BARRI 88

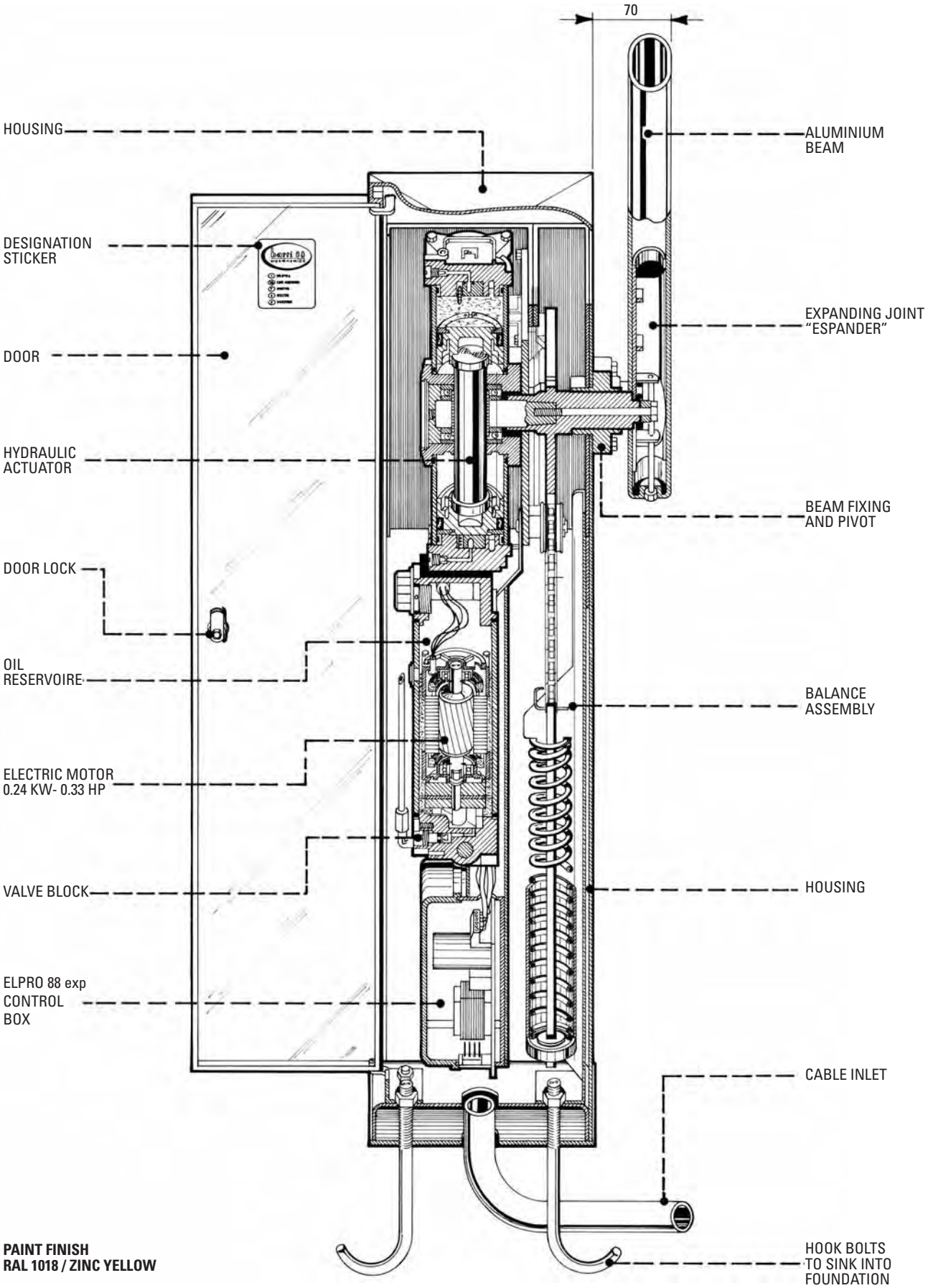
OIL-HYDRAULIC BARRIER
FOR TRAFFIC CONTROL

FITTING INSTRUCTIONS

GB

FADINI®
the gate opener

CUTAWAY VIEW OF THE "TRAFFIC CONTROL" BEAM BARRIER



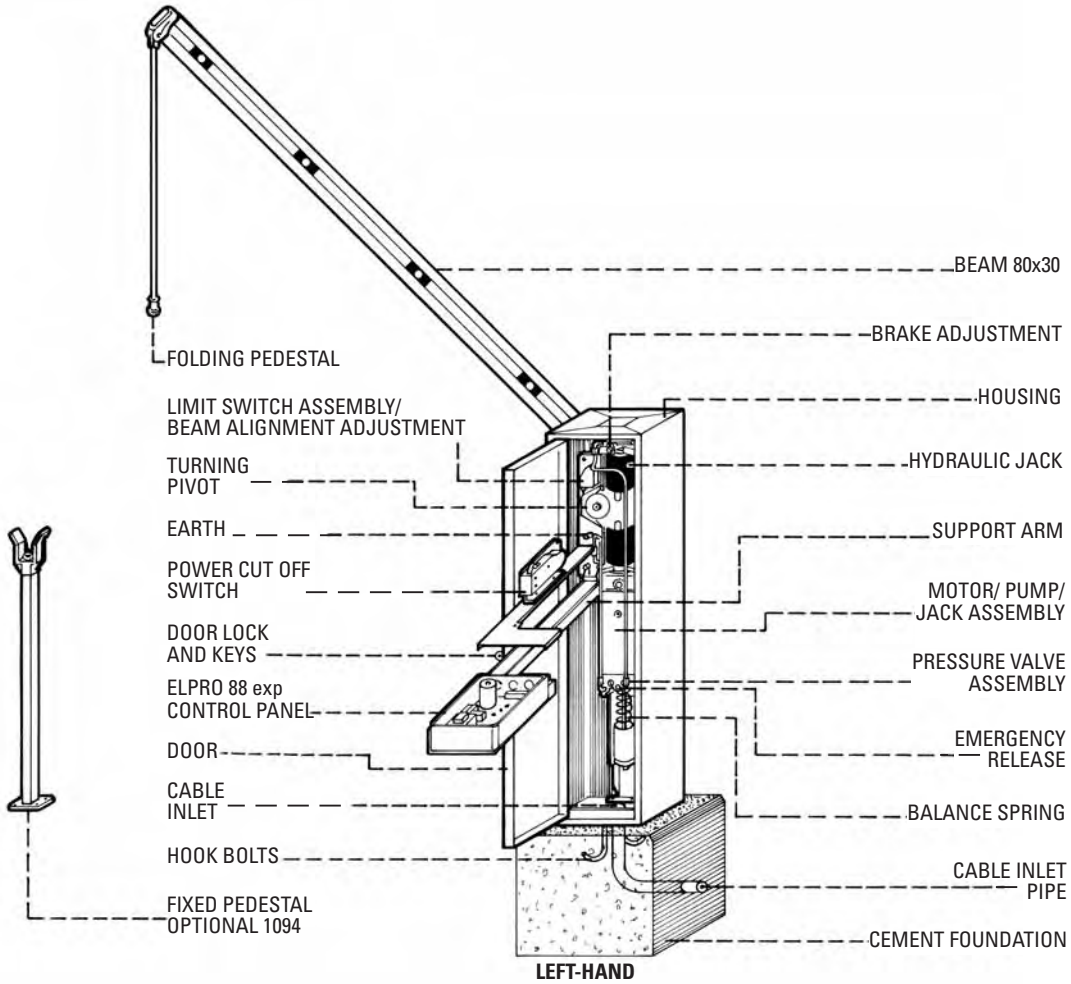
PAINT FINISH
RAL 1018 / ZINC YELLOW

PIC. 1

INSTRUCTIONS FOR THE INSTALLATION OF THE ROAD BARRIER

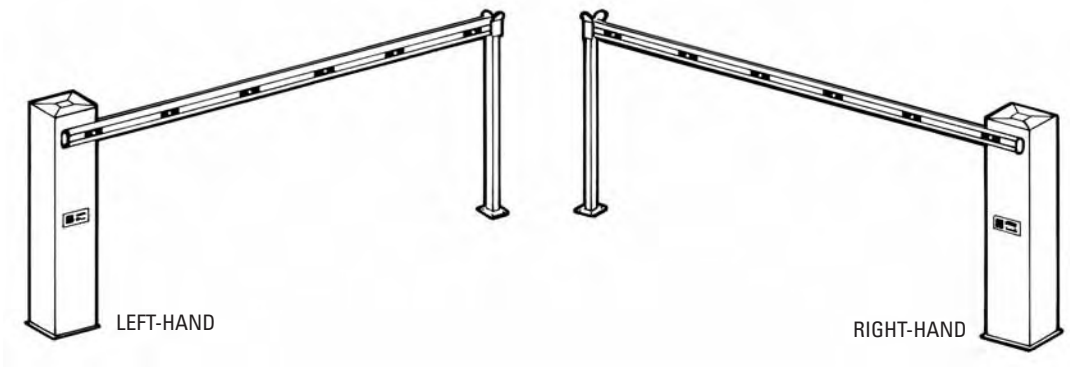
CEI STANDARDS CE barri 88 oil-hydraulic FADINI the gate opener Made in Italy

VIEW OF THE MAIN COMPONENTS THAT MAKE UP THE MECHANISM OF THE ROAD BEAM BARRIER



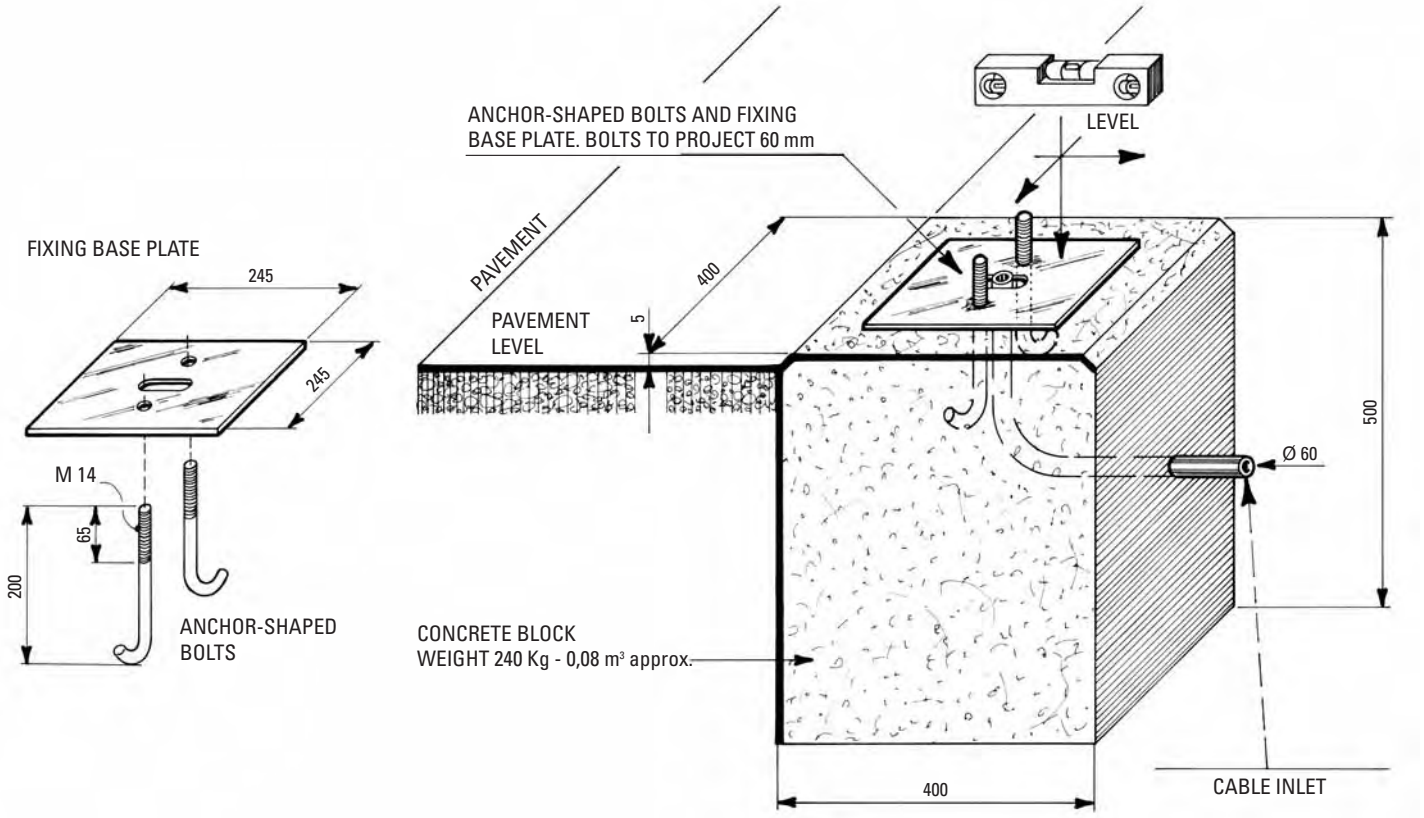
PIC. 2

No special adjusting is required to fix the barrier as it is supplied complete and pre-tested in the workshops of Meccanica Fadini in compliance with the existing regulations to ensure long life and reliability; barri 88 can withstand very harsh weather conditions, it is pre-oiled and can safely work with a temperature range between -20°C to +80°C.



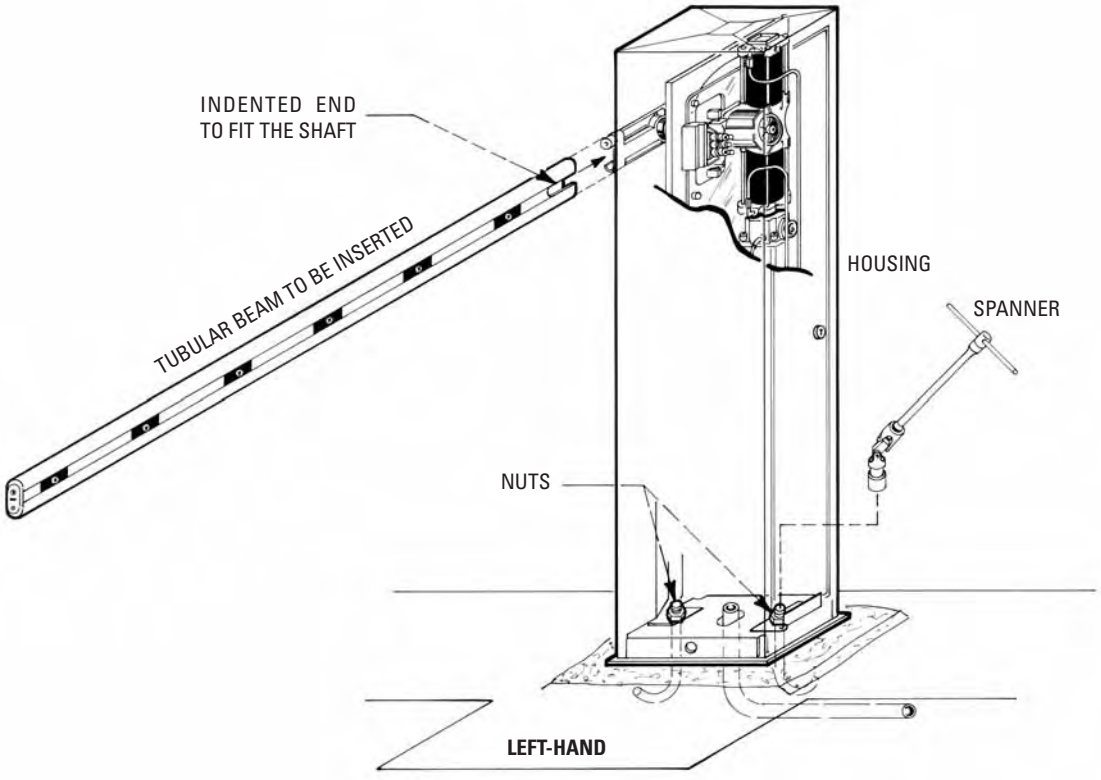
PIC. 3

It is recommended to keep to all the instructions mentioned in this manual to achieve a perfect installation. Being a handed unit, it is required that specification right-hand or left-hand is provided on ordering for proper assembling. The beam is designed to fit either ways. Lifting and lowering movements of the beam are by means of a hydraulic actuator, and a balance spring ensures smoothness of operation. The pressure valves and the brake adjustments are properly pre-set during the factory test to ensure the correct functioning of the barrier with a standard 4 m beam.



PIC. 4

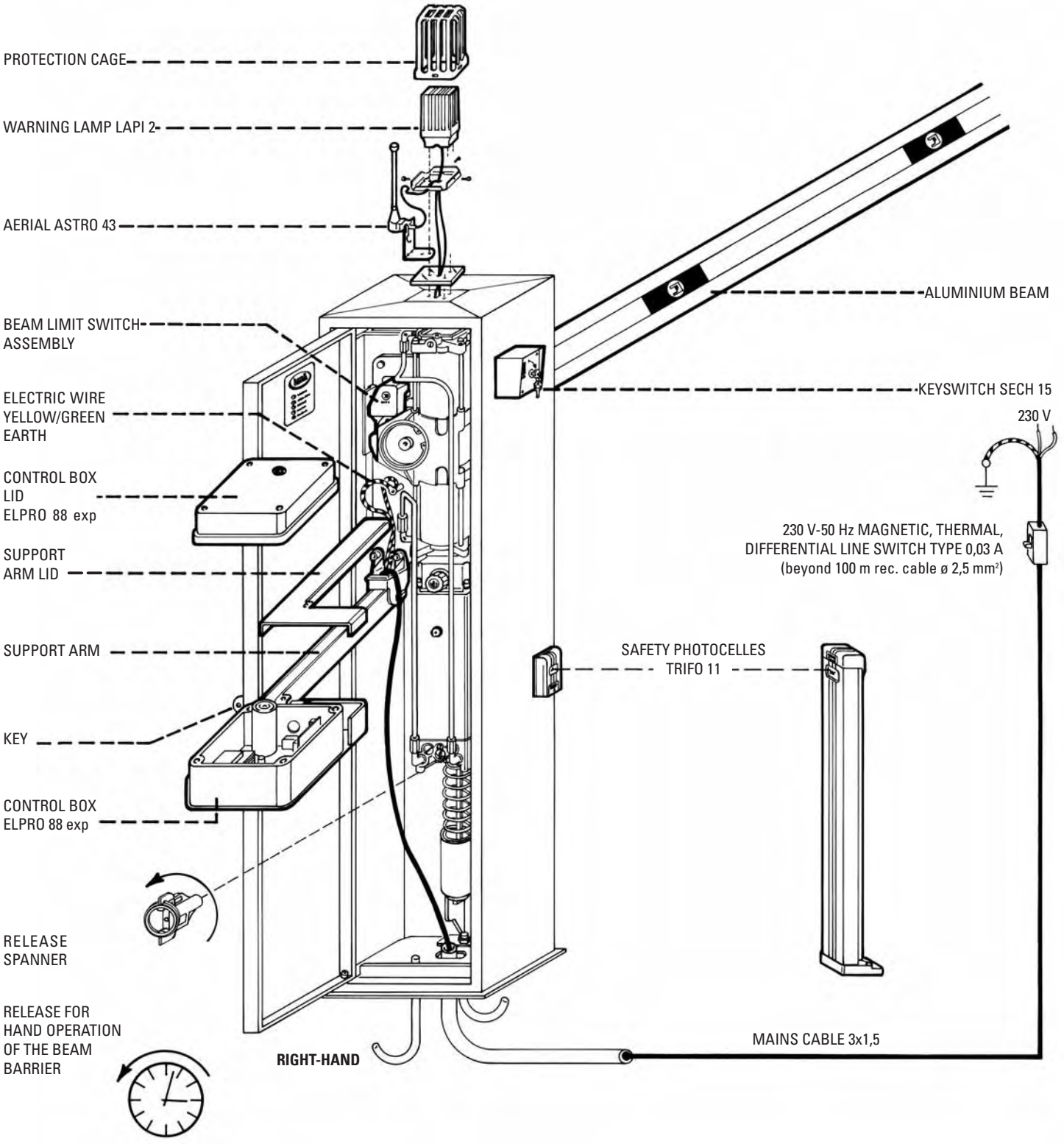
First screw the two anchor-shaped bolts in the fixing base plate to the end of their respective threads. Keep the plate straight to the pavement line and the anchor-shaped bolts parallel to it. Sink them into a hole previously filled with concrete and having the size as recommended in pic. 4. The plate must be flush with the concrete level and make sure that the corners are all perfectly straight and aligned. The foundation level is to rise 5 mm higher than the pavement level. Please note, a plastic tube is to be incorporated in the concrete block to serve as a cable duct for voltage supply, as shown in pic. 4.



PIC. 5

Once satisfied that the anchor-shaped bolts are hard set into the concret foundation, fit the housing on the base plate and tighten the two nuts very firmly (pic. 5).

Now the electrical work, to supply power (230 V - 50 Hz) to the electronic control panel "ELPRO 88 exp". Open the door with the supplied key. Swing the control panel support arm and let it rest on the lock lever which is also designed to meet this purpose. Remove both covers, ie. the support arm cover and that of the control box, and lead the mains cable, earth wire included, to the terminal board in the control panel as shown in pic. 6. Connect the mains to terminals no. 16 and no. 17. It is highly recommended to connect the yellow/green earth wire to the proper screw which is fitted to the back fixing bracket and can be easily identified by its specific symbol. A proper earth connection (door, electric motor and housing) will make the whole equipment fully protected, safe and reliable in its performance. Pic. 6.



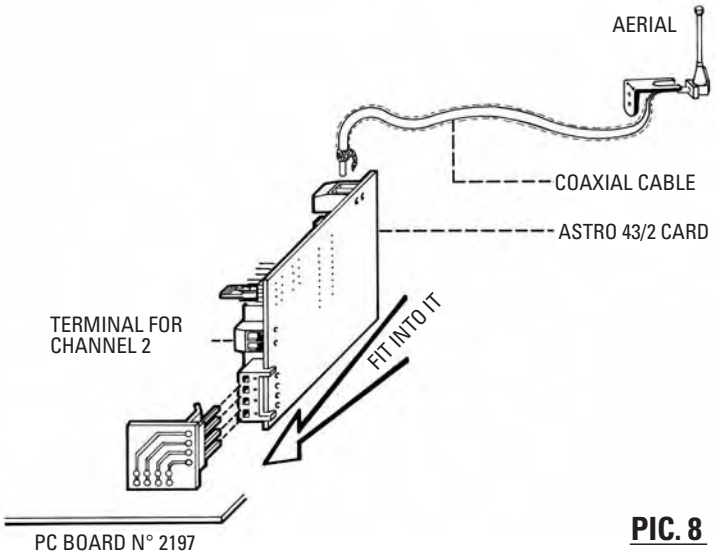
PIC. 6

In order to override the hydraulic mechanism and be able to raise and lower the beam by hand, it is required to unscrew the release/locking valve by two turns anti-clockwise by means of the supplied special spanner. See pic. 6. To hold the beam in any required "up position", tighten the release/locking valve clockwise by means of the special spanner.

ELECTRICAL CONNECTIONS

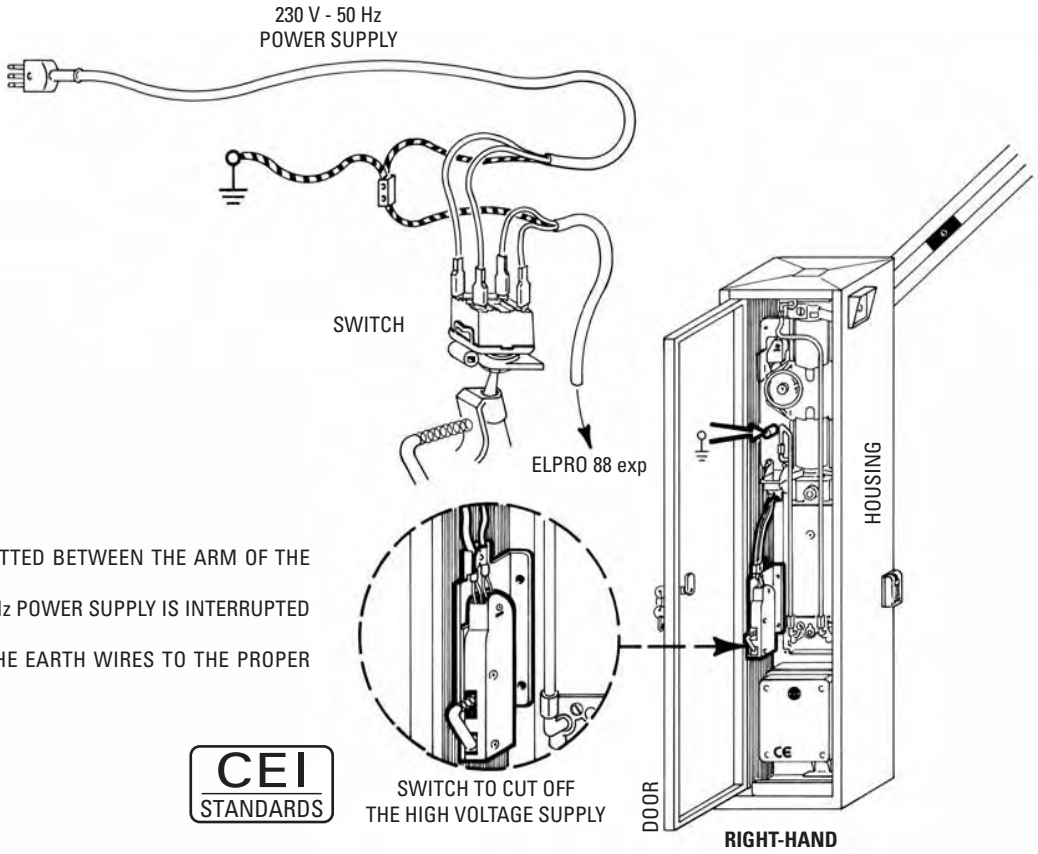
Carefully read the diagram No. 2197 pic. 10 for the electrical connections of the signal lamp “LAPI 2”, the keyswitch “SECH 15”, the photo cells “TRIFO 1 1” and the magnetic loop detector for fully automatic operations.
Once satisfied that all the connections have been properly done, the first running test can be carried out. You can pulse the barrier open either by key or remote control. A complete working cycle includes rising-stop-lowering by pulse. Automatic lowering is by closing the hook switch “B” to “ON” position. If set to “OFF”, a pulse is required to lower the beam. The maximum running time of the electric motor is 60 seconds; it is a fixed time and cannot be varied. Timer 6 is to set the duration of the stop phase, ie. the dwell time before automatic re-closing to meet the installation requirements. The barrier can be operated at a distance by remote control. Fit the radio receiver card “ASTRO 43” into the provided connector on the PC board of the electronic control box. Fix the aerial in the most suitable position to ensure proper receipt of the radio signal from the transmitter and connect the coaxial cable to the connector shown in pic. 8.

PIC. 7



PIC. 8

OPTIONAL:

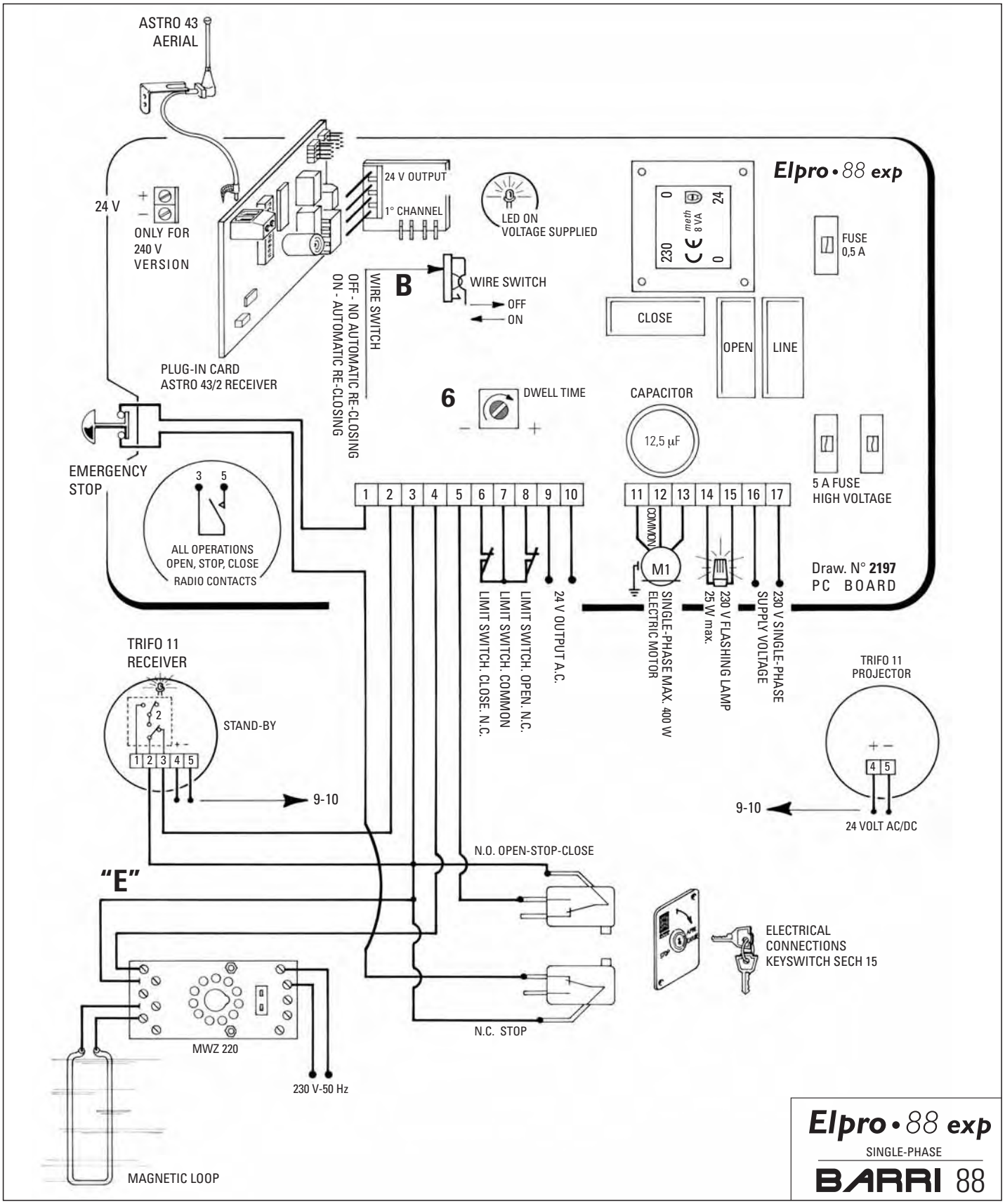


IMPORTANT
THE HIGH VOLTAGE CUT OFF SWITCH IS FITTED BETWEEN THE ARM OF THE CONTROL BOX AND THE DOOR.
WHEN THE DOOR IS OPENED, THE 230 V-50 Hz POWER SUPPLY IS INTERRUPTED AUTOMATICALLY FOR SAFETY REASONS.
IT IS **RECOMMENDED** TO CONNECT ALL THE EARTH WIRES TO THE PROPER TERMINAL.

CEI
STANDARDS

PIC. 9

ELECTRICAL WIRING DIAGRAM-ROAD BARRIER

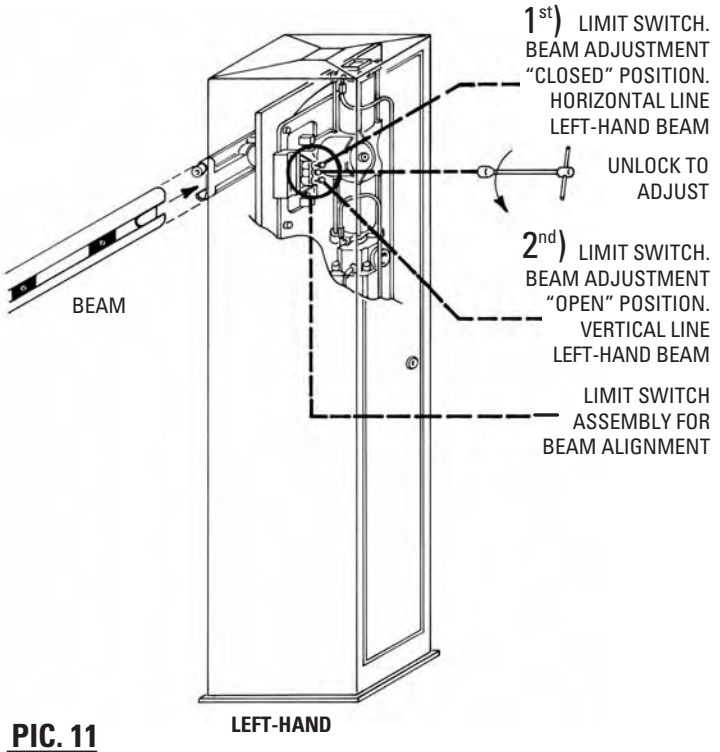


PIC. 10

All the connections of the electric cables "E" to the control panel ELPRO 88 exp are to be made as shown in the diagram N° 2197 Pic. 10.

The accessories can be connected to the terminals 1-2-3-4-5, for instance the push buttons open-stop-close to (3-5), the photocells to (2-3), the magnetic loop detector and other type of switches to (3-4) for open operation only; stop or emergency switches to (1-3) so that the barrier always re-cycles to open after a stop pulse.

Once satisfied that barrier can operate as required, go on setting the beam alignment in both lowered and lifted positions by means of the adjustment screws that are fitted close to the hydraulic jack (Pic. 11 and 13).



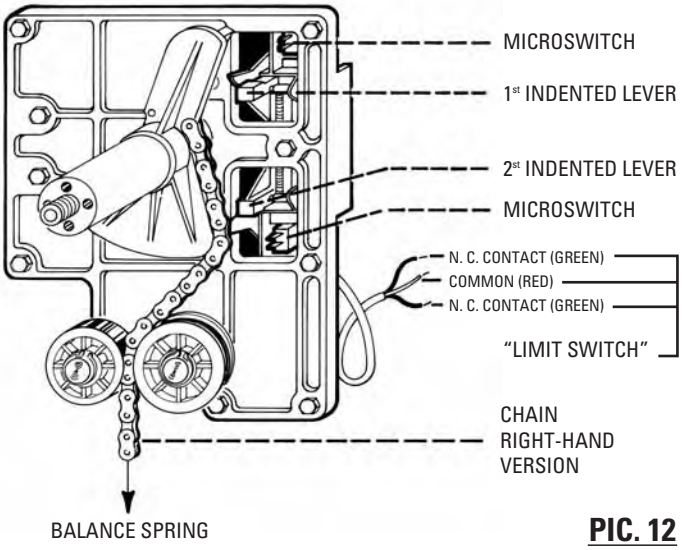
PIC. 11

LIMIT SWITCH SETTING. LEFT-HAND BEAM

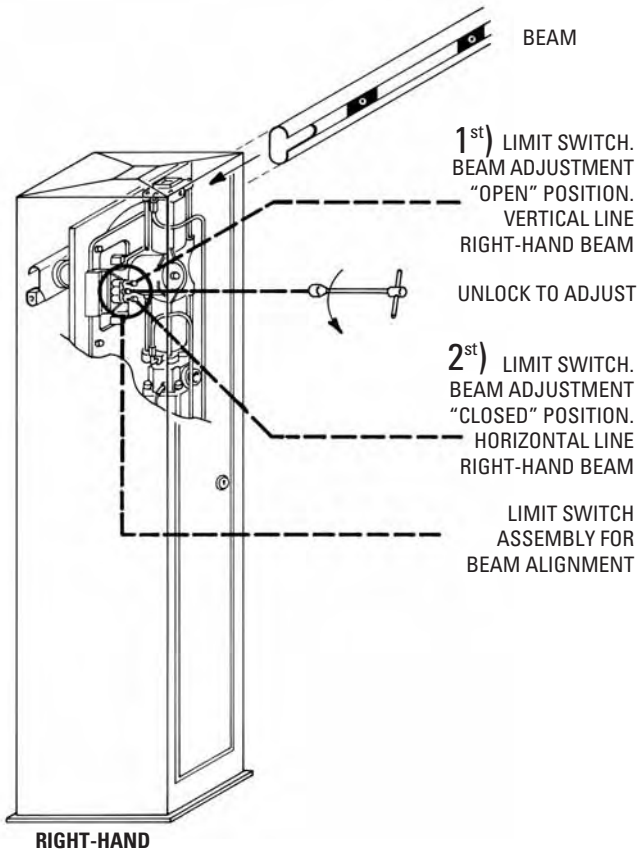
To allow any setting of the limit switches, first unscrew the central locking screw by two turns.

- Screw N° 1 is to adjust the beam in the horizontal position. Beam down.
- Screw N° 2 is to adjust the beam in the vertical position. Beam up. Pic. 11. Screw or unscrew it to adjust as required.

Once the beam position has been correrctly set during two or three tests, fix the setting by tightening the central screw, ie. the "adjustment locking screw". Pic. 11.



PIC. 12



PIC. 13

LIMIT SWITCH SETTING. RIGHT-HAND BEAM

The screws for the limit switch setting are exchanged in position when a right-hand unit is to set instead of a left-hand one.

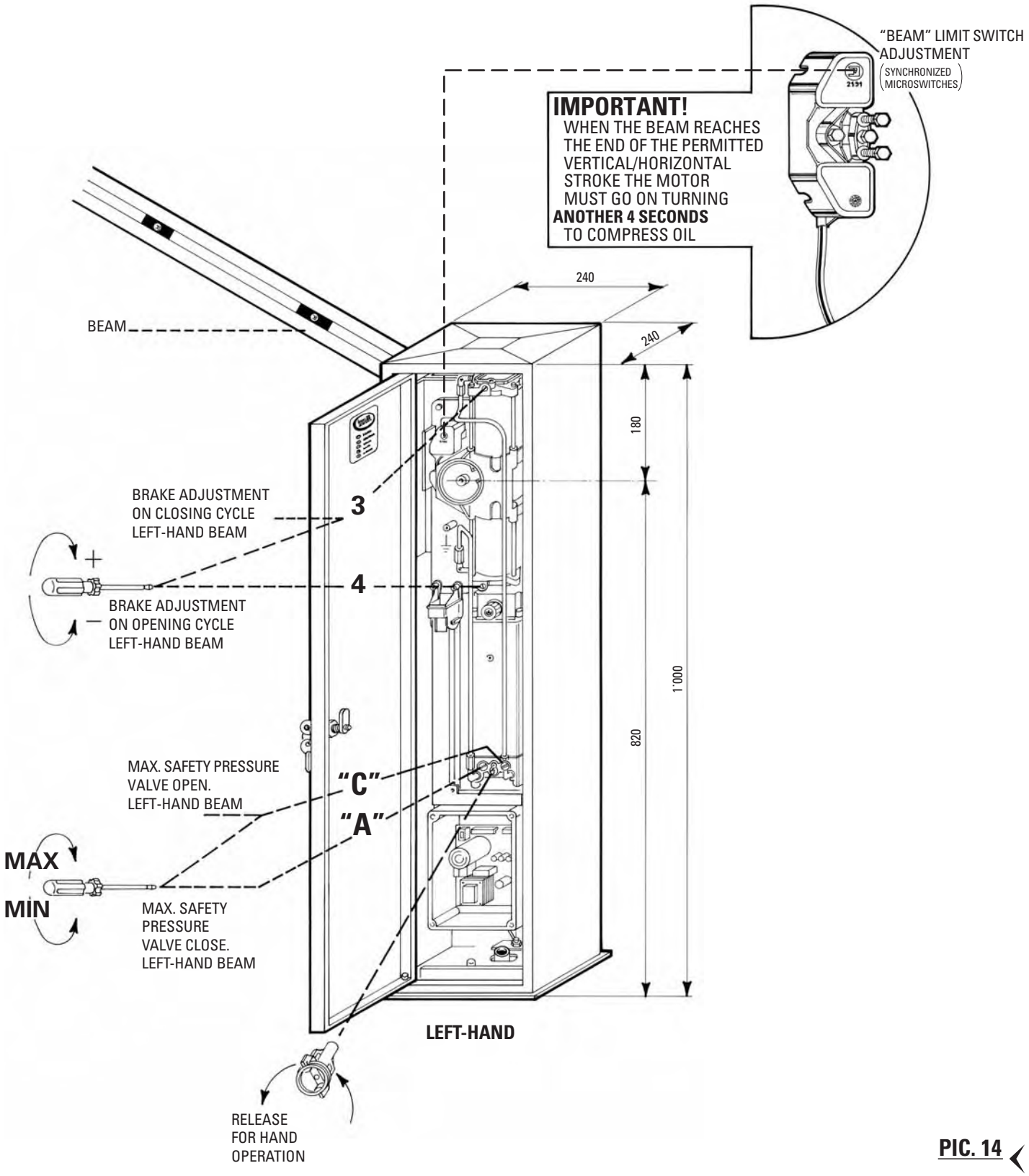
- N° 1 to adjust the beam in the vertical position.
- N° 2 to adjust the beam in the horizontal position. Pic. 13.

Then go on fixing as described above. Pic. 11.

Pic. 12 shows the top detail of the balance assembly, ie. the chain fixing in a "right-hand" unit. The position of the chain is exchanged in a "left-hand" unit.

See Pic. 17 and 18 on page 10.

SETTING AND ADJUSTING THE SAFETY PRESSURE VALVES AND THE BRAKE ie. THE DEVICE TO SLOW DOWN BEAM ON APPROACHING END OF TRAVEL



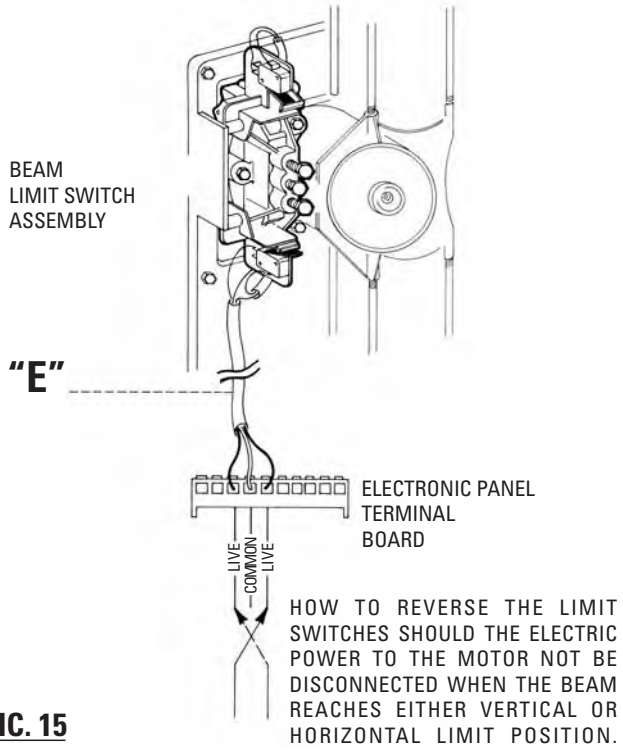
PIC. 14

Barriers with 4 m beams, either right- or left-hand, do not need any adjustment as the safety pressure valves and the braking device have already been adjusted during the factory first running test. Should the adjustment screws require any setting, pic. 14 is to be referred to for a left-hand unit. For a right-hand one please note the following differences:

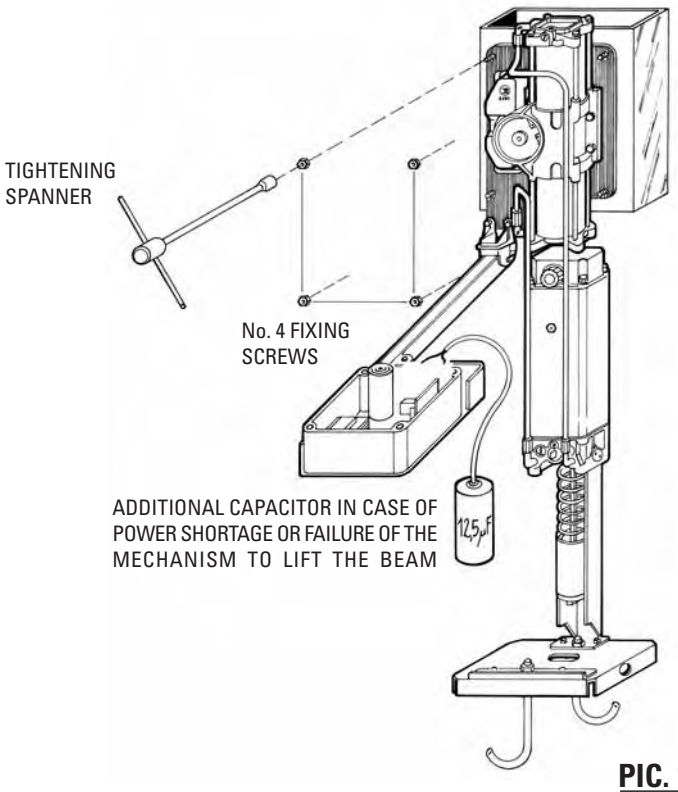
- No. 3 becomes the brake adjustment on opening cycle with a right-hand unit
- No. 4 becomes the brake adjustment on closing cycle with a right-hand unit
- Safety pressure valve "C" = close with a right-hand unit
- Safety pressure valve "A" = open with a right-hand unit.

NOTES FOR THE RUNNING TEST

The first running test is to make sure that the motor stops 4 seconds after the beam has reached the limit of its lifting travel, ie. after the beam is on the vertical or horizontal line. If necessary, exchange the position of the two limit switch terminals, ie. No. 6 with No. 8. Pic. 15.



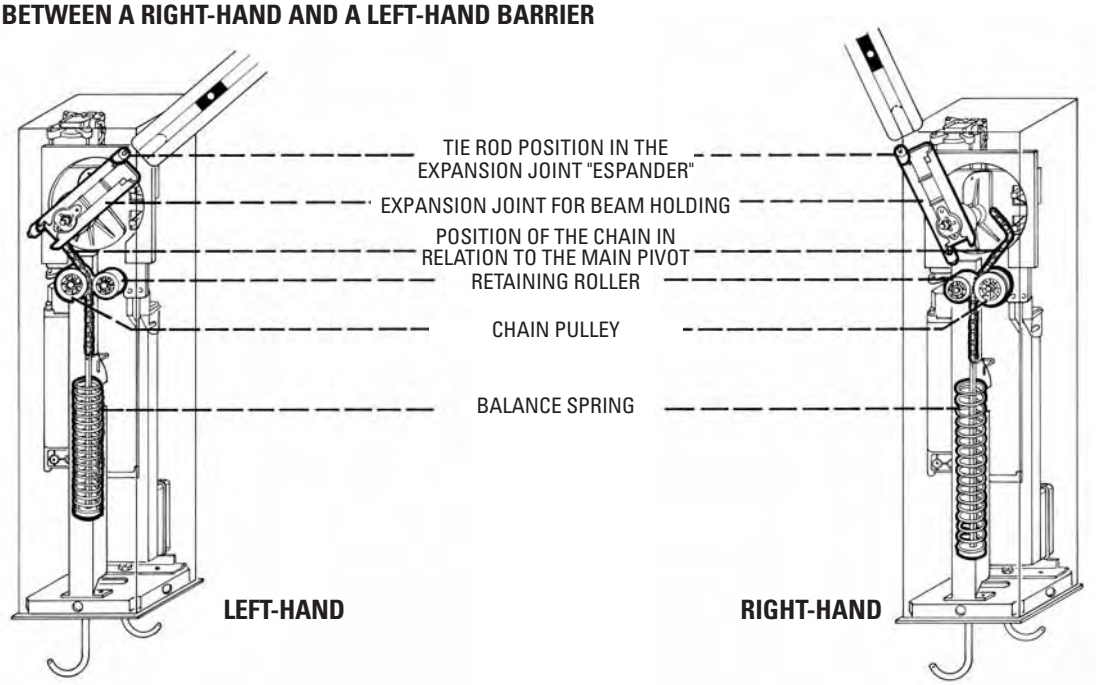
PIC. 15



PIC. 16

It is recommended to remove the wires from their terminals in the proper way, ie. by loosening the respective fastening screws. Never cut the cables, and before removing any wires switch off the magnetic thermal switch that has been fitted in the point where the system takes power from the 230V mains supply. See page 5 Pic. 6.

DIFFERENCES BETWEEN A RIGHT-HAND AND A LEFT-HAND BARRIER

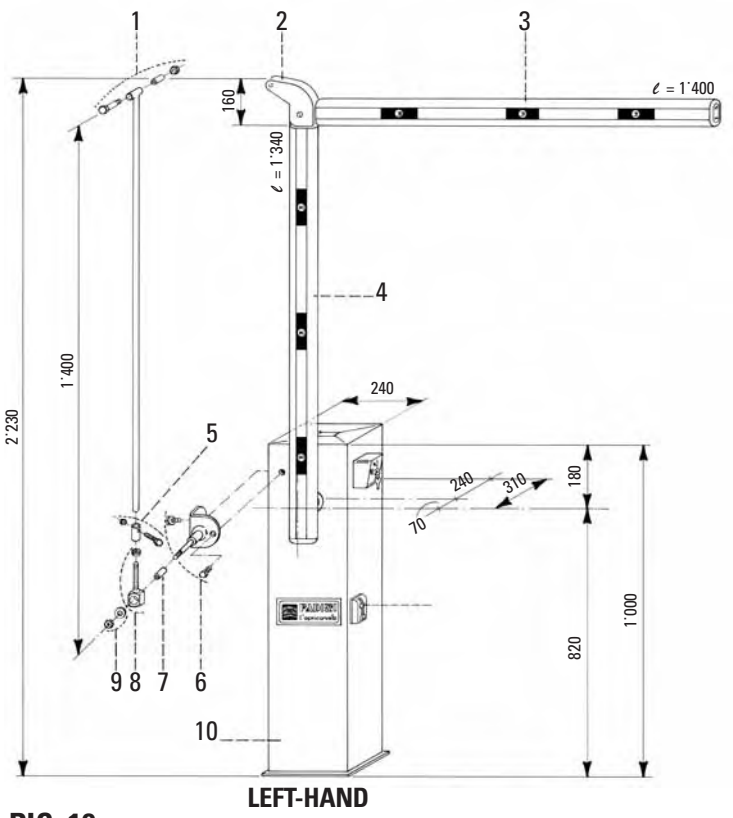


PIC. 17

PIC. 18

The pictures No. 17 and 18 show a left-hand and a right-hand barrier respectively. In particular they show the position of the chain, which varies and makes difference between the two units. Note how the "chain guide pulley" and the "retaining roller" have been exchanged. While the hydraulic jack is always in phase with the main pivot, ie. shaft, the position of the "beam clamp" varies in that it can be rotated 90° to suit either a right-hand unit or a left-hand one. In other words, the "long tie bolt" in the expanding clamp ("espander") that holds the beam is above the main pivot fulcrum with a left-hand barrier (beam lowered) (Pic. 17), it is below the fulcrum with a right-hand barrier (beam in the closed, ie. lowered position).

TRAFFIC BARRIER WITH ARTICULATED ARM CUT AT A FACTORY PRE-SET MEASURE



LEFT-HAND

PIC. 19

1 - LEVEL BAR COMPLETE WITH BOLT, FERRULE AND FIXING NUT
2 - FOLDING JOINT. IT IS MADE UP OF FITTING END PART, LOCKING NUT AND SCREW
3 - HORIZONTAL SECTION OF THE BEAM
4 - VERTICAL SECTION OF THE BEAM
5 - FERRULE, SCREW AND NUT FOR FIXING TO THE LEVEL BAR
6 - BRACKET, PIN AND SCREWS FOR FIXING TO THE HOUSING
7 - PLASTIC BUSHING
8 - ADJUSTMENT AND NUT
9 - WASHER AND NUT TO LOCK ADJUSTMENT TO FIXING BRACKET
10 - HOUSING

The oil-hydraulic traffic barrier is also available in a version with articulated arm. This is possible by means of some parts specially designed to this purpose, easy to fit and reliable, Pic. 19.
It is recommended to do some tests before finally fixing the equipment, ie. make sure that the total height from ground level to top of vertical section does not exceed the space between ground and ceiling. Part. No. 2, folding joint, must be at least 10 cm lower than ceiling level Pic. 19.
The total available lenght, ie. the sum of the two beam sections, is no more than 3 meters.

TECHNICAL SPECIFICATIONS

ELECTRONIC CONTROL PANEL

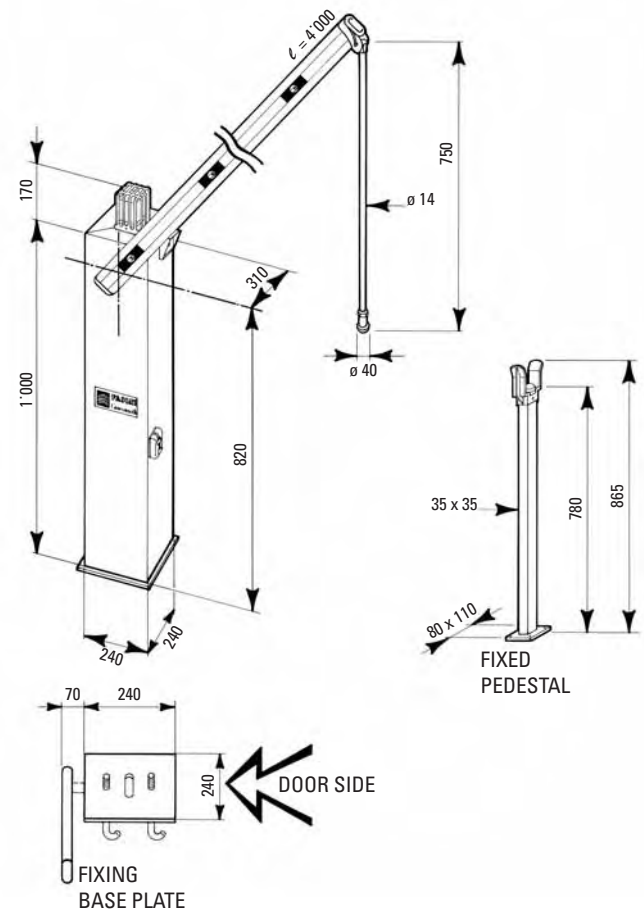
Three relays. One for extra safety .....24 V - 16 A
Transformer .....8 VA
Capacitor .....12,5 μF 400 V

ELECTRIC MOTOR

Power output.....0,24 KW (0,33 HP)
Supply voltage .....230 V
Frequency.....50 Hz
Absorbed power .....330 W
Absorbed current.....1,8 A
Capacitor.....12,5 μF
Motor revolutions .....1'350 r.p.m.
Intermittent service.....S 3
Insulation class .....F

HYDRAULIC PUMP

Pump flow rate - P10 .....2,75 ℓ/min.
Working pressure .....2 MPa (20 bars)
Max pressure .....4 MPa (40 bars)
Working temperature range .....–20° C +80° C
Oil type.....OIL FADINI A15 by AGIP
Shaft rotation .....max. 95°
Static weight.....58 Kg
Max. rated torque.....185,2 Nm
Aluminium beam .....4 m
Opening time.....5 s
Closing time. .....5 s
Protection standards.....IP 557
Pedestal colour .....RAL 1018 yellow/zinc
Duty cycle: 5 sec. opening - 30 sec. dwell - 5 sec. closing.
Time of one complete cycle.....40 seconds.
Complete cycles - "Opening-Dwell-Closing" .....No. 90/h
No of cycles per year with 8 hours' service a day .....No. 262'000



PIC. 20

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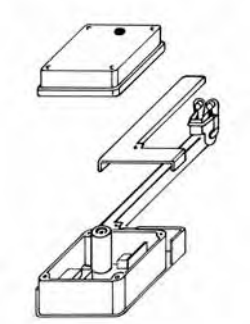
IMPORTANT WARNING NOTES

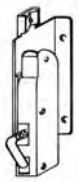
- It is recommended to keep to the instructions here outlined - check the specifications on the motor sticker with your mains supply.
- Dispose properly of the packaging materials: cardboard, nylon, polystyrene etc. through specialized companies.
- Switch off the mains switch before opening the door.
- Should the assembly motor/hydraulic unit be removed, **do not cut** the electric cables. These must be properly removed from the terminal board in the junction box.
- All the system must be earthed by means of the yellow/green cable. The specific earth symbol refers for identification.
- It is recommended to read the regulations, suggestions and remarks contained in the booklet "warnings".
- MECCANICA FADINI recommends the control panel ELPRO 88 exp for a good installation in conformity to the existing regulations.
- The control panel "ELPRO 88 exp" incorporates all the functions required to operate the road barrier "barri 88".
- Among its features there is the possibility to stop and hold the beam in the required position by pulsing again the remote control (step by step).



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 distributíon network
- Dispose of all cardboard, nylon, polystyrene and other packaging with specialized waste dísposal firms
- If removing the actuator, **do not cut** the electric wires, but disconnect them from the terminal box by loosening the screws inside the junction box
- Disconnect the mains switch before opening the electrical wire junction 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 "CE" mark certifies that the operator conforms to the essential requirements of the European Directive art. 10 CEE 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 standards.

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.

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

SAFETY STANDARDS	EN 12453 EN 12445

Distributor's box

meccanica FADINI® s.n.c.
AUTOMATIC GATE MANUFACTURERS

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

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