STRABUC 930

HEAVY - ARMOURED

- OIL-HYDRAULIC AUTOMATION
- HIGHLY RESISTANT ARMOURED RISING BOLLARD
- MANUAL RELEASE PROTECTED BY A HIGH SECURITY ARMOURED CYLINDER LOCK

INSTRUCTIONS MANUAL

GB

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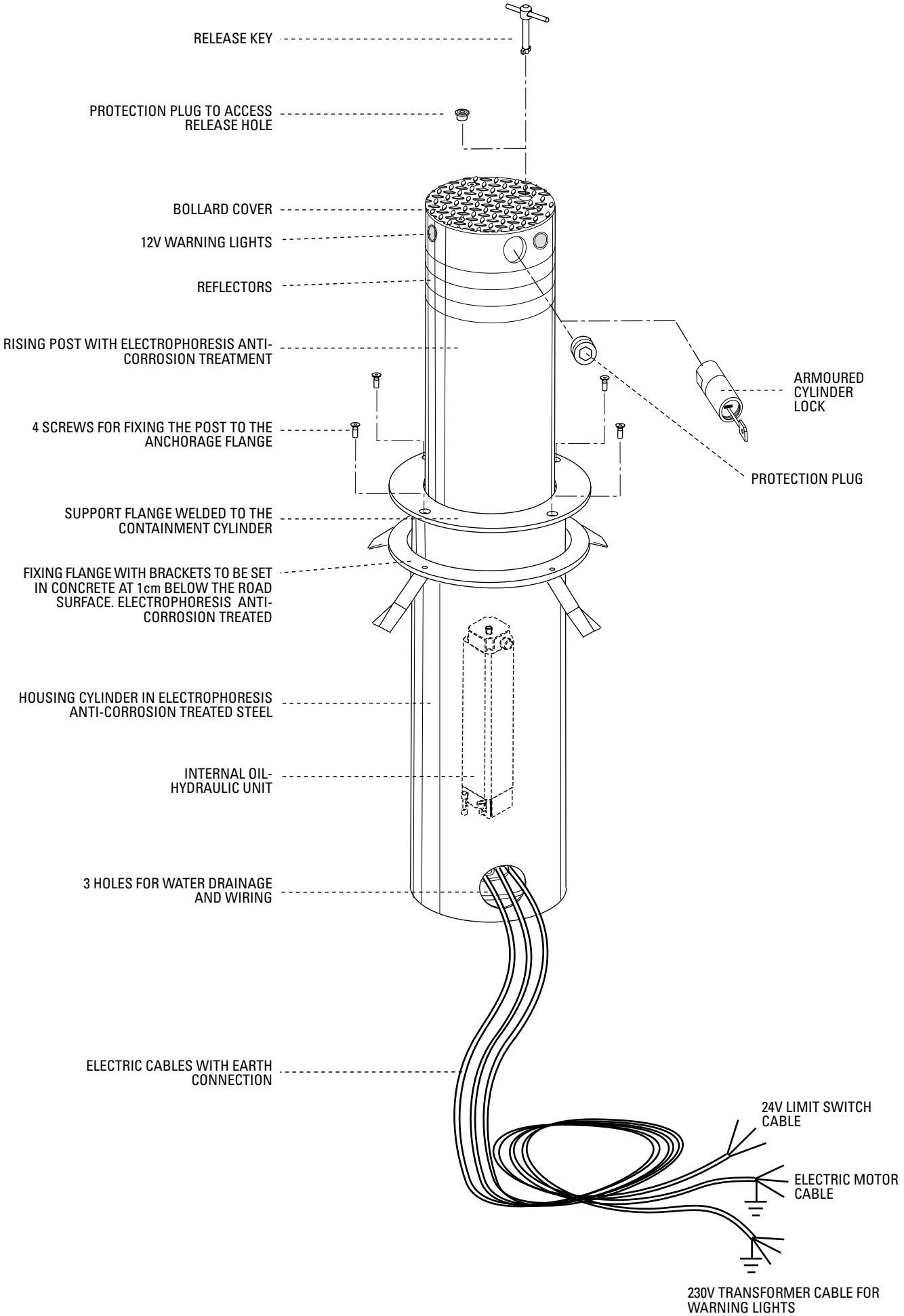
STRABUC 930 ARMOURED OIL-HYDRAULIC RISING BOLLARD COMPONENTS

STRABUC 930

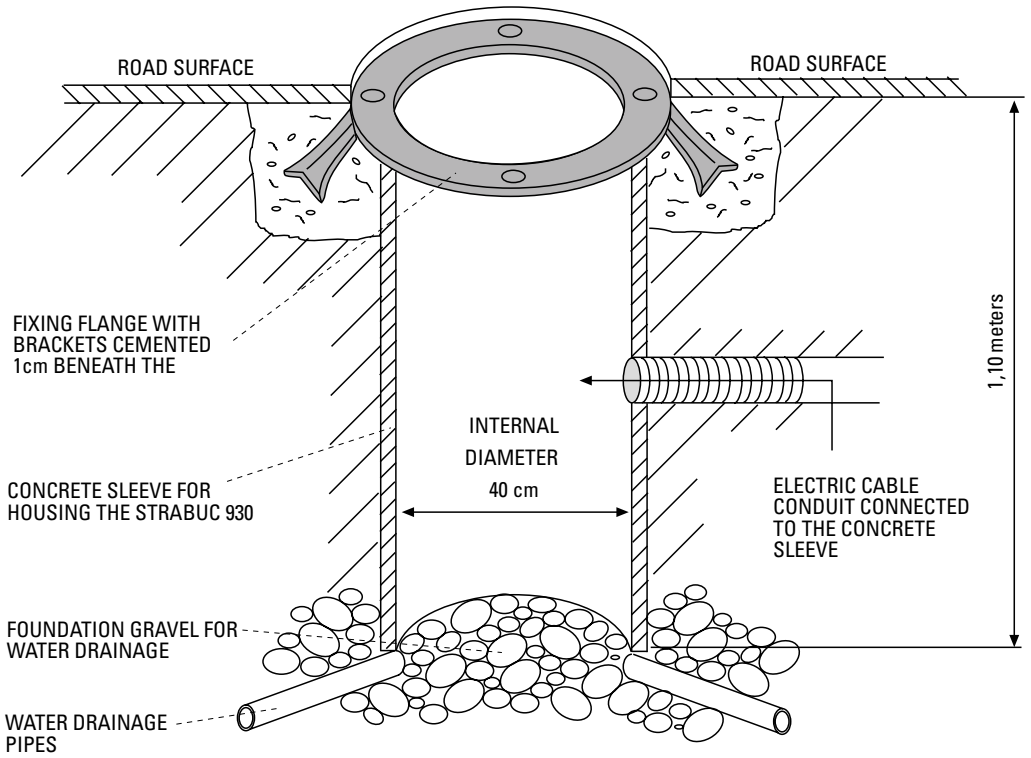


INSTRUCTIONS TO FOLLOW FOR THE INSTALLATION OF THE AUTOMATION.

FOR THE STRABUC 930 TO BE INSTALLED AND OPERATE CORRECTLY, WE RECOMMEND TO FOLLOW THE INSTRUCTIONS AND RELATIVE ILLUSTRATIONS BELOW.
IMPORTANT: THE INSTALLATION MUST BE CARRIED OUT BY QUALIFIED TECHNICIANS IN COMPLIANCE WITH THE SAFETY NORMS EN 12453 - EN 12445, ACCORDING TO THE MACHINERY DIRECTIVE 98/37/CE. A COMPLETE RISK ANALYSIS IS TO BE CARRIED OUT AND SUITABLE SAFETY MEASURES ADOPTED.

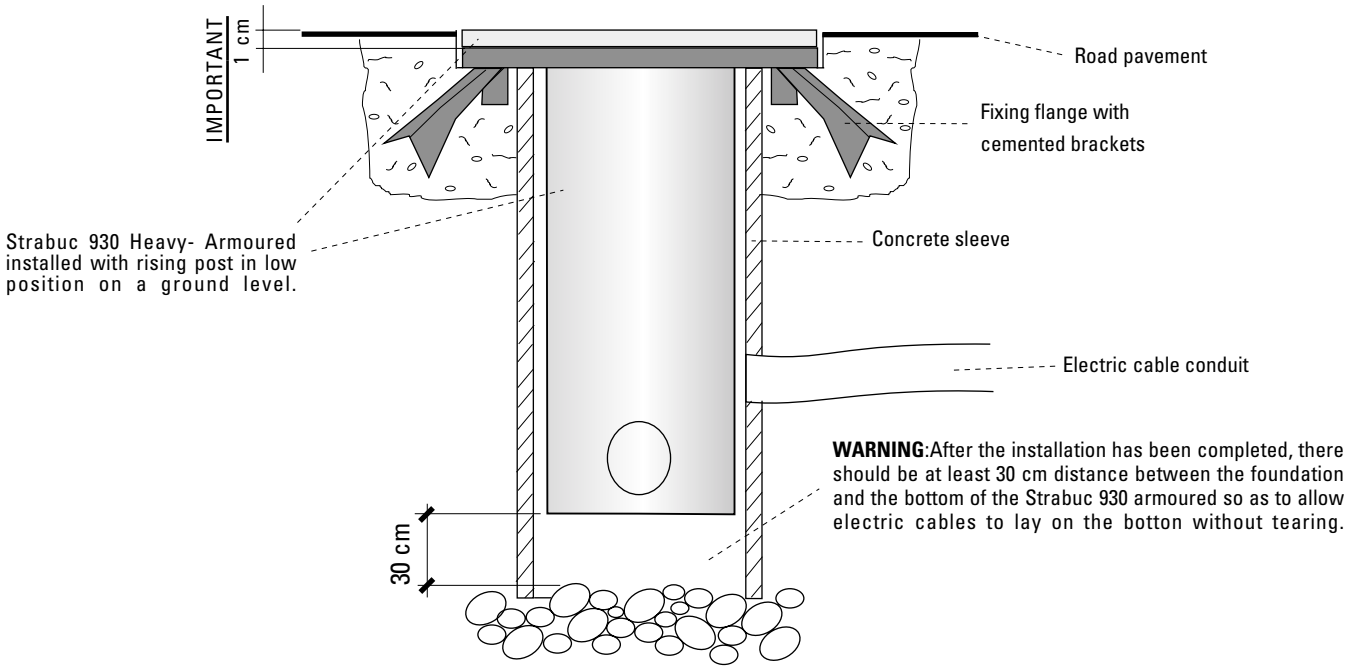
DESCRIPTION
The STRABUC 930 HEAVY-ARMOURED is an oil-hydraulic traffic bollard which retracts completely down to the level of the road surface. It is designed to prevent vehicles from passing, but can also be completely retracted without leaving the slightest trace. It is an oil-hydraulic automation with an incorporated internal hydraulic unit, while its control programmer, Elpro 10 CEI is installed externally, in a sheltered area. This automation doesn't have particular use limitations, but is particularly recommended for installations where vehicles access must be obstructed, preventing any intrusion attempt in case of vehicle impact. The manual release system, protected by an armoured cylinder lock, allows the manual lowering of the post in case of power failure .
In order to install the Strabuc 930 it is necessary to dig a containment hole and lay an underground conduit for the electric cables.

INSTALLATION OF THE FIXING FLANGE AND THE CONCRETE CONTAINMENT SLEEVE
- Dig a hole so as to insert a **concrete tube** beneath the road following the measurements shown in Pic. 1 (make sure that the hole does **not cut into the water table or damage other pipes**). You should also dig a lateral hole for the insertion of a conduit for the electric cables to be connected to the electronic programmer (to be installed in a dry place).
- The fixing flange should be cemented into position at 1 cm beneath the road surface (Pic.2) above the concrete sleeve, so as to allow the Strabuc 930 bollard, installed inside the concrete sleeve, to be on a level with the road surface when re-entering the housing cylinder.
-The **concrete sleeve** should enable rainwater to drain away through the base, we therefore recommend a gravel foundation.



PIC. 1

- The **fixing flange** must be cemented 1cm below the road pavement (Pic.2) and over the concrete containment sleeve, so as to allow the Strabuc 930 Heavy-Armoured **rising post** installed inside the **cement sleeve**, to be on a level with the road surface when re-entering the **housing cylinder**.



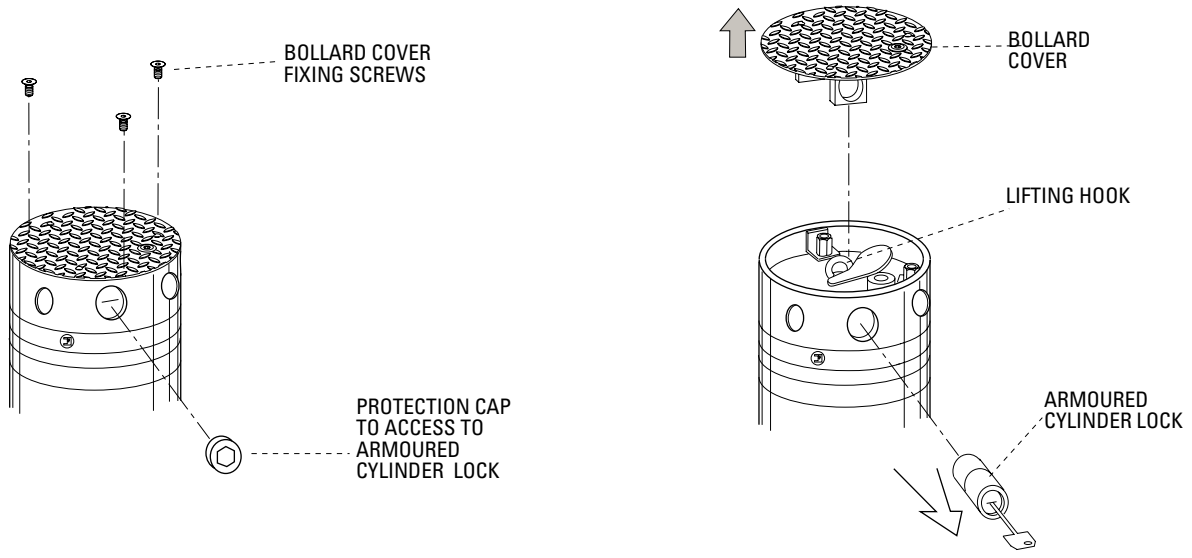
PIC. 2

CROSS SECTION OF CONCRETE SLEEVE WITH STRABUC 930 HEAVY -ARMOURED INSTALLED

PLACING THE STRABUC 930 HEAVY-ARMOURED INTO THE CONCRETE SLEEVE

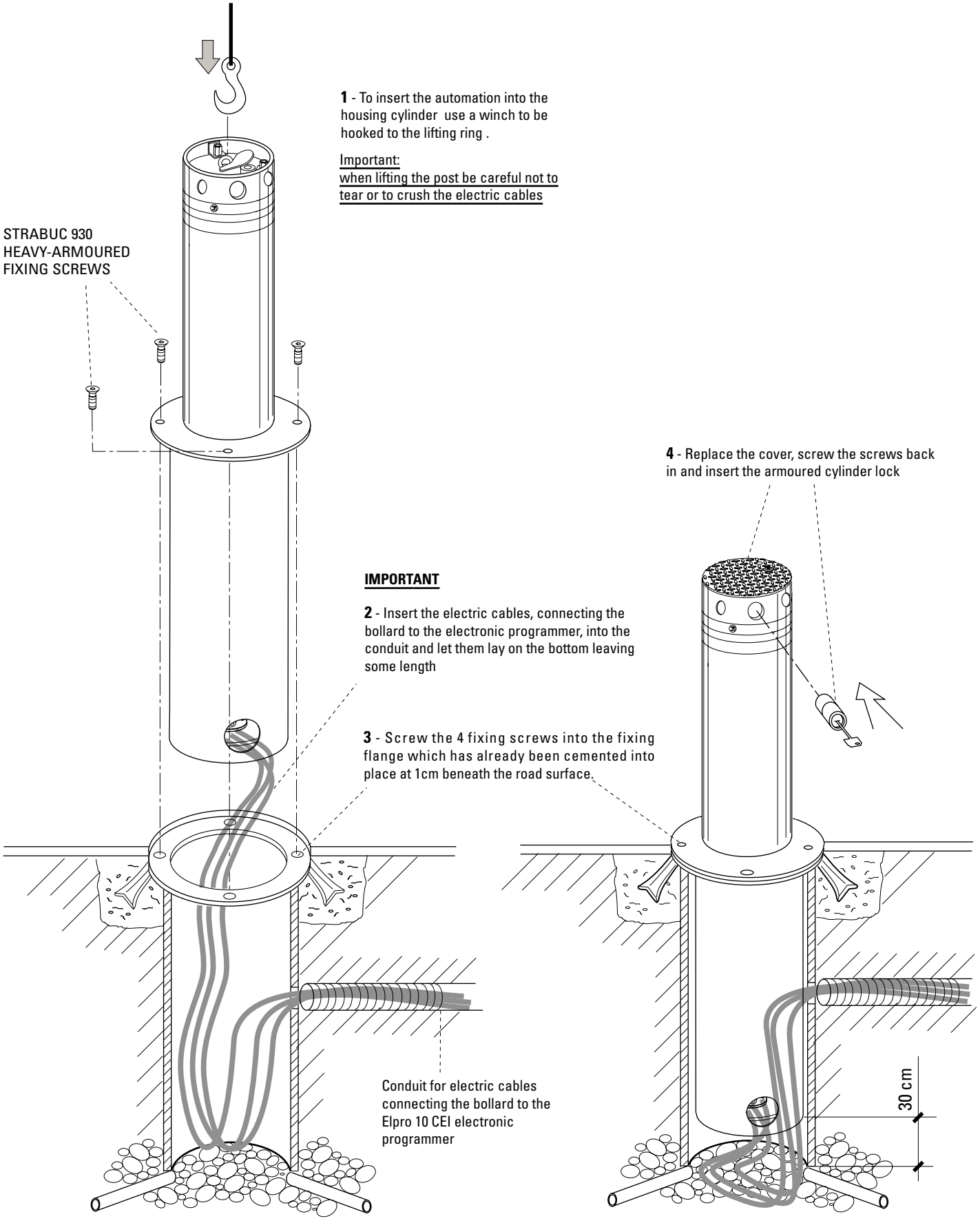
Once the **fixing flange** has been cemented into position, the Strabuc 930 heavy-armoured can be placed into the **cement sleeve** as it is ready for use.

- Firstly connect temporarily the power electric cables and the limit switch (they are labelled, Pic.6) so as to operate the rising bollard in up position. Then disconnect the electric cables.
- Unscrew the **protection plug** of the **Armoured Cylinder Lock** (Pic.3), insert the key, turn anticlockwise and remove the whole **Armoured Cylinder Lock**.
- Unscrew the three fixing screws and remove the **Bollard Cover** (Pic.3)



PIC. 3

- Use a **winch to** insert the automation , hooking it to the specific **lifting hook** which is under the **Bollard Cover** (Pic.4)
- Insert the automation into the housing cylinder paying attention when passing the electric cables not to pull or tear them.



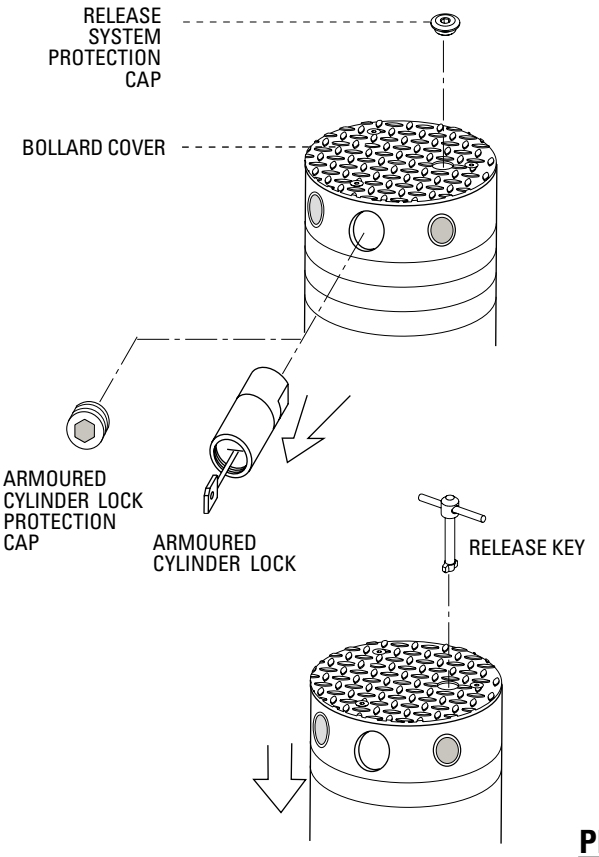
PIC. 4

RELEASE OPERATION FOR MANUALLY LOWERING THE BOLLARD

This operation is generally referred to as the manual release operation and involves manually lowering the rising bollard by using a special key, should Strabuc 930 Heavy-Armoured power supply be cut off. To access the release device, remove the armoured cylinder lock.

ATTENTION: This operation only allows manual lowering. Manual rising is **not** possible.

1 - Use a hexagonal key to unscrew the **protection caps** to access **release** and the **armoured cylinder lock** (Pic.5)
2 - Insert **the key** into the **armoured cylinder lock** and then turn anticlockwise to remove the **cylinder**
3 - Insert the **release key** into the hole on the **post cover** and turn it anticlockwise, thus making the bollard slowly descend to ground level.

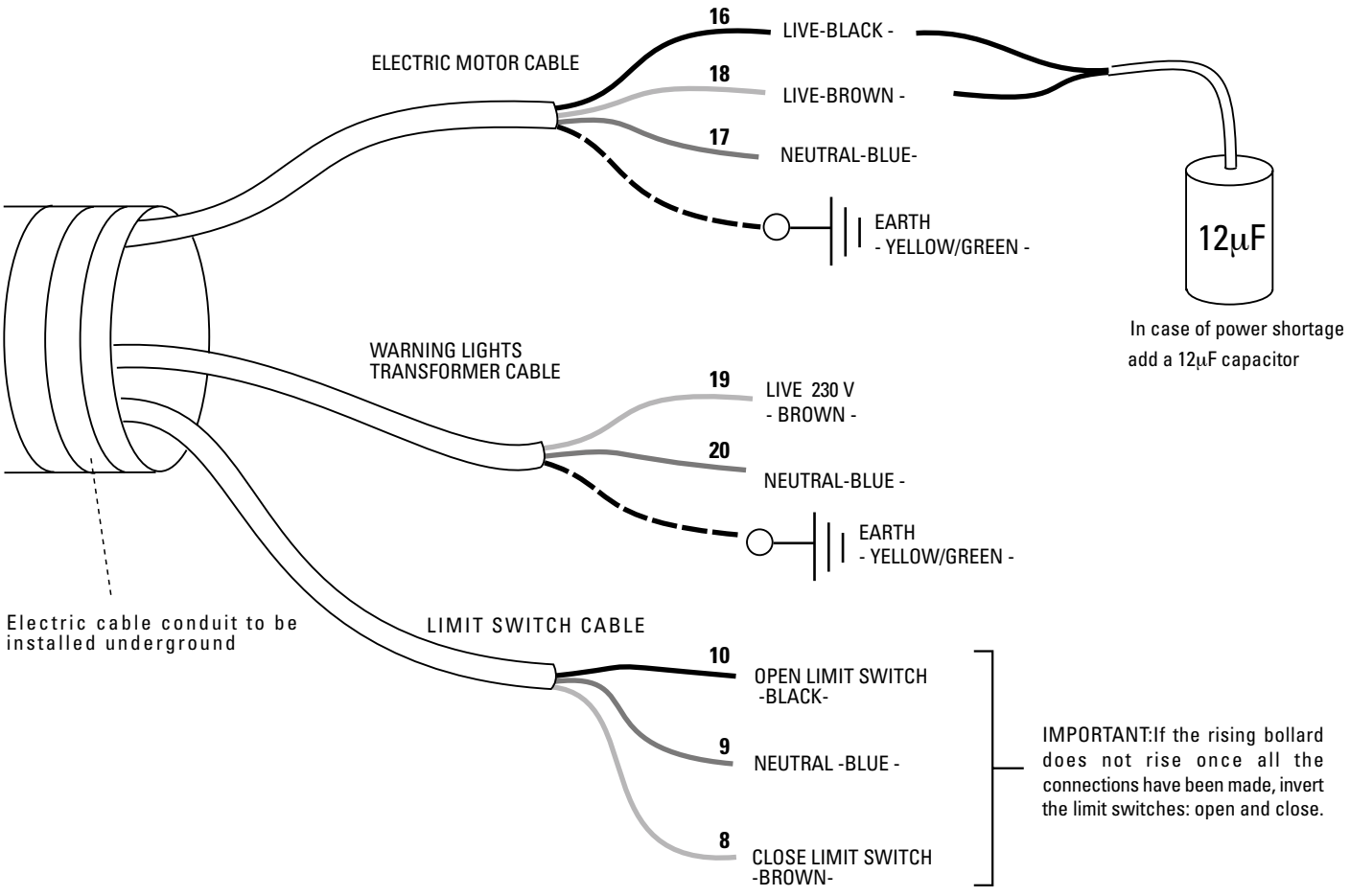


PIC. 5

DESCRIPTION OF ELECTRICAL WIRING CONNECTIONS OF THE STRABUC 930 HEAVY-ARMOURED

The Strabuc 930 Heavy-Armoured is supplied with three electric cables, 10 metres long: a 230V 50Hz power supply cable, an electrical limit switch cable and an electrical transformer cable for the warning lights. The connections are only made to the Elpro 10 CEI programmer as illustrated in diagrams in pic.6 and pic.8

ALL STRABUC 930 CABLES CAN BE IDENTIFIED BY THEIR IDENTIFICATION LABELS



PIC. 6

ELECTRICAL CONNECTIONS TO ELPRO 10 CEI PROGRAMMER

ALL THE CONNECTIONS INSIDE THE STRABUC 930 HEAVY-ARMOURED (ELECTRIC MOTOR, LIMIT SWITCH AND WARNING LIGHTS) HAVE ALREADY BEEN MADE

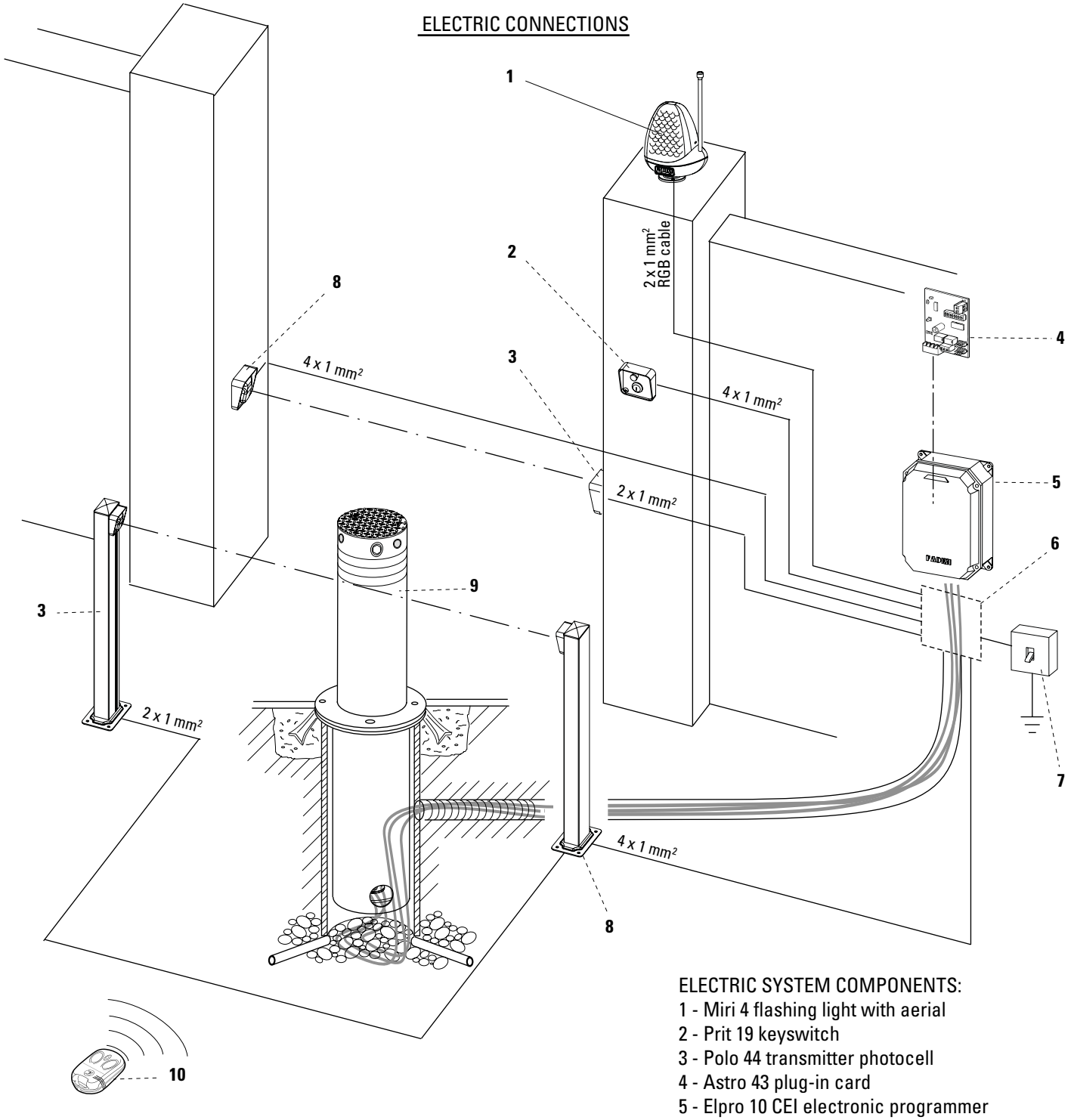
IMPORTANT: all the electrical connections and wiring (Pic 7) must be carried out in compliance with good installation practice and installed by qualified technicians, according to the current Machinery Directive 98/37/EC safety standards. A complete risk analysis is to be carried out and suitable safety measures adopted accordingly.

- The Elpro 10 CEI programmer should be installed in a dry, sheltered place.

The **Elpro 10 CEI** programmer should be powered by electric wires with a section of 1.5 mm² for a maximum distance of 50 metres. For distances of over 50 metres, 2mm² section electric wires are recommended.

- **Electric wires** with a section of 1mm² can be used to power **photocells**, **pushbuttons**, **keyswitches and accessories**.

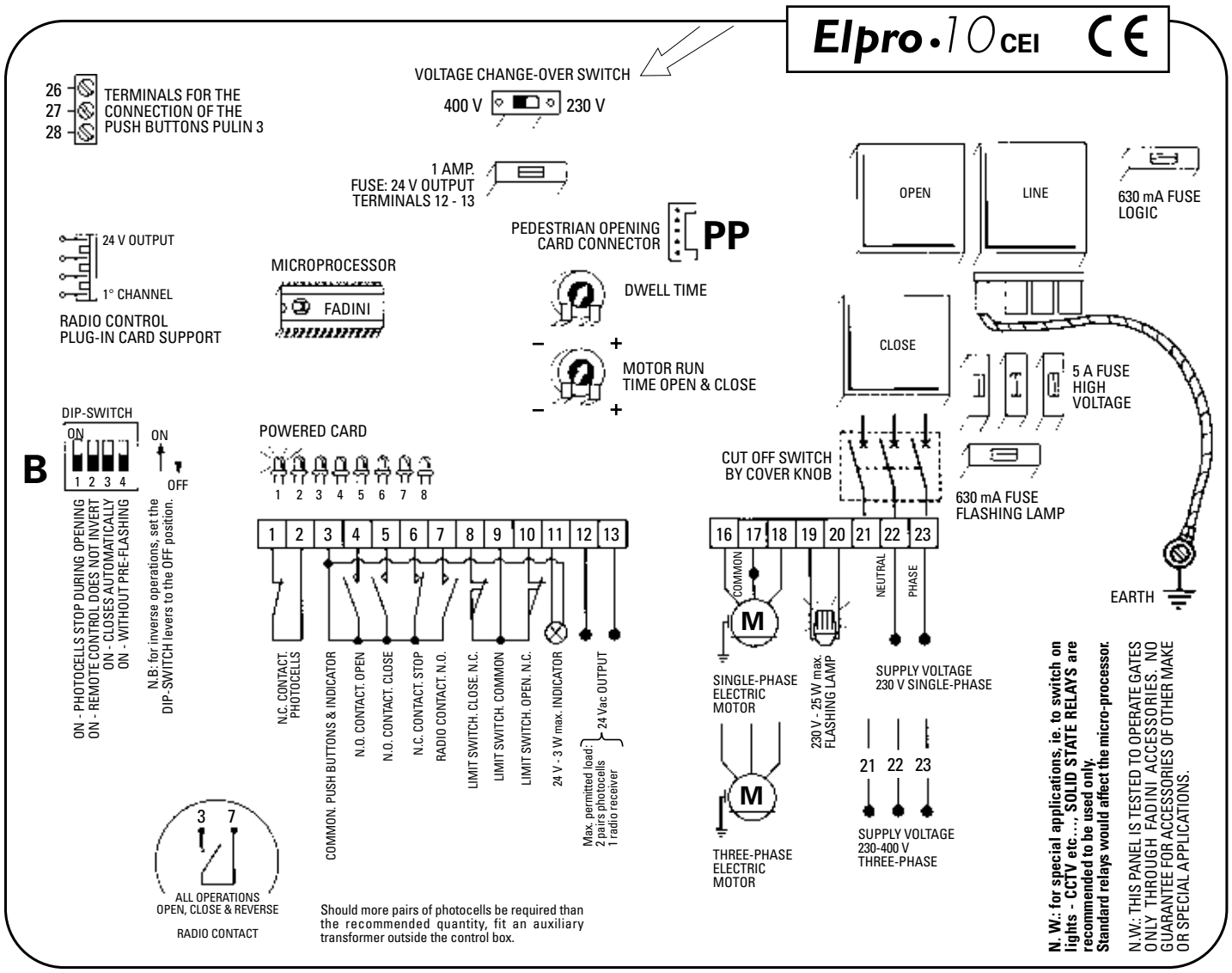
IMPORTANT: **before supplying power, switch the voltage change switch to 230V.** (Pic.8)



ELECTRIC SYSTEM COMPONENTS:

1 - Miri 4 flashing light with aerial
2 - Prit 19 keyswitch
3 - Polo 44 transmitter photocell
4 - Astro 43 plug-in card
5 - Elpro 10 CEI electronic programmer
6 - Electric cable junction box
7 - Differential magneto-thermal mains switch
8 - Polo 44 photocell receiver
9 - Strabuc 930 Heavy-Armoured rising post
10- Astro 43 Small remote control

PIC. 7



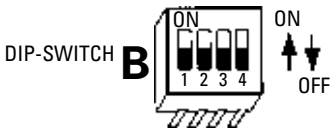
PIC. 8

DESCRIPTION OF **INDIVIDUAL GATE** ELECTRONIC PROGRAMMER OPERATION FOR SLIDING GATES

Make sure that all the electrical connections comply with the diagram enclosed. Once terminals 21, 22 and 23 are supplied with single-phase 230 V – 50 Hz power, the "red LED" No. 1 should light up, indicating that the card is powered. The OPEN and CLOSE motor run time should be greater than the gate travel. The PAUSE timer should be adjusted to fit requirements.

PROGRAMMER OPERATION LOGIC: following impulse, the warning light comes on and the automation comes into operation after three seconds. The warning light continues to flash during the pause; the flashing light functions for a further three seconds when the gate is closed. In order to deactivate the flashing light before opening (pre-flashing), use DIP-SWITCH "B" position 4.

SETTING DIP-SWITCH "B"



1 - ON: PHOTOCELLS STOP DURING OPENING
OFF: PHOTOCELLS INVERT MOTION DURING OPENING
2 - ON: REMOTE CONTROL DOES NOT INVERT
OFF: REMOTE CONTROL INVERTS
3 - ON: AUTOMATIC CLOSURE
OFF: SEMIAUTOMATIC CLOSURE
4 - ON: WITHOUT PRE-FLASHING
OFF: WITH PRE-FLASHING

SIGNAL LEDs:

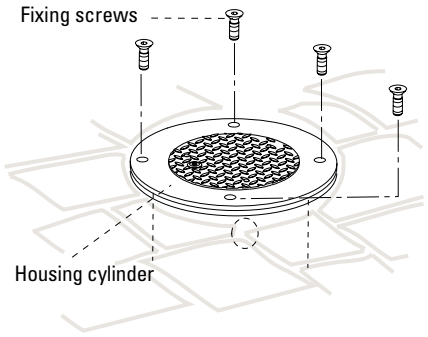
LED No. 1: lights up when the card is powered.
LED No. 2: "Photocells" normally lit up. Switches off only when an obstacle is placed between the photocells.
LED No. 3: "Open", lights up when the relative button is pressed.
LED No. 4: "Close", lights up when the relative button is pressed.
LED No. 5: "Stop" normally lit up. Switches off if the relative button is pressed.
LED No. 6: "Closure limit" switches off when the gate is completely closed.
LED No. 7: "Open limit" switches off when the gate is completely open.
LED No. 8: "Radio" lights up whenever an impulse is received from the remote control or pushbuttons.

CONNECTION WARNINGS:

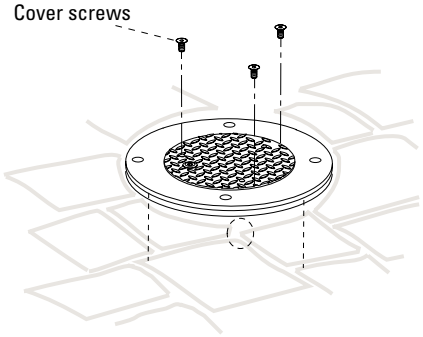
1) The programmer should be installed in a dry, sheltered place. If it is installed outside, it will require a protective box to protect it from the elements.
2) The whole system should be earthed.
3) If the photocells are not used, create a bridge between terminals 1 and 2.
4) In order to install two pairs of photocells the connections should be made in series with the 1 – 2 contact normally closed; if installed one next to the other they should be crossed in pairs i.e. transmitter next to the receiver of the next pair.
5) If no pushbuttons are used, create a bridge between terminals 3 and 6.
6) Before the programmer, apply a high-sensitivity 0.03 Amp differential magneto-thermal switch.
7) For single-phase motors use cables of at least 1.5 mm^2.
8) The 24 V~ output to terminals 12 – 13 is able to power 2 pairs of photocells plus 1 radio receiver. An auxiliary transformer placed outside the programmer should be used in the case of more than two pairs of photocells or more radio receivers.
9) Terminal No. 11 indicator light output is able to cater for max. 24 V – 3 W bulb; terminals No. 19-20 flashing light output maximum absolute power 25 W.

REMOVING STRABUC 930 HEAVY-ARMOURED FROM ITS HOUSING CYLINDER

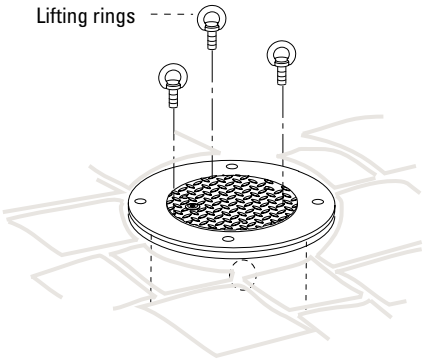
The Strabuc 930 Heavy-Armoured can be removed from its housing cylinder with the following operations (Pic.9 and Pic.10):



1°) Unscrew the 4 ground **Fixing screws**

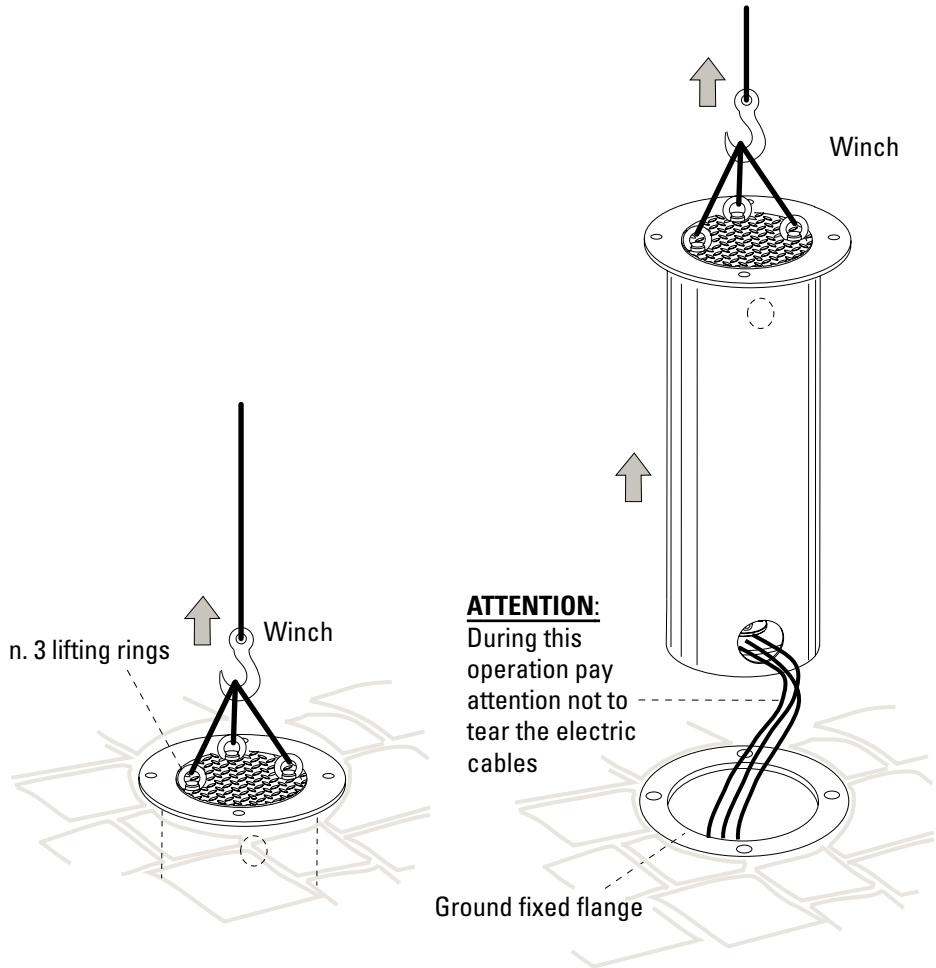


2°) Unscrew the 3 **cover Fixing screws**



3°) Screw the 3 **Lifting rings** into the cover

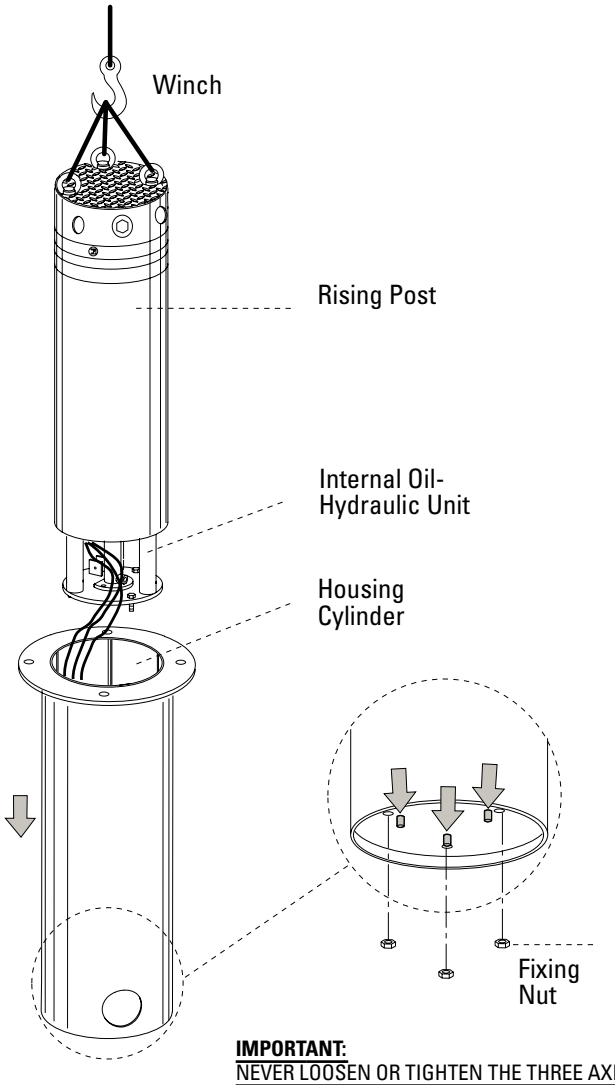
PIC. 9



PIC. 10 4°) By means of a **Winch** hooked to the **lifting rings**, lift the Strabuc 930 Heavy-Armoured from its housing.

HOW TO DISASSEMBLE THE STRABUC 930 HEAVY-ARMOURED RISING POST

The Strabuc 930 Heavy-Armoured rising post can be disassembled in its parts (Pic.11 e Pic.12):

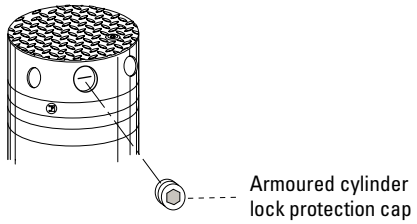


5°) When the Strabuc 930 is in up position, unscrew only the three **Fixing Nuts** of the **Internal Unit** inside the **Housing Cylinder**, which are at its bottom: during this operation hold the **Housing Cylinder** to prevent it from falling

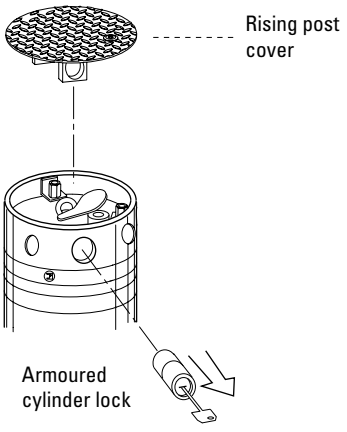
PIC. 11

IMPORTANT:
NEVER LOOSEN OR TIGHTEN THE THREE AXIAL ALIGNMENT SCREWS OF THE INTERNAL OIL-HYDRAULIC UNIT

ATTENTION:REMEMBER TO INSTALL THE INTERNAL UNIT IN ITS ORIGINAL POSITION INSIDE THE CYLINDER, WITHOUT TIGHTENING OR LOOSENING THE THREE AXIAL SETTING SCREWS.

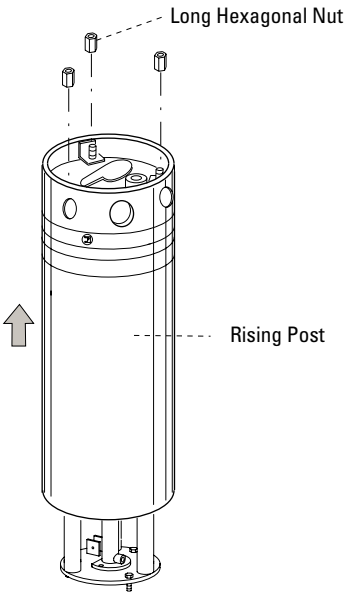


6°) Unscrew the armoured **cylinder lock** Protection Cap



7°) Use the supplied key to unlock and remove the **Armoured Security Cylinder Lock**

8°) Remove the **Rising Post Cover**



9°) Unscrew the three long **Hexagonal Nuts** and remove the **Rising Post** uncovering the internal Oil-Hydraulic Unit.

PIC. 12

TECHNICAL DATA

HYDRAULIC UNIT

Hydraulic Pump	P10
Hydraulic pump capacity	4.45 l/min.
Average working pressure	2 MPa (20 bars)
Maximum supplied pump pressure	4 MPa (40 bars)
Working Temperature	–20°C + 80°C
Hydraulic Oil type	OIL FADINI A15 by AGIP
Static weight of the hydraulic unit	10 Kg
Protection Standards	IP 54

OIL-HYDRAULIC PISTON

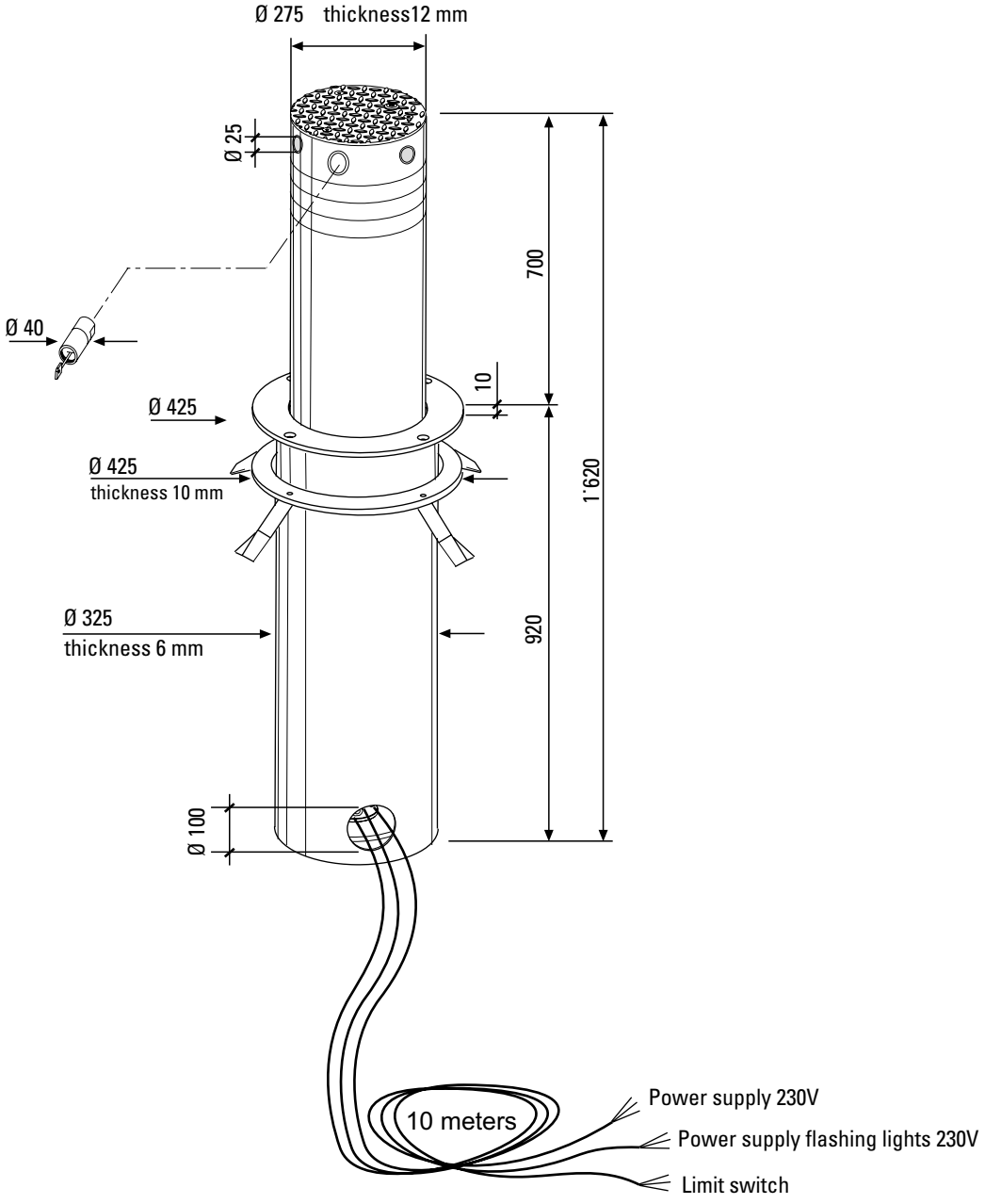
Piston Stroke Time	10 sec.
Useful piston stroke	740 mm
Rod Diameter	16 mm
Piston Diameter	40 mm
Max.Traction force during opening	500 daN
Max. thrust during closure	147 Kg
STRABUC 930 total weight	180 Kg
Full protection standards	IP 557
Flashing light power supply	230 V - 25 W

ELECTRIC MOTOR

Power yield	0.25 KW (0.33 CV)
Power supply voltage/frequency	230 V/50 Hz
Absorbed current	1.8
Absorbed power	330 W
Capacitor	12.5 μF
Motor rotation speed	2'800 revs/1'
Duty mode	S 3

PERFORMANCE

Duty cycle	10s Opening - 30s Pause - 10s Closing
Complete cycle time	50 seconds
Complete Opening-Pause-Closing cycles	N° 72/hour
Annual Cycles (8 hours service per day)	N° 210'000



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INSPECTIONS AND MAINTENANCE

In order to ensure optimal system performance over time and so as to comply with current safety standards, it is necessary to follow the correct maintenance and monitoring procedures for the entire automation, electronic devices and wiring:
- Oil-hydraulic automation: maintenance inspection around every 6 months
- Electronic devices and safety systems: maintenance inspection monthly.

WARNINGS
- Perform a Risk Analysis before every installation and resolve risks through the use of safety devices in compliance with EN 12445 and EN 12453 safety standards
- Follow the instructions provided
- Check that the information on the electric motor plate conforms to the distribution network
- Dispose of all cardboard, nylon, polystyrene and other packaging with specialized waste disposal firms
- If removing the actuator, **do not cut** the electric wires, but disconnect them from the terminal box by loosening the screws inside the shunt box
- Disconnect the mains switch before opening the electrical wire shunt box cover
- The whole automation should be earthed with the yellow/green wire
- CUSTOMER GUARANTEE CERTIFICATE ON CUSTOMER'S REQUEST.

We recommend reading the "warning" regulations, suggestions and observations in this booklet very carefully.

FADINI
the gate opener
Made in Italy

The growth of MECCANICA FADINI has always been based on the development of guaranteed products thanks to our "TOTAL QUALITY CONTROL" system which ensures constant quality standards, updated knowledge of the European Standards and compliance with their requirements, in view of an ever increasing process of improvement.

The "CE" mark certifies that the operator conforms to the essential requirements of the European Directive art. 10 EEC 73/23, in relation to the manufacturer's declaration for the supplied items, in compliance with the body of the regulations ISO 9000= UNI EN 29000. Automation in conformity to EN 12453, EN 12445 safety standard.

CE

EUROPEAN MARK CERTIFYING CONFORMITY TO THE ESSENTIAL REQUIREMENTS OF THE STANDARDS 98/37/EC

- DECLARATION OF CONFORMITY
- GENERAL WARNINGS
- EN 12453, EN 12445 STANDARDS
- CEI EN 60204-1 STANDARDS
- WARRANTY CERTIFICATE ON THE CUSTOMER'S REQUEST

Distributor's box

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AUTOMATIC GATE MANUFACTURERS

The manufacturers reserve the right to change the products without any previous notice

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