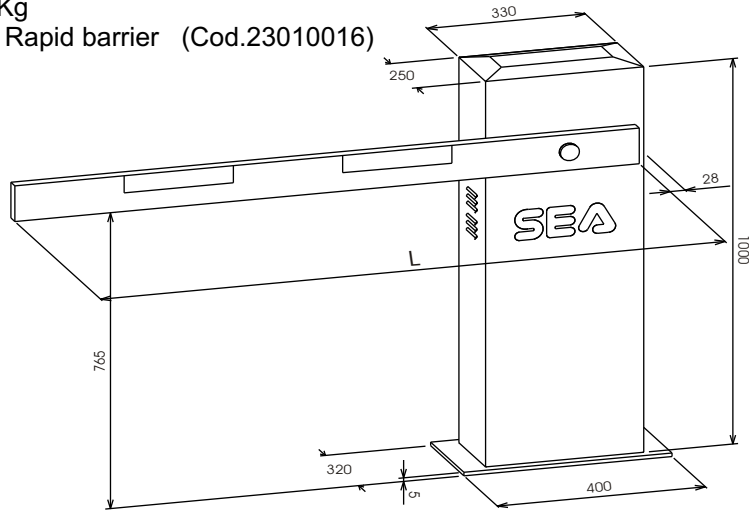
Voltage supply : 230 Vac  $\pm$  5% - 50/60 Hz single phase  
 Absorbed current : 1,8 A  
 Motor power : 320 W  
 Motor revolutions : 2800 RPM/min.  
 Operating temperature : -25 + 70°C  
 Thermal cut out : 130°C  
 Pump rating : 2 l./min.  
 Opening\closing time : 1,6 s  
 Protection class : IP55  
 Manual release device : Hydraulic  
 Use frequency : 100%  
 Capacitor : 35 uF 450V  
 Hydraulic piston : d 35mm  
 Anti-crush system : No. 2 by-pass valves  
 Lock system : Opening and closing hydraulic one  
 Slowing down : Hydraulic  
 Cooling system : By forced air with electro-fan  
 Fan intervention temperature : 65°C 55°C(OFF)  
 Hydraulic oil : SEA Verde  
 Operating pressure : 20 bar  
 Max pressure : 50 bar  
 Barrier case treatment : cathaphoresis and epossidic dust painting RAL3000  
 Beam length : 2 - 2,5 - 3 m  
 Weight : 65Kg  
 Electronic Control Unit : for Rapid barrier (Cod.23010016)

BEAM TABEL		
Beam Length L (m)	Spring	Spring code
2	6	66400050
2,5 - 3	6,5	66400055

**Beam**



**Dimensions:**



**FITTING INSTRUCTIONS**

**1) Position of spring and piston**

Right hand closing barrier

Left hand closing barrier

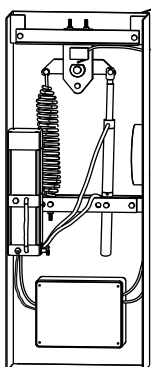


Fig.1

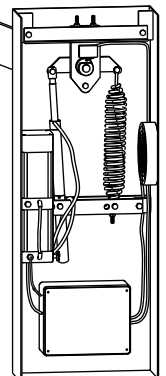


Fig.2

The versatile barrier you are going to install allows for left or right closing according to requirements. To make sure that the barrier closes your desired side open the carter and check that the piston is on the side you like.

Ex. With right hand piston the closing is on the right (Fig 1 and 2).

If the barrier provided does not close your desired side you can invert it following the instructions we are going to provide.



Ex. With right hand piston the closing is on the right.

- ✍ Remove the spring and piston fixing screws.
- ✍ Remove the bracket by unscrewing the bolts shown.
- ✍ Position the piston on the right hand side (where the spring is fixed) and fix it to the beam balance assembly by the screw.
- ✍ Position the spring on the left hand side (where the piston is fixed) and fix it to the beam balance assembly as well.
- ✍ Fix the bracket where it was placed before, keeping in mind that the external holes are for the spring anchorage pin, while the internal ones are for the piston pin, both in case of necessity of right closing, and in case of necessity of left closing.

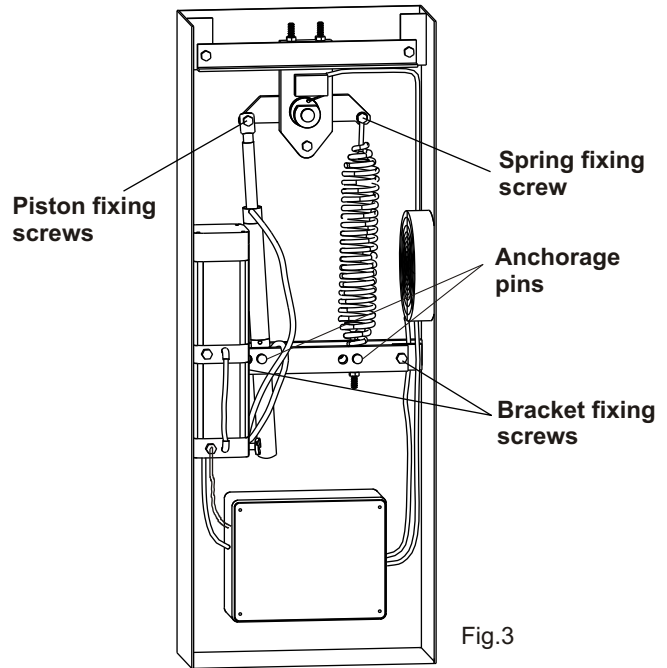


Fig.3

## 2) Mounting plate fixing

Dig a hole 600x600x400 mm.

Widen the foundation plate clamps at 60° (Fig. 4).

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

Level the plate with care.

\* The plate has got a central hole for electric wiring so put an electric wire sheathing in the hole before filling the hole with concrete.

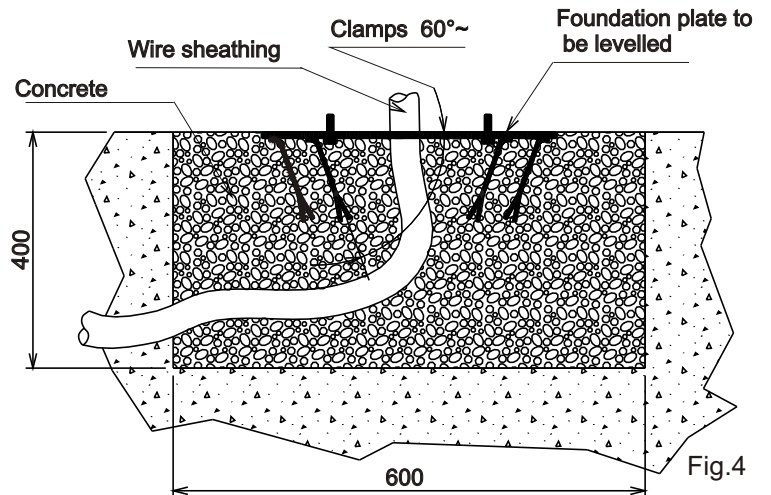


Fig.4

## 3) Fixing the column on the foundation plate

Place the column so that the holes at the base correspond to the screws that emerge from the foundation plate.

Make sure that the wire sheathing is fixed on the big central hole at the base of the column.

Tighten the column to the foundation plate screwing the provided nuts and bolts with care.

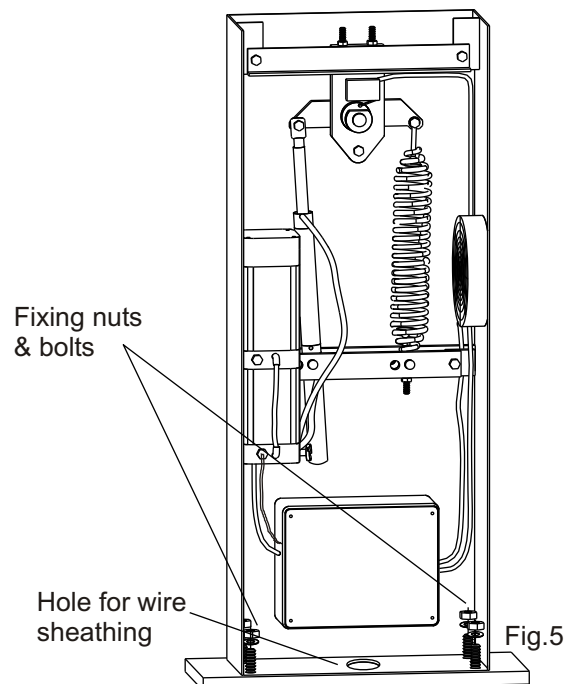


Fig.5



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#### 4) Oil Filler plug

When the barrier has been bolted down to the ground remove the oil reservoir transport plug from the frontal part of the hydraulic pump unit (Fig.6) and replace it for the breather plug supplied with the system.

#### 5) Mounting the beam

Insert to one end of the splined shaft the beam perfectly vertically positioned.

Fix the beam using the bolt and washer supplied (Fig. 7).

N.B.: The beam is supplied with the anchorage bracket already fixed. Should that not be the case, fix it by the screws supplied.

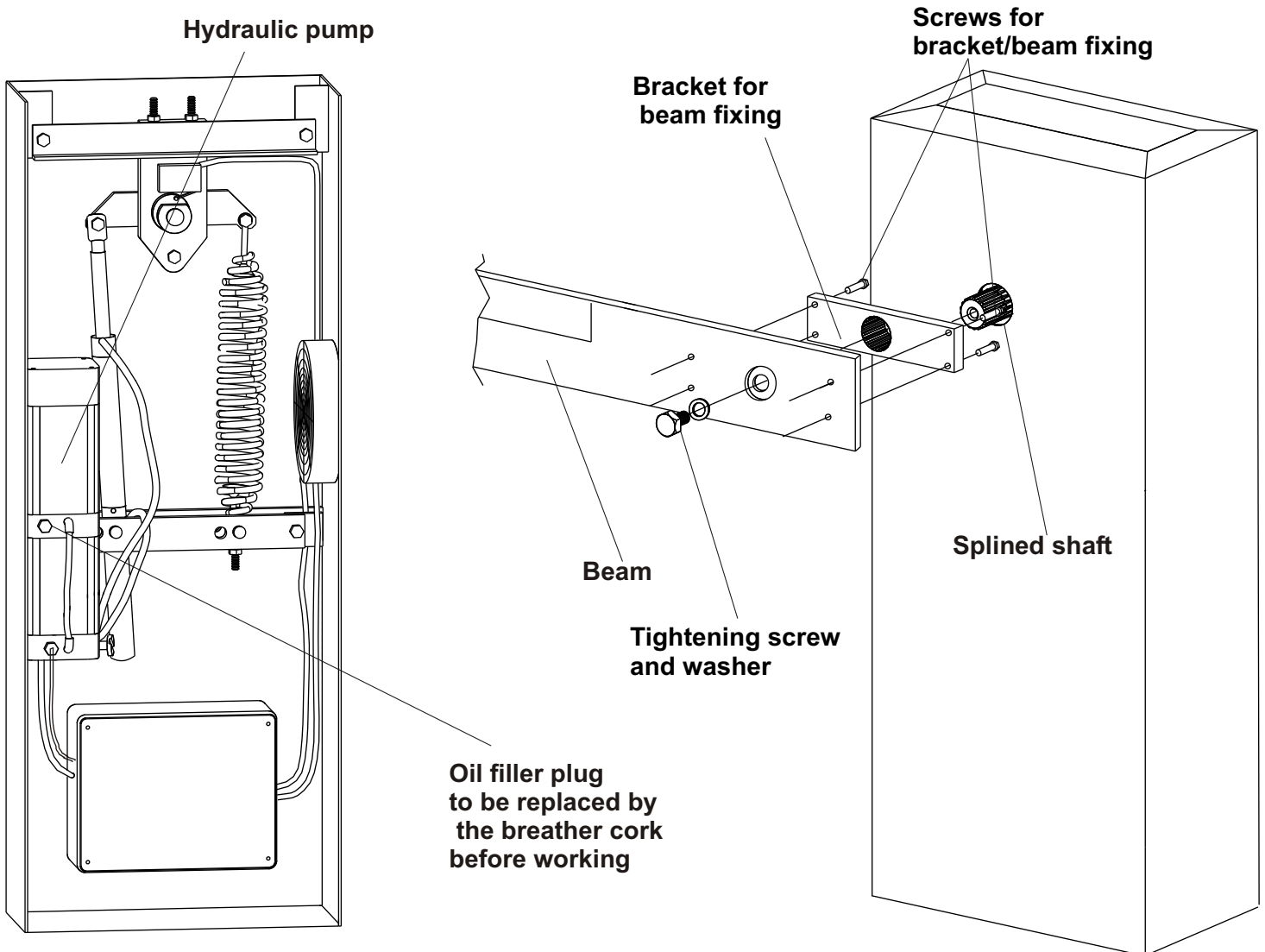


Fig.6

Fig.7



### 6) Balancing the spring

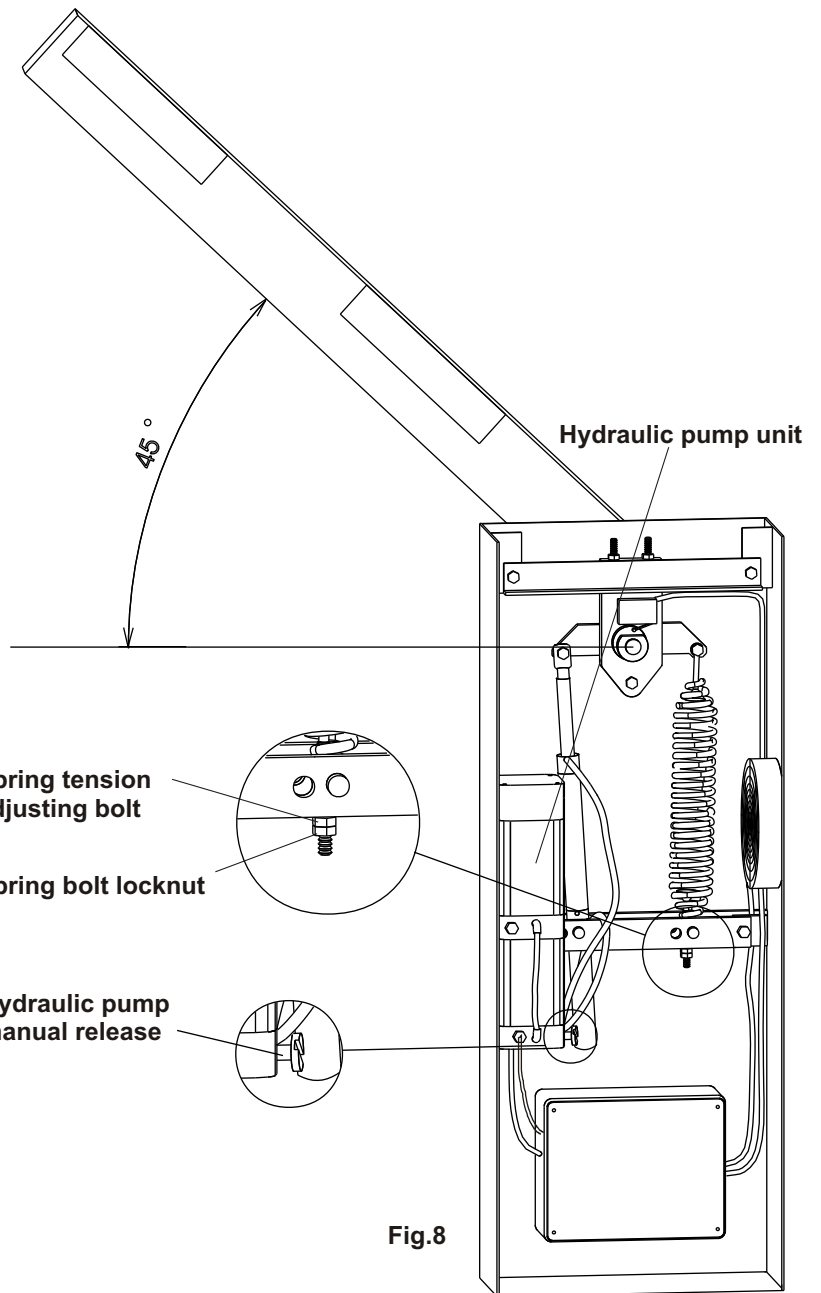
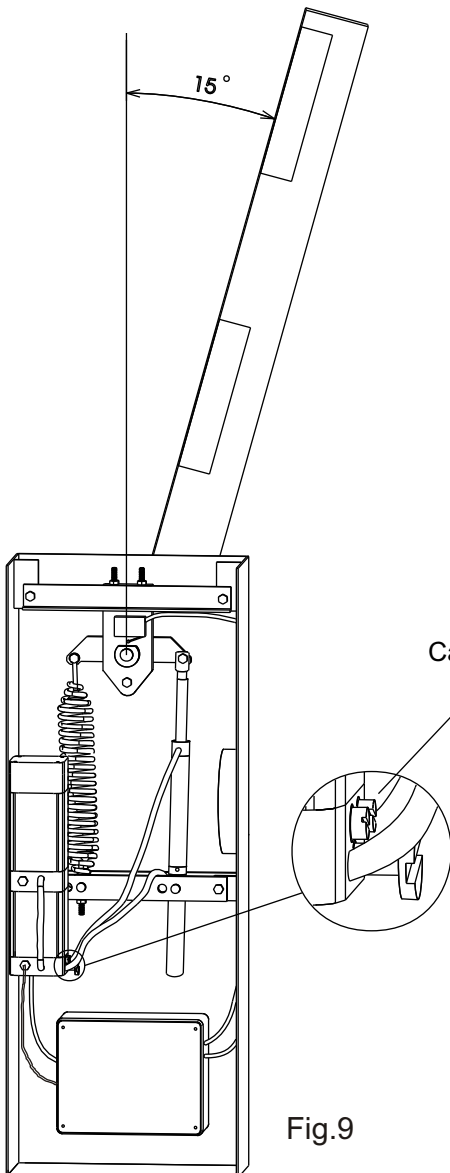
Turn the manual release valve anti-clockwise to release the hydraulic locking so that the beam can be opened and closed manually.

Lift the beam to an angle of approximately 45 degrees.

Tight or untight the spring adjusting bolt locknut so that the spring reaches a balance point with the beam at 45° (Fig 8). If the beam is correctly balanced it should stay stopped in position (Fig.8).

After balancing fix the spring adjusting bolt locknut with the bolt and block the hydraulic unit.

### 7) Slow down adjustment: hydraulic



### 8) Barrier power supply

You can now feed the barrier with 230Vac 50/60 Hz power supply. Check **“Wiring the connectors”** (paragraph 12) for more details.

### 9) Force adjustment

If necessary the piston force can be adjusted by the two adjusting screws (grey to open and yellow to close) placed on the front lower place of the hydraulic pump unit (Fig. 9).

\*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) Levelling the beam**

This manoeuvre must be done only if the beam is not perfectly horizontal in closing or vertical in opening at the end stroke.

Unlock the hydraulic unit by the release screw so that the beam opens and closes manually.

Release the end stroke screws unscrewing the lock nuts on the beam balance assembly (Fig.10).

Screw or unscrew the end stroke screws so that the beam stays perfectly vertical in opening and perfectly horizontal in closing (Fig.10).

After levelling, fix the end stroke by tightening the lock nuts on the beam balance assembly and block the hydraulic unit.

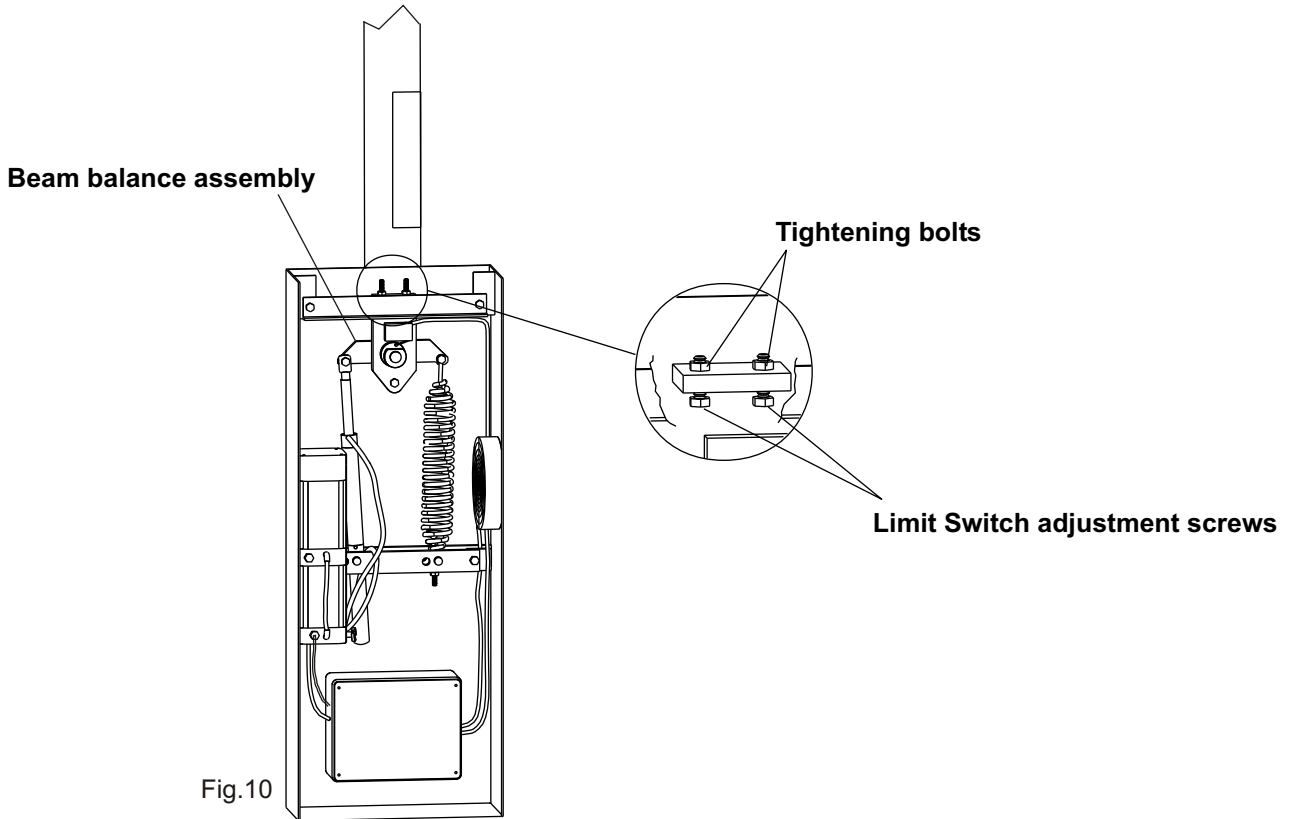
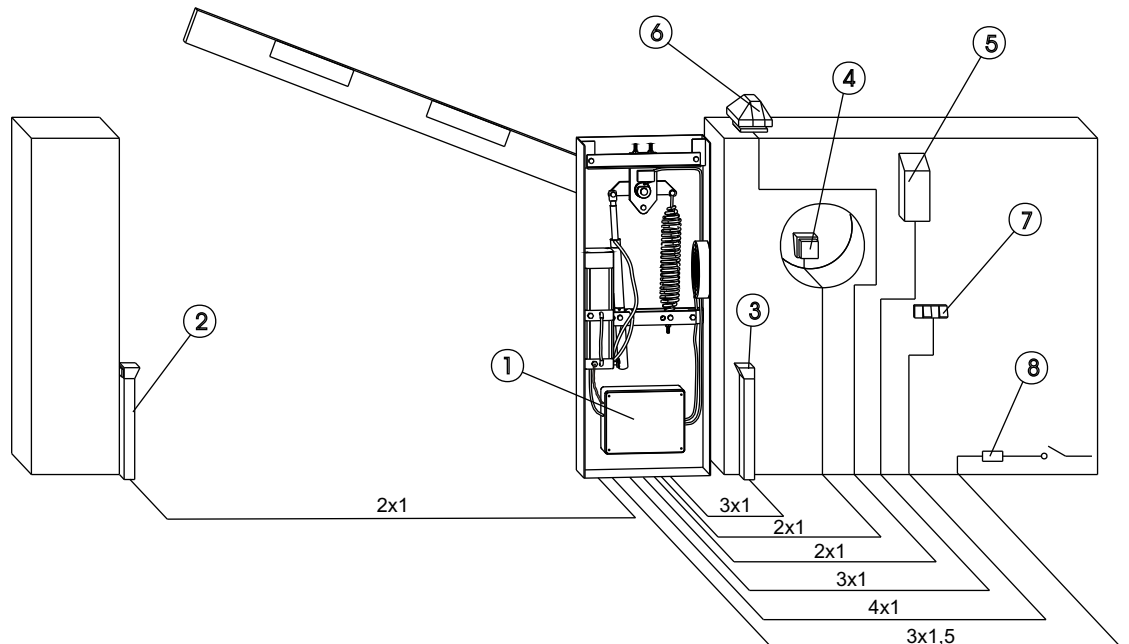


Fig.10

**11) Wiring**

In Fig. 11 you find the wiring necessary for the barrier installation.

The two numbers placed nearby the electrical cables show their quantity and section.



**Legend:**

- 1- Vela Rapid electronic control unit
- 2- Photocell (transmitter)
- 3- Photocell (receiver)
- 4- Key switch
- 5- Radio receiver
- 6- Warning light
- 7- Push button board
- 8- Differential switch



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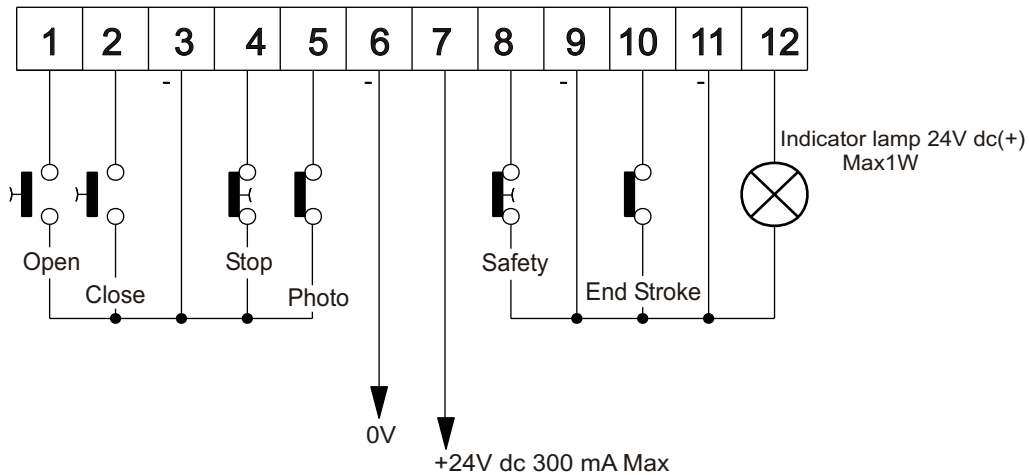


## 12) Connectors connection

The electronic control unit **Mod.23010016** is located inside the box. The panel controls all the device functions. It is technologically advanced and you will choose the logic function that suits you most.

The electronic control unit is provided of two comfortable plugged-in wiring boards; one for low tension, the other for 230V power supply.

### LOW TENSION WIRING BOARD CONNECTIONS



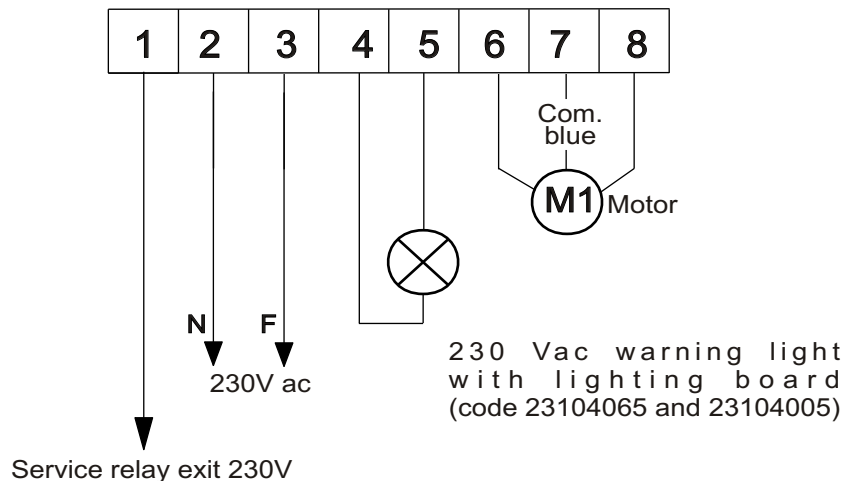
The safety entrance (8/9 usually closed) if activated inverts temporarily the beam movement.

The stop entrance (3/4 usually closed) if activated stops the automation anytime.

The photocell entrance (9/10 usually closed) if activated while closing inverts the beam movement; if activated while opening it is ignored.

*In case stop, photocells or safety are not connected it is necessary bridging their wire boards (3/4, 5/6, 8/9). Photocells wiring boards (5/6) must be bridged even if a photocell plug-in board is being used.*

### WIRING BOARD 230Vac CONNECTIONS



**Please note:** check the manual "Electronic unit" for more information about programming and working logic.



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## WARNING

The electric installation and the working logic choice must be done according to the existing laws. A 6A Fuse (or MCB) and a 16A - 0,030A trip must be incorporated into the source of the gate main electrical supply. Keep the power cables (motors, power supply) and the control ones (push buttons, photocells, radio etc.) separated. You can use two different sheaths to avoid interference.

**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

The Vela Rapid has been designed to be solely used to automate barriers.

## SPARE PARTS

To obtain spare parts contact:

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

## SAFETY AND ENVIRONMENTAL COMPATIBILITY

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

## CONFORMITY REQUIREMENTS

The VELARAPID operator conforms to the following:

- 89/392/CEE (Machine Directive)
- 89/336/CEE (Electromagnetic Compatibility Directive)
- 73/23/CEE (Electric Safety)

## STORAGE

STORAGE TEMPERATURES			
T <sub>min</sub>	T <sub>max</sub>	Humidity <sub>min</sub>	Humidity <sub>max</sub>
<b>-40°C</b>	<b>+80°C</b>	<b>5% no condensation</b>	<b>90% no condensation</b>

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.

## LIMIT OF GUARANTEE

Vela Rapid is guaranteed for a period of 24 months. The guarantee period starts from the date stamp printed on the unit. The guarantee will be void if the unit has been incorrectly installed, not used for the purpose intended, tampered with or modified in any way.

The validity of this guarantee only extends to the original purchaser of the unit.

**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 modify or adjust the products and information provided in this manual with no obligation to notice.**