



**SEA**  
Sistemi elettronici  
di Aperture Porte e Cancelli

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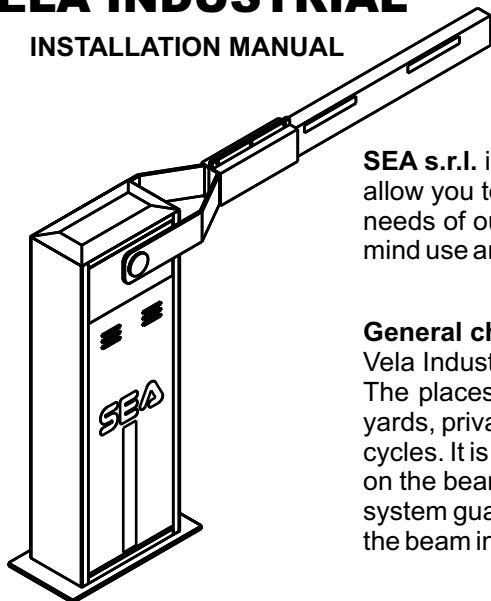


GB

English

## VELA INDUSTRIAL

### INSTALLATION MANUAL



BARRIER Mod.: '11701005' 5mt DX; '11701020' 5mt SX;  
'11701010' 6mt DX; '11701025' 6mt SX; '11701015' 7mt DX;  
'11701030' 7mt SX; '11701035' 7,5mt DX; '11701040' 7,5mt  
SX

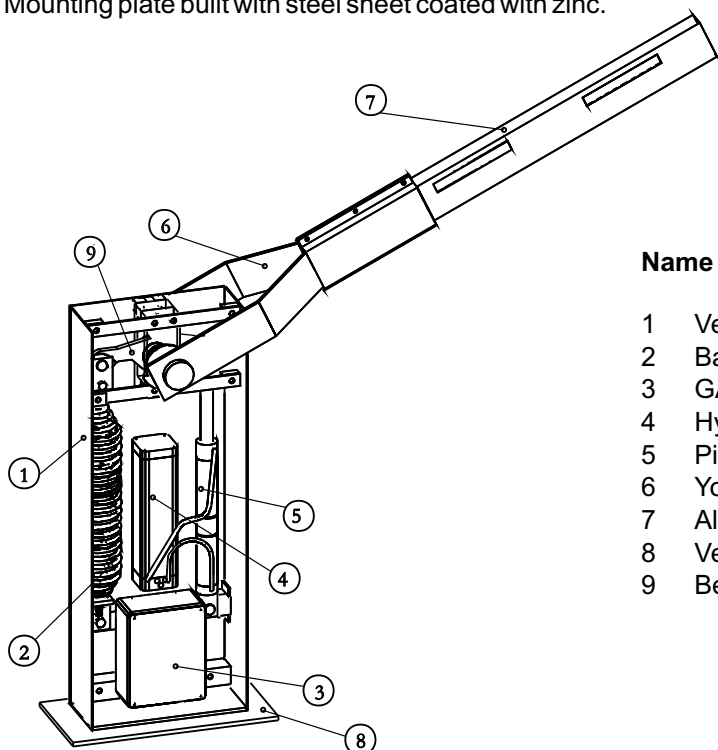
SEA s.r.l. is glad to congratulate and thank you for choosing our product. Your choice will allow you to understand how our factory, according to studies, research and above all the needs of our clients, wants to gather technology, reliability and safety together keeping in mind use and installation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

#### General characteristics

Vela Industrial is an hydraulic automation for big carriage entrances (5, 6, 7 and 7.5 m). The places for fitting are multiple; Vela Industrial is ideal for camp entrances, hospitals, yards, private roads, port and airport entrances, public parkings with half-intensive working cycles. 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:

- 1 Vela Industrial 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.
- 2 Balancing spring which is available in 4 different sizes so to accomplish with the four beam length (See spring tab.)
- 3 GATE 1 electronic control unit; an advanced device which allows for the programming and control of all working and safety systems.
- 4 Hydraulic unit with manual release for the manual opening of the beam in case of damages and two screws for couple adjustment.
- 5 Double effect hydraulic piston which gives movement to the beam by the beam balance assembly.
- 6 Yoke which holds the beam; completely steel built, processed like the case.
- 7 Beam in extruded aluminium, available in four sizes: 4,55, 5,55, 6,55, 7,05 m.
- 8 Mounting plate built with steel sheet coated with zinc.



#### Name of the most important parts:

- 1 Vela Industrial Series case
- 2 Balancing spring
- 3 GATE 1 Electronic Control Unit
- 4 Hydraulic pump unit
- 5 Piston
- 6 Yoke
- 7 Aluminium beam
- 8 Vela Industrial mounting plate
- 9 Beam balance assembly



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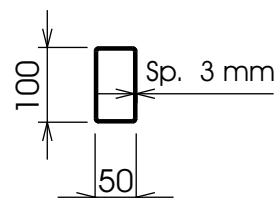


## Technical data

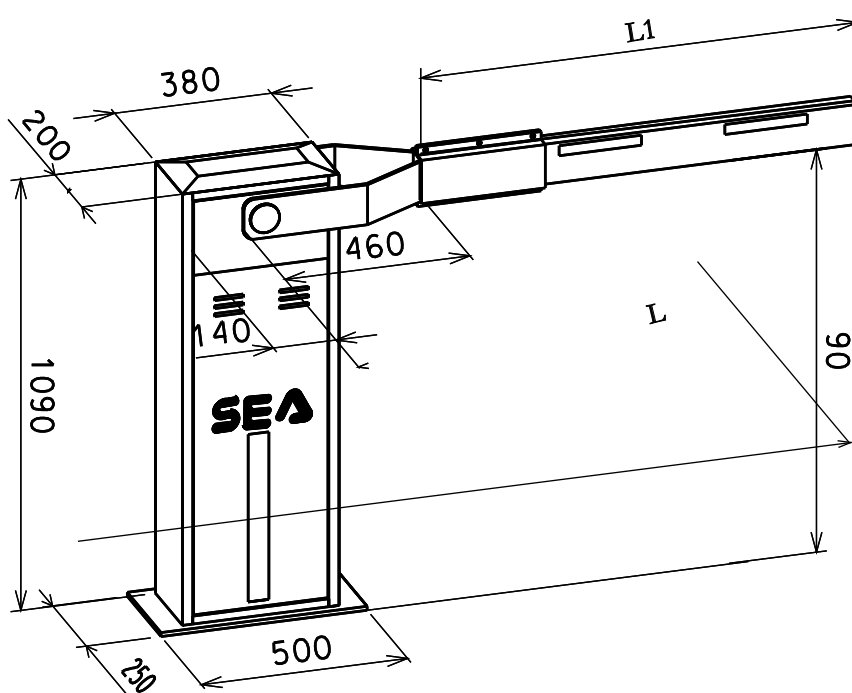
Voltage supply : 230 Vac  $\pm$  5% - 50/60 Hz single phase  
Absorbed current : 1.1 A  
Motor power : 230 W  
Motor revolutions : 1400 RPM/min.  
Operating temperature: -20 + 55C  
Thermal cut out : 130 C  
Pump rating : 2 L./min.  
Opening time : 12 s  
Protection class : IP 55  
Working logics : Autom. Semi-autom. Dead-man  
Manual release : Hydraulic  
Use frequency : 50%

BEAM LABEL			
Barrier Length L (m)	Beam Length L1 (m)	Spring (mm)	Spring code
5	4,55	10,5	66400005
6	5,55	11	66400010
7	6,55	12	66400015
7,5	7,05	12B	66400020

## CONTOUR ALUMINIUM BEAM

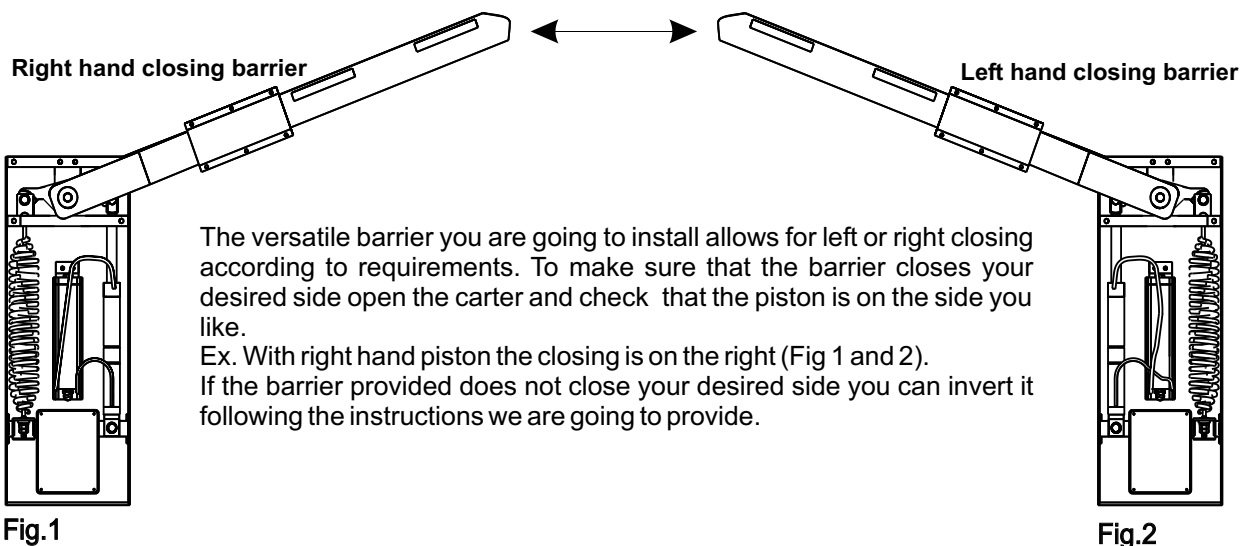


## Dimensions:



## FITTING INSTRUCTIONS

### 1) Position of spring and piston



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.



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#### Example:

Barrier with left closing (fig, 2)  
Necessity of right closing (fig1)

- Remove spring and piston by unscrewing the bolts shown in Fig.3
- Position the piston on the right hand side of the case (where the spring was fixed) and thighten the fixing bolts.
- Position the spring on the left hand side (where the piston was fixed).

\*The spring is fixed (in the lower part) on a support that in case of a spring/piston switch must be moved with the same spring. The fixing screw is placed behind the two spring tension adjusting bolts.

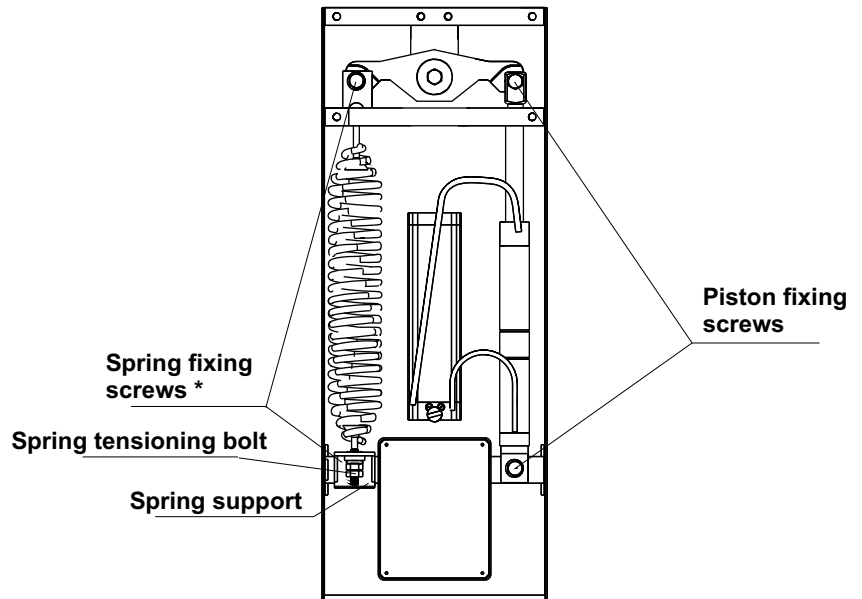


Fig. 3

#### 2) Mounting plate fixing

- Dig a hole 800x600x400
- 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 before filling the hole with concrete put an electric wire sheathing on the hole.

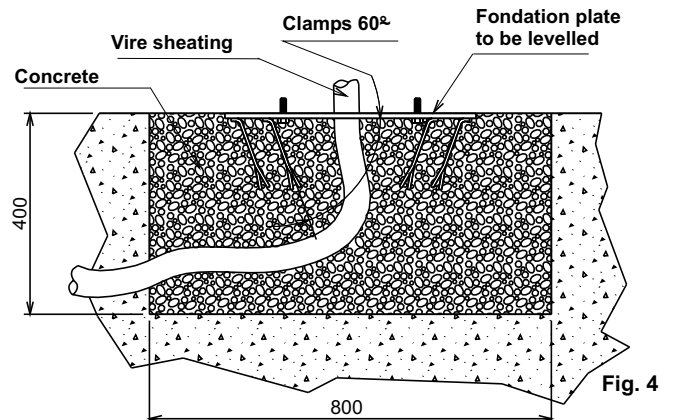


Fig. 4

#### 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.

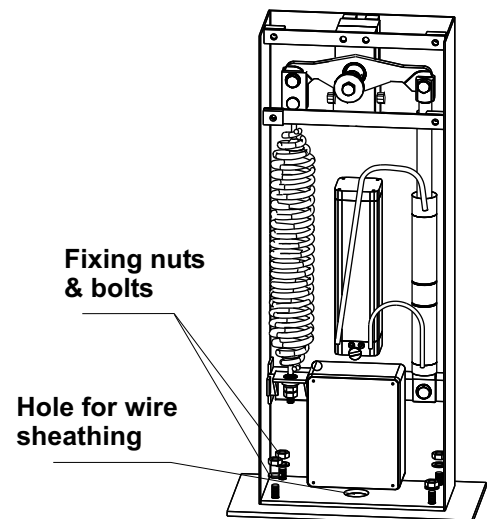


Fig. 5



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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 upper part of the hydraulic pump unit (fig.6) and replace it for the breather plug supplied with the system.

#### 5) Mounting the yoke and beam

- Insert one half of the beam yoke onto the splined shaft vertically and fix it in place by using the bolt and washer supplied (Fig. 6).
- Turn the manual release valve anti-clockwise (detail Fig.6).
- Rotate the half yoke to the horizontal position and re-lock the manual release (turn clockwise).
- Insert the beam into the already installed half of the beam yoke; install the second beam yoke as you did for the first one.
- Fix the beam in the beam yoke using the 6 nuts and bolts supplied.

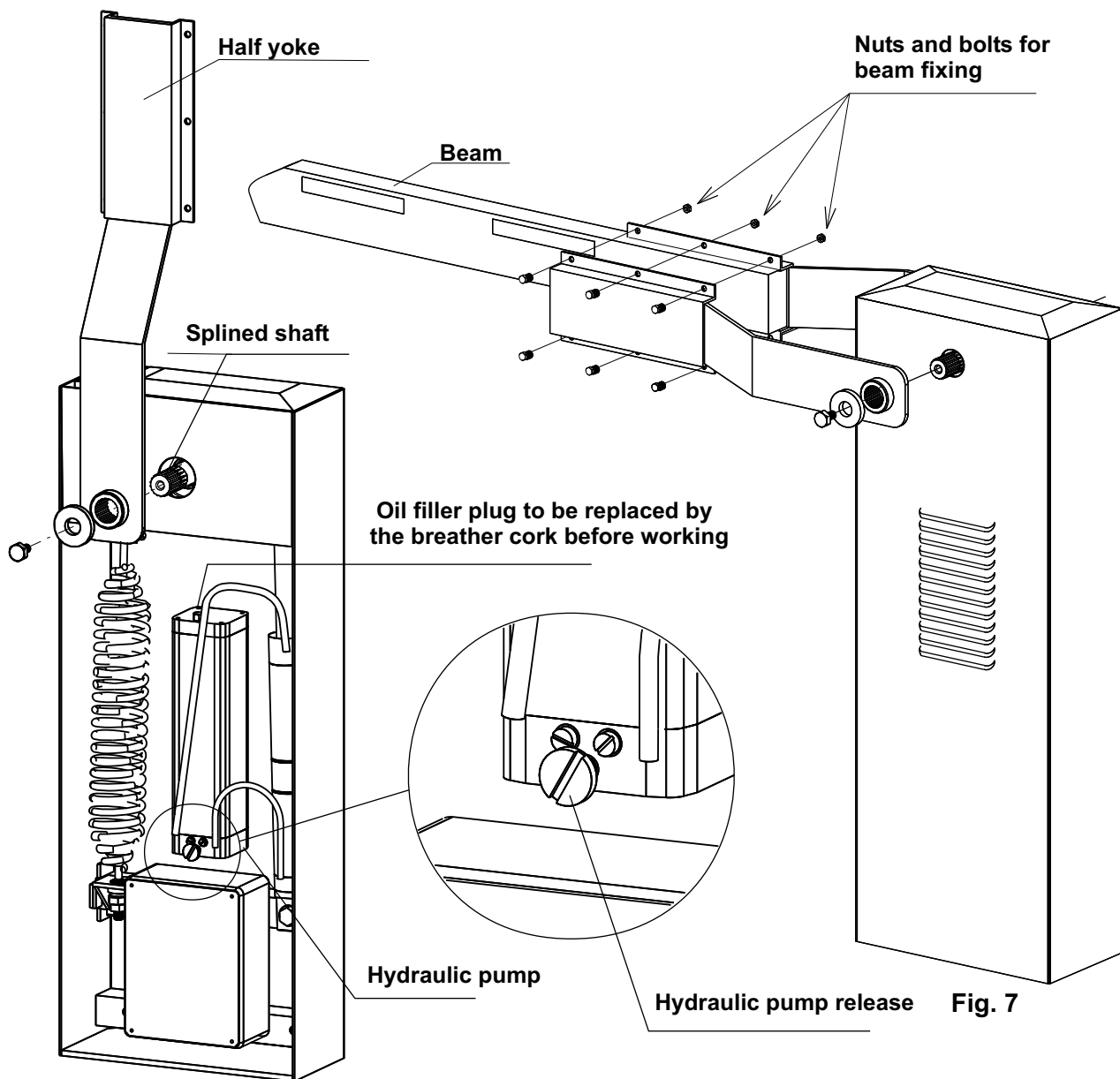


Fig. 6

Fig. 7



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## 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 stopTped 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

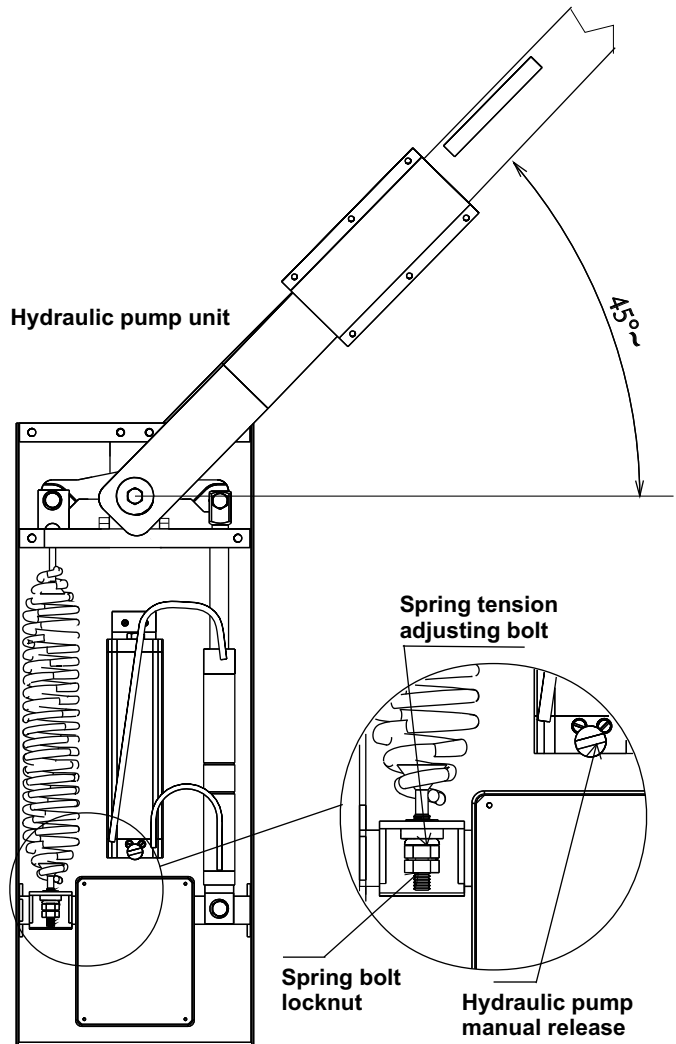


Fig. 8

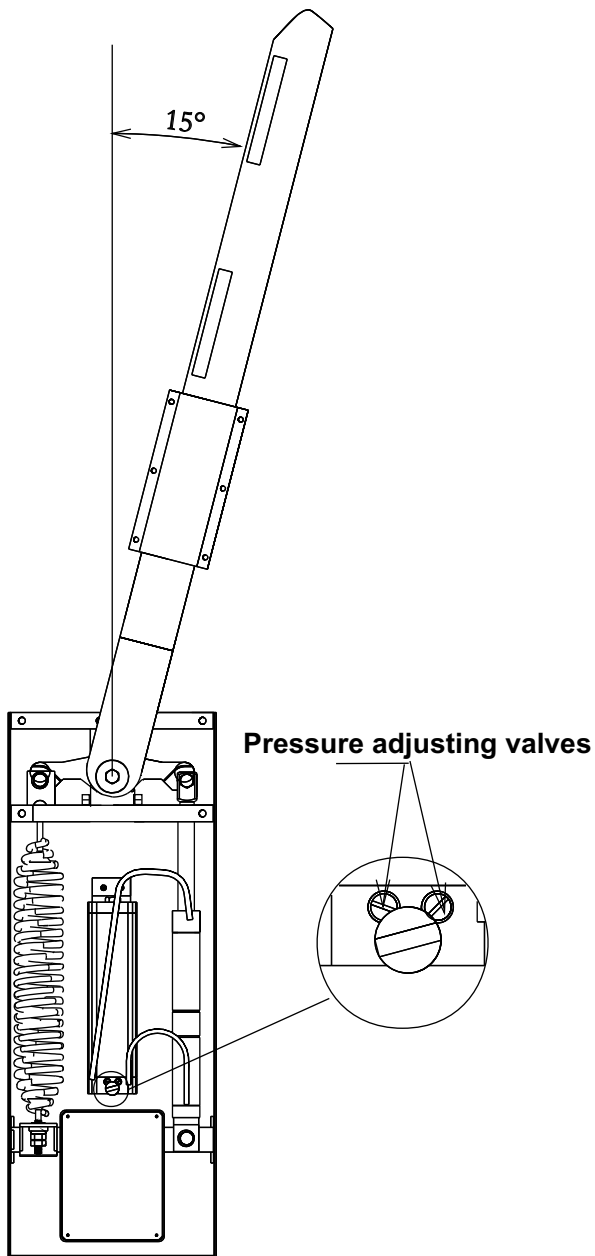


Fig. 9

## 8) Barrier power supply

You can now feed the barrier with 220V 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 and yellow) 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.



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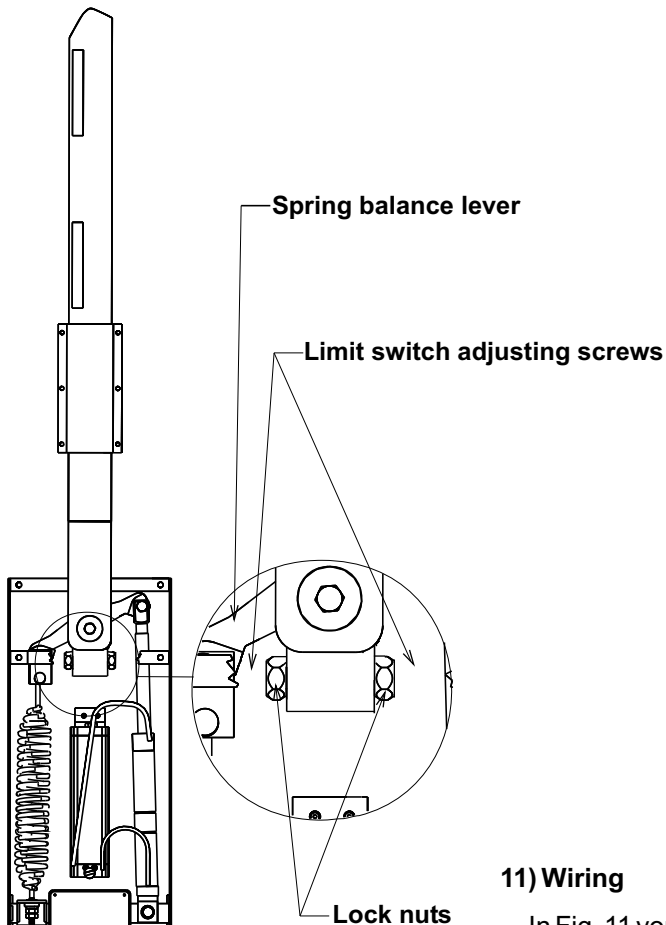


Fig. 10

## 10) Levelling the beam

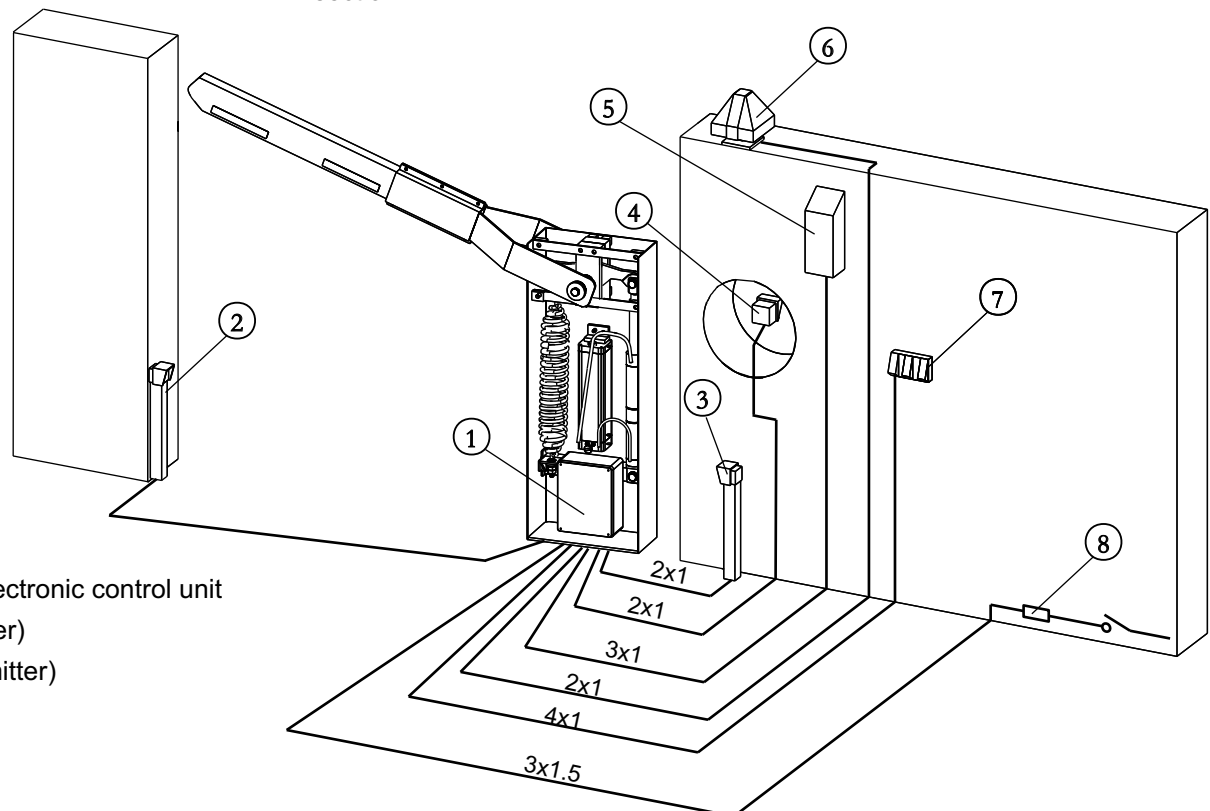
This manoeuvre must be done only if at the end stroke the beam is not perfectly horizontal in closing or vertical in opening.

- 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.

## 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.



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



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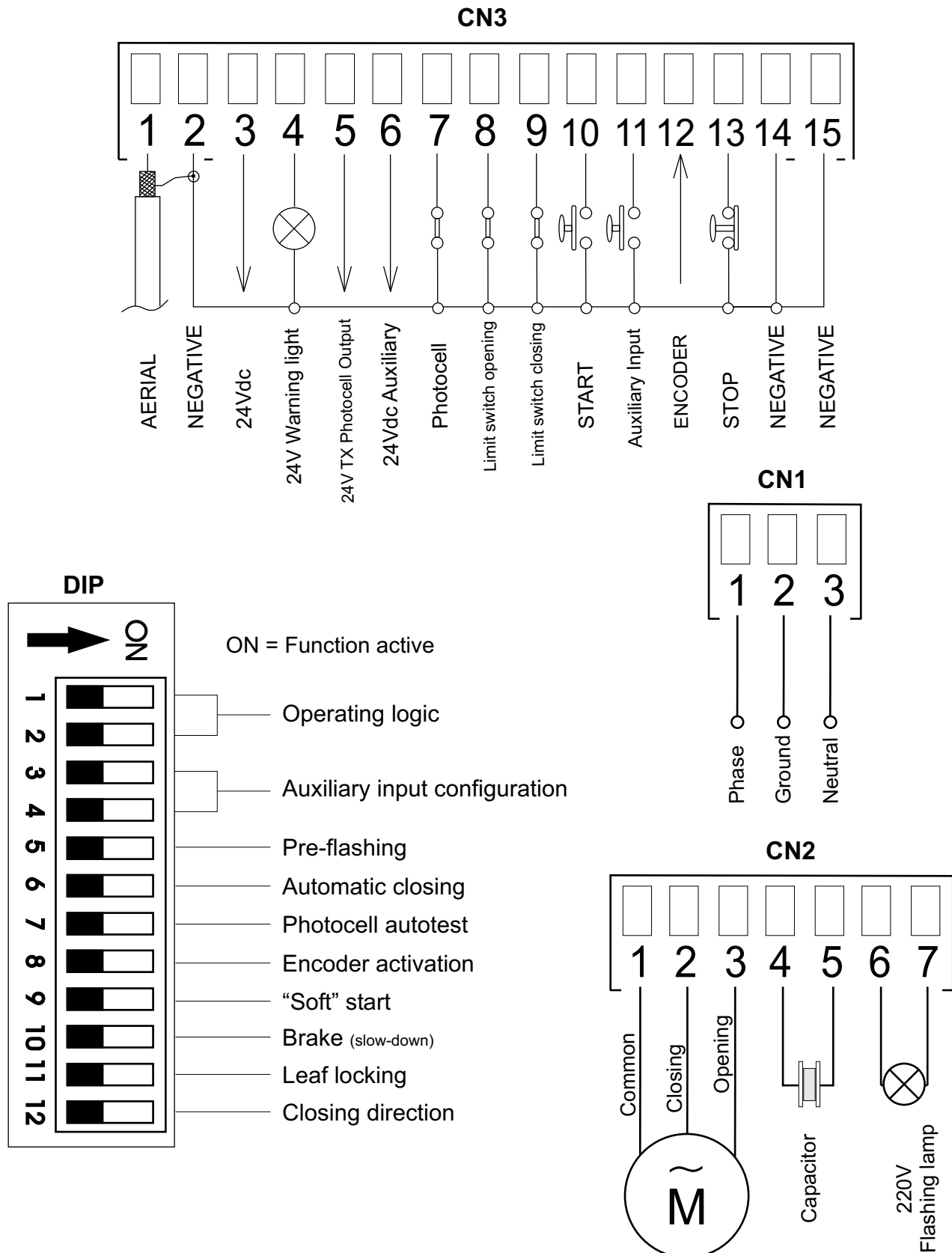
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## 12) Connectors connection

The electronic control unit 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.





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## WARNING

The electric installation and the working logic choice must be done according to the existing laws. A 16A - 0,030A differential switch must be incorporated into the source of the operators main electrical supply and the entire system properly earth bonded. 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 industrial 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 VELA IND. operator conforms to the following:

89/392/CEE (Machine Directive)

89/336/CEE (Electromagnetic Compatibility)

73/23/EC (Electric Safety)

## STORAGE

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

*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 industrial 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.**

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

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