

COMBI 740

Below ground oil-hydraulic operator for swinging gates

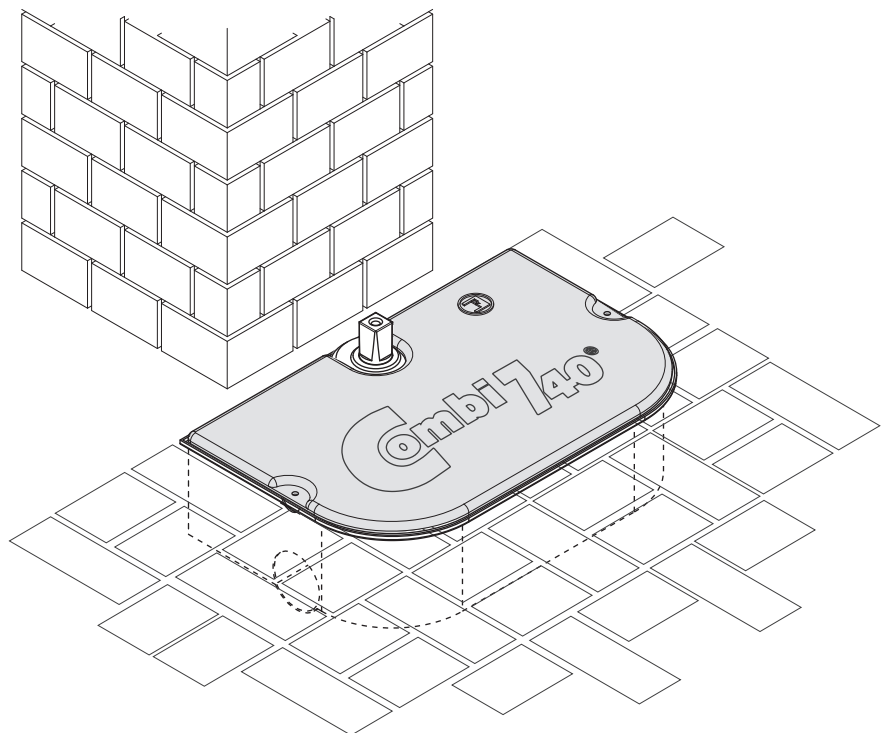
STANDARD VERSION:

110° or 175° Leaf Rotation

- Compact, internal drive unit and hydraulic jack
- Normal version or version with two-way Locking device
- Models with or without hydraulic Brake
- Models with or without flow Regulator

Instructions manual

pages 17-32



CE

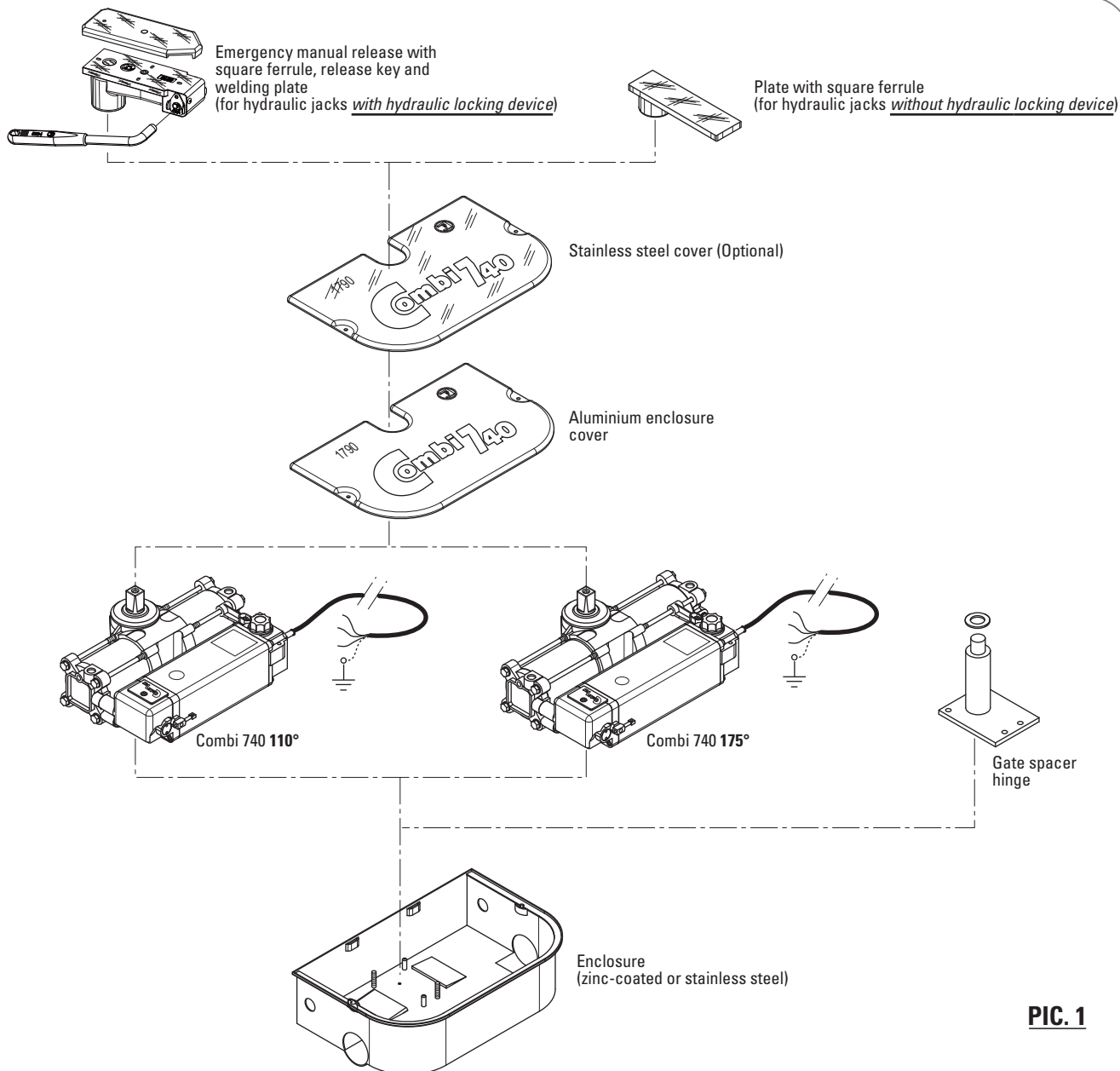


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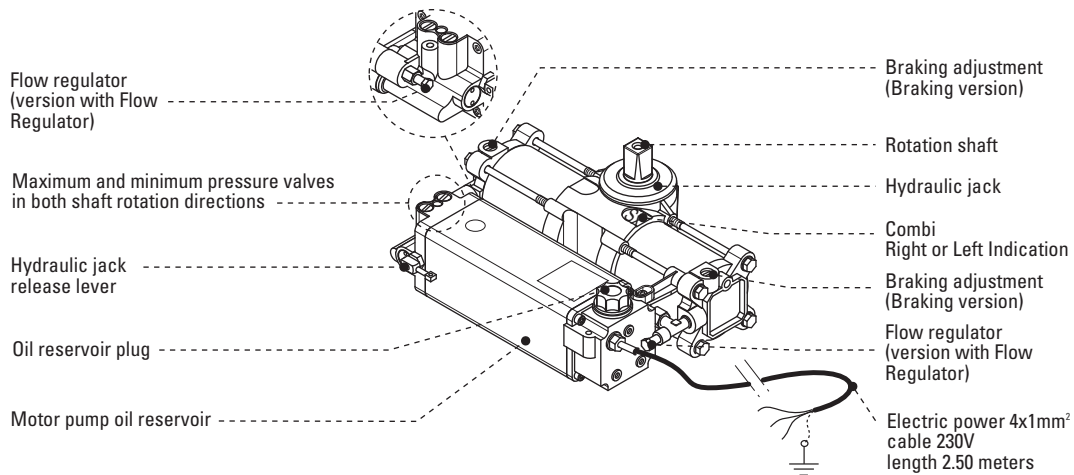
GB

MAIN COMPONENTS OF THE BELOW GROUND OIL-HYDRAULIC GATE OPENER



PIC. 1

DESCRIPTION OF JACK / MOTOR PUMP COMPONENTS



PIC. 2

English



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INSTRUCTIONS TO BE FOLLOWED BEFORE INSTALLING THE OPERATOR



TO ENSURE THE PERFECT INSTALLATION AND OPERATION OF THE COMBI 740 ADHERE TO THE FOLLOWING EXPLANATORY POINTS AND RELATIVE DRAWINGS.

IMPORTANT: THE ENTIRE INSTALLATION PROCESS MUST BE CARRIED OUT BY QUALIFIED, TECHNICAL PERSONNEL IN COMPLIANCE WITH EN 12453 - EN 12445 SAFETY STANDARDS, AND IN ACCORDANCE WITH MACHINERY DIRECTIVE 2006/42/CE.

CARRY OUT A CAREFUL ANALYSIS OF RISKS IN ACCORDANCE WITH SAFETY REGULATIONS IN FORCE.

GENERAL INFORMATION:

The **COMBI 740** is an oil-hydraulic automated operator designed to open and close swinging gates; it is installed below ground at the base of the gate's rotation hinges. It is an oil-hydraulic operator with a built-in hydraulic drive unit; the entire operator is housed inside its enclosure, cemented at the base of the gate leaf. The electronic programmer control is installed externally in a protected area and it controls all possible movement functions automatically or semi-automatically, depending on the client's requirements.

The gate opener includes a number of accessories that ensure necessary safety and manoeuvrability, making this operator suitable for installation in any public or private place.

PRELIMINARY WARNINGS FOR SAFETY AND GOOD SYSTEM OPERATION

Before installing the operator in the ground, be sure to verify the following:

- Installation, checks, testing, and risk analysis and further maintenance must be carried out by qualified, authorised, technical personnel.
- This automated device was designed for specific use, as indicated in this manual, with safety, control and signalling accessories as minimum required.
- Any use of the operator which is not explicitly stated in this manual may cause operational disruption or damage to property and people.
- Check the consistency of the soil to avoid settling or subsequent deformation in the installation area.
- Ensure that there are no utility lines in the immediate vicinity or underground which may hinder any digging required.
- Ensure that in the immediate vicinity of installation accessories, both above and below ground, there are no sources of electromagnetic disturbance that could hide or influence magnetic/electromagnetic readings from any metal loop detectors and from all electronic control and system management equipment.
- Ensure that the mains power and voltage to the electric motor is $230V \pm 10\%$ 50Hz.
- **Combi 740** must be powered with electrical cables having 1mm^2 diameter for a maximum distance of 50 meters. For distances longer than 50 meters, the use of electrical cables with appropriate diameter wires is recommended.
- For any replacements of parts or accessories, use original components indicated by the manufacturer.
- All packaging materials must be disposed of by specialised companies. Do not throw away, in normal waste receptacles, any material that may be harmful to the environment.
- Meccanica Fadini is not responsible for any damage caused by improper use, or use not specifically mentioned in this manual, and is not liable for malfunctions resulting from the use of materials or accessories not provided by the company itself.
- The manufacturer reserves the right to make changes to this manual without prior notice.

Meccanica Fadini, the manufacturer, is not responsible for installations failing to comply with correct installation and application technique and for applications not included in this manual.

VERSIONS OF THE COMBI 740 OIL-HYDRAULIC OPERATOR

110° Version = underground swing gate opener with 110° maximum leaf rotation.

175° Version = underground swing gate opener with 175° maximum leaf rotation.

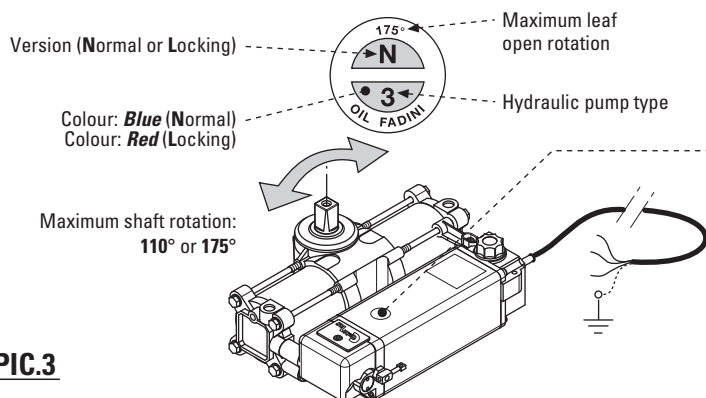
Normal version = 110° and 175° non locking in the two movement directions. Use of an electric lock is always recommended.

Locking version = 110° and 175° locking in the two movement directions.

Version with Brake = 110° and 175° rotation with adjustable hydraulic braking in the two movement directions, during the last 40 cm (approx.) of movement.

Version with Flow Regulator = 110° and 175° rotation with adjustment of hydraulic flow (controls the leaf speed) in the two movement directions for leaves longer than 2.5 meters.

Combi 740 version and rotation identification sticker



Combi 740 110° Normal
(blue sticker)



Combi 740 175° Normal
(blue sticker)



Combi 740 110° Locking
(red sticker)



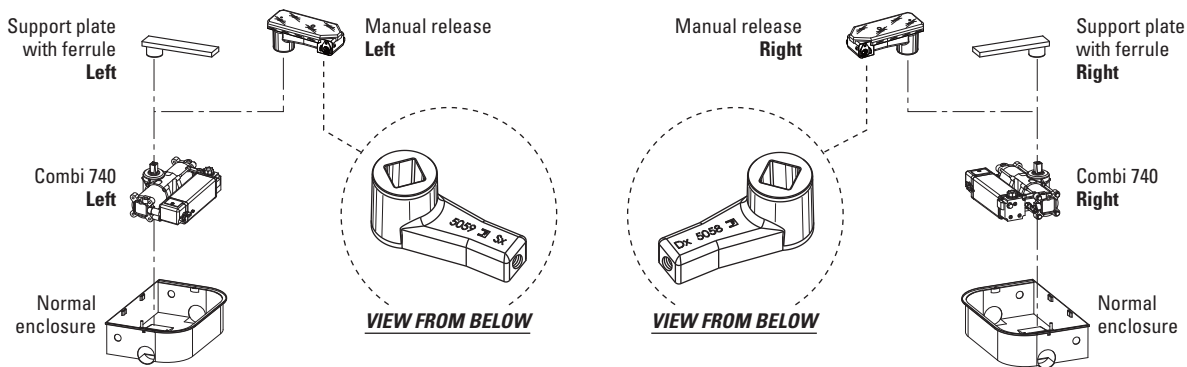
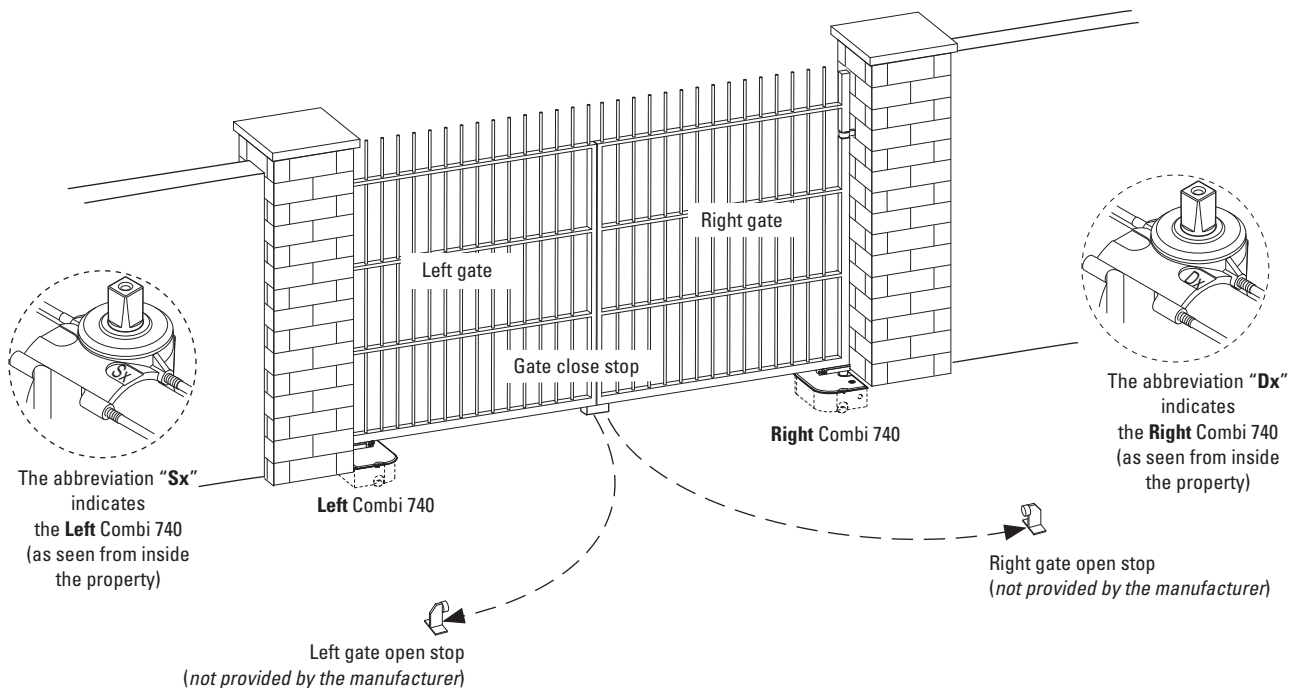
Combi 740 175° Locking
(red sticker)

PIC.3



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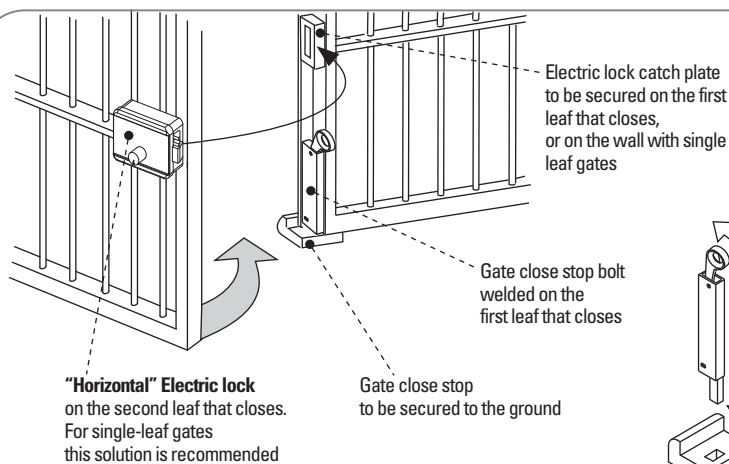
MAIN COMPONENTS FOR STANDARD INSTALLATION



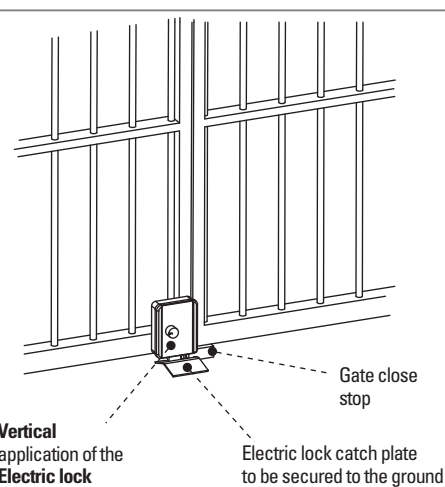
PIC. 4



Important: For installations with Combi 740 (Normal or Locking) with leaves **longer than 2.0 meters** it is always necessary to install an **Electric lock** or a **Leaf stop bolt**: the possible solutions are shown in Pic. 5 and Pic. 6. For a single leaf, it is recommended that the electric lock be installed horizontally.



PIC. 5



PIC. 6



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IDEAL USE OF THE COMBI 740 BELOW GROUND OIL-HYDRAULIC OPERATOR

Combi 740

- Combi 740 Normal version, 110° rotation:

- 1) The Combi 740 110° can be used on any leaf, always with an electric lock.
- 2) For leafs longer than 2.50 meters use of the Combi 740 with brake is recommended.
- 3) For special 4.0 and 5.0 meter leafs a Flow regulator must be installed.
- 4) The static weight that the Combi 740 can bear is 700Kg, for a 1.0 meter long leaf. If this length is exceeded the weight of the leaf must be decreased (Pic.7).

- Combi 740 locking version, 110° rotation:

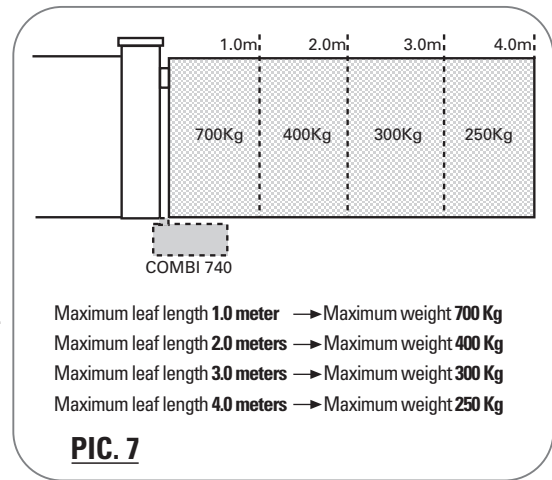
- All previous four points apply.
- 5) The Combi 740 Locking is recommended for leafs up to 2.0 meters long, without an electric lock. An electric lock is always necessary for leafs that are longer than 2.0 meters.

- Combi 740 Normal version, 175° rotation:

All previous four points apply.

- Combi 740 Locking version, 175° rotation:

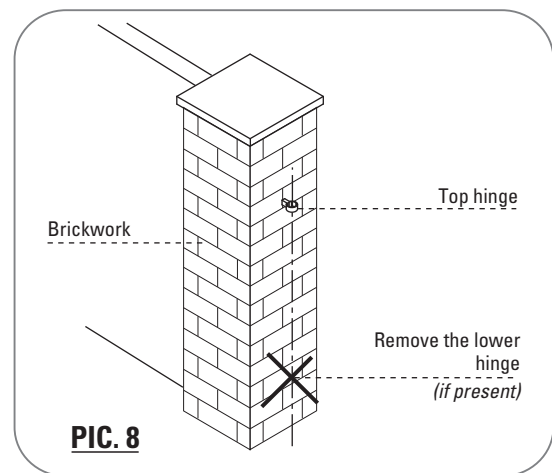
All previous five points apply.



INSTALLING THE ENCLOSURE

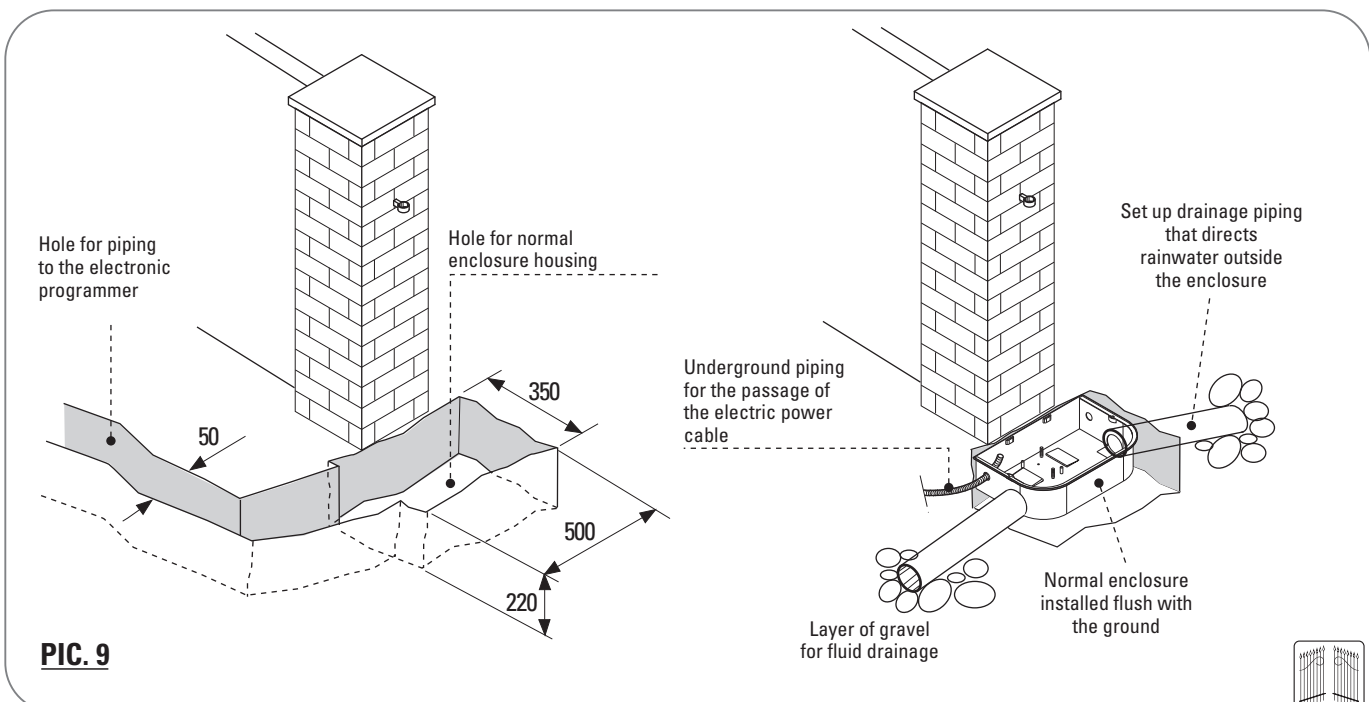
WARNINGS: ensure that the gate structure is suited to the operator and check to see if the fixed and moving parts require any special reinforcements for installation, making sure that there are no obstacles or friction during the entire movement of the leaf.

The **normal enclosure** must be cemented to the base of the gate in order to receive and secure the operator. However, the lower leaf hinge must be removed first because the Combi 740 rotation shaft acts as a lower rotation hinge (Pic.8).



SETTING UP AND SECURING THE ENCLOSURE

Dig a hole at the base of the column in accordance with the measurements indicated in Pic.9. At the same time, pre-set an underground pipe to connect the enclosure to the installation site of the Electronic programmer (it is recommended that the Programmer be installed in a protected and dry place); the pipe must be of a suitable diameter to permit the passage of the operator's power cables (corrugated pipe Ø20 - Ø25mm).

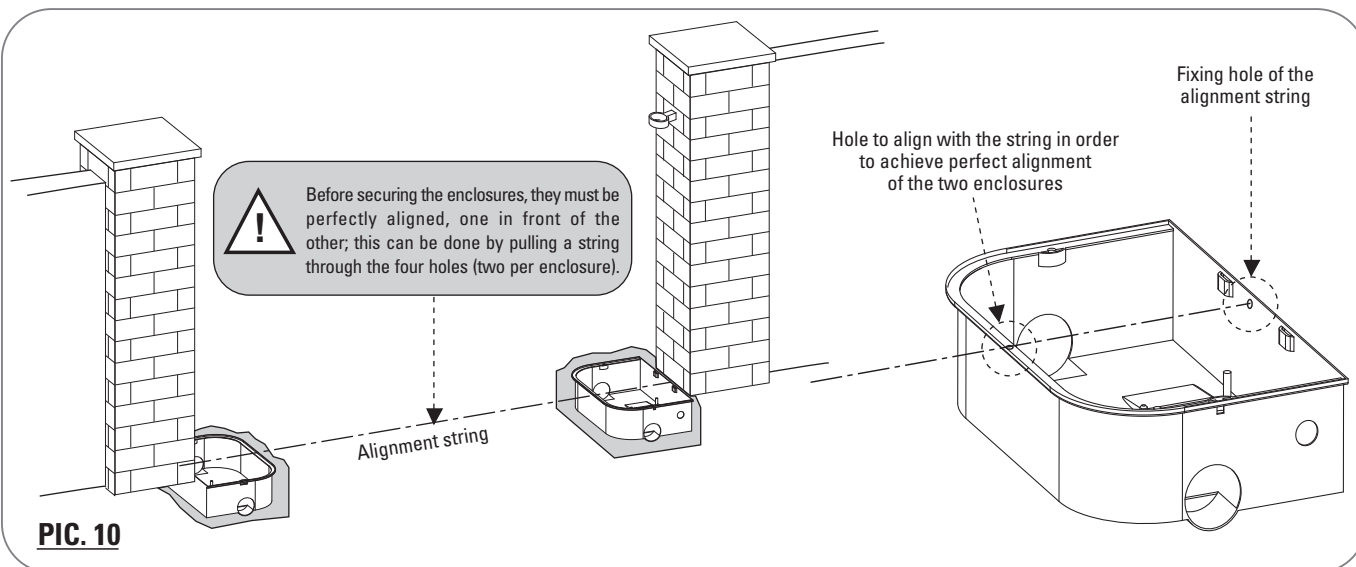


English



Attention: when installing gates with two leaves it is important to align the two enclosures; this can be done by pulling a string through the four holes (two per enclosure), as shown in Pic. 10.

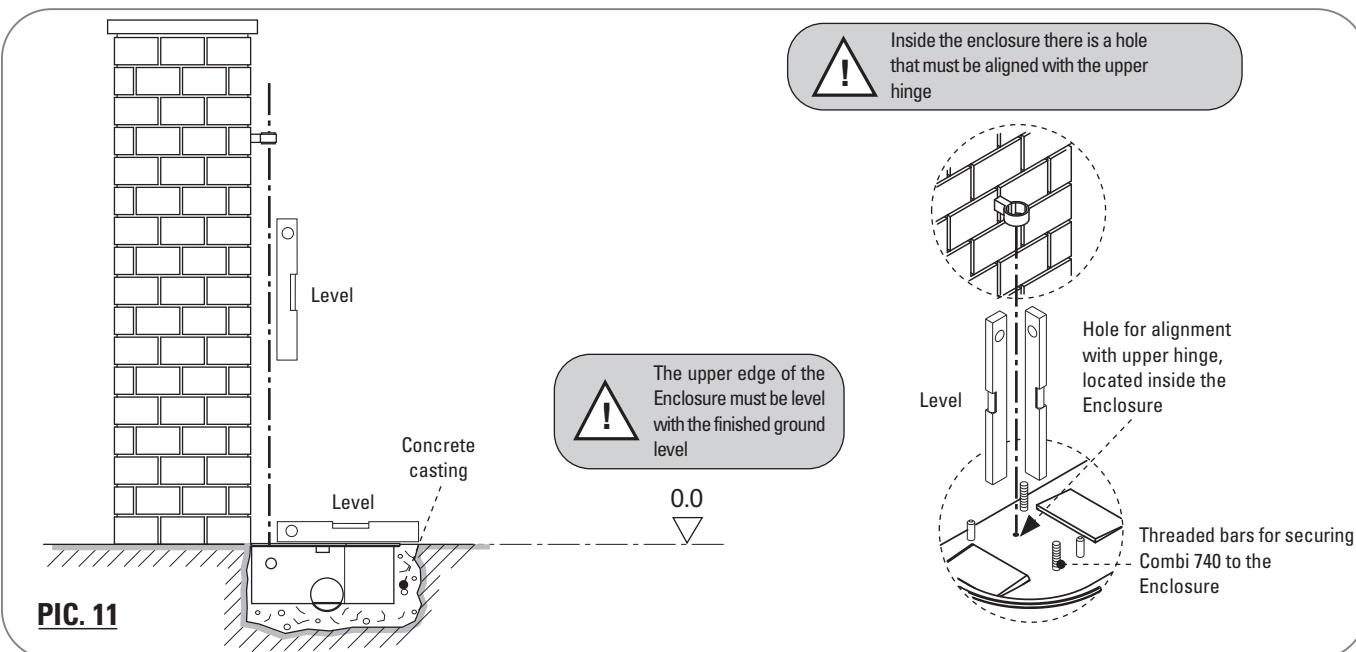
Combi 740



PIC. 10

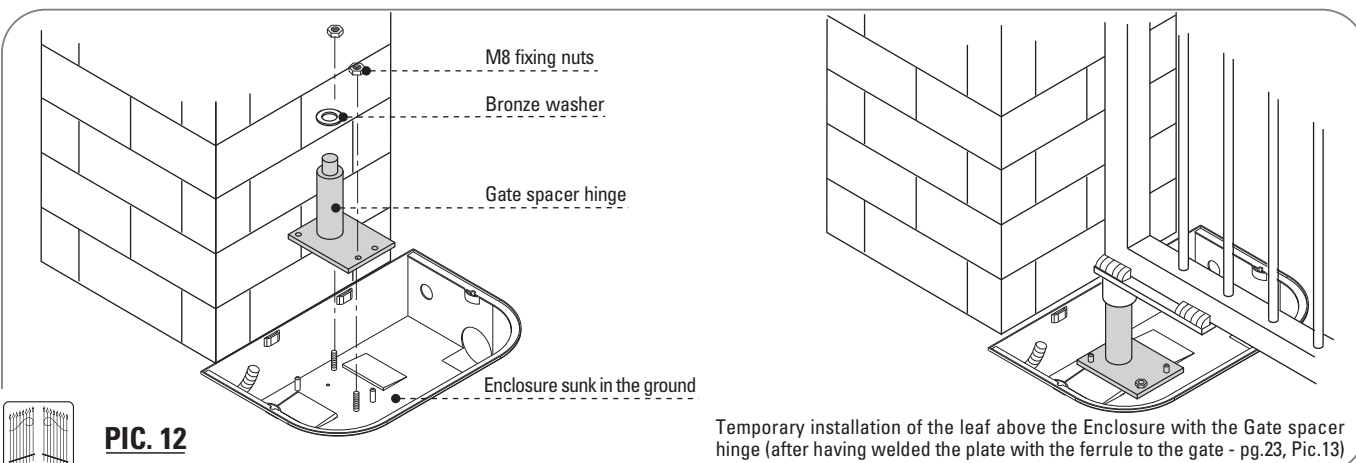


Attention: before securing the Enclosure with concrete, align the inner hole of the enclosure with the upper hinge (Pic.11) and make sure the enclosure is perfectly levelled. The upper edge of the enclosure must be flush with the finished ground level.



PIC. 11

The gate leaf can be installed even without the Combi 740: the Enclosure, as a matter of fact, is pre-set to receive the **Gate spacer hinge** which, once secured inside of it, replaces the lower hinge of the leaf (Pic. 12).

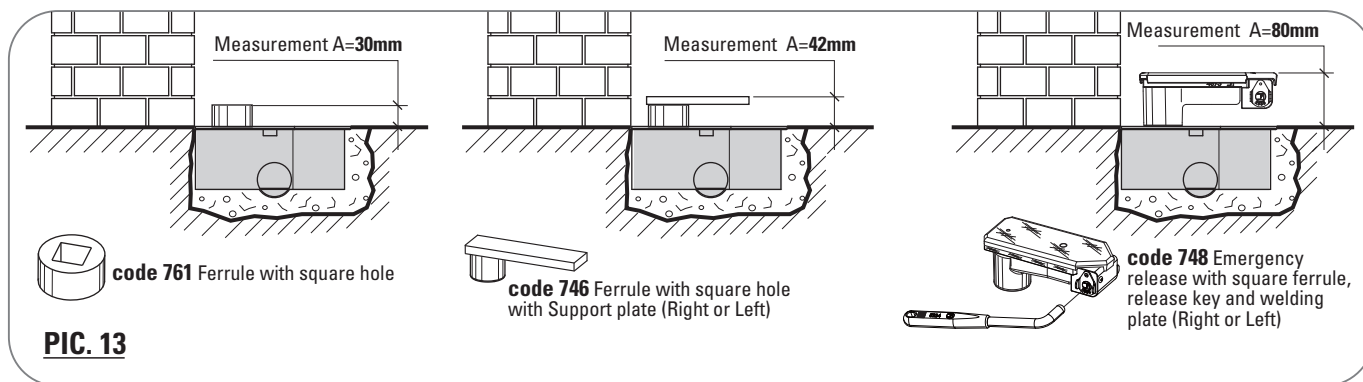


PIC. 12



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After having allowed the concrete to set around the Enclosure, and depending on the application requirements for the leaf to be operated, the following overall measurements will be obtained (Pic. 13):



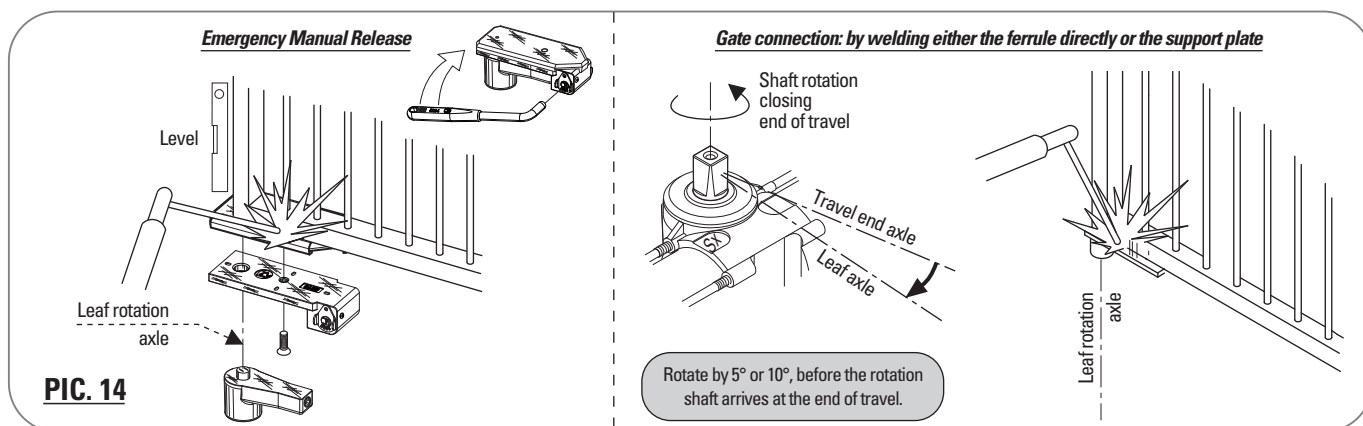
PIC. 13

PREPARING THE LEAF: SECURING THE EMERGENCY RELEASE OR THE FERRULE

The connection between the gate leaf to be opened and the Combi 740 operator may occur in three possible versions depending on if there is an **emergency manual release** system, a simple **Support plate with square hole ferrule** or only a **Square hole ferrule**. However, in all cases it is necessary to tightly weld these three items to the leaf base, in alignment with the upper hinge of the leaf itself (Pic. 14).

At this time, the measurement indicated in Pic. 13, between the enclosure and the above leaf becomes important.

IMPORTANT: the Support plate with a square hole ferrule and the single square hole ferrule must be welded to the leaf with the Combi 740 shaft rotated by 5° or 10°, before it arrives at the end of travel. (Pic.14). (Putting into phase process).



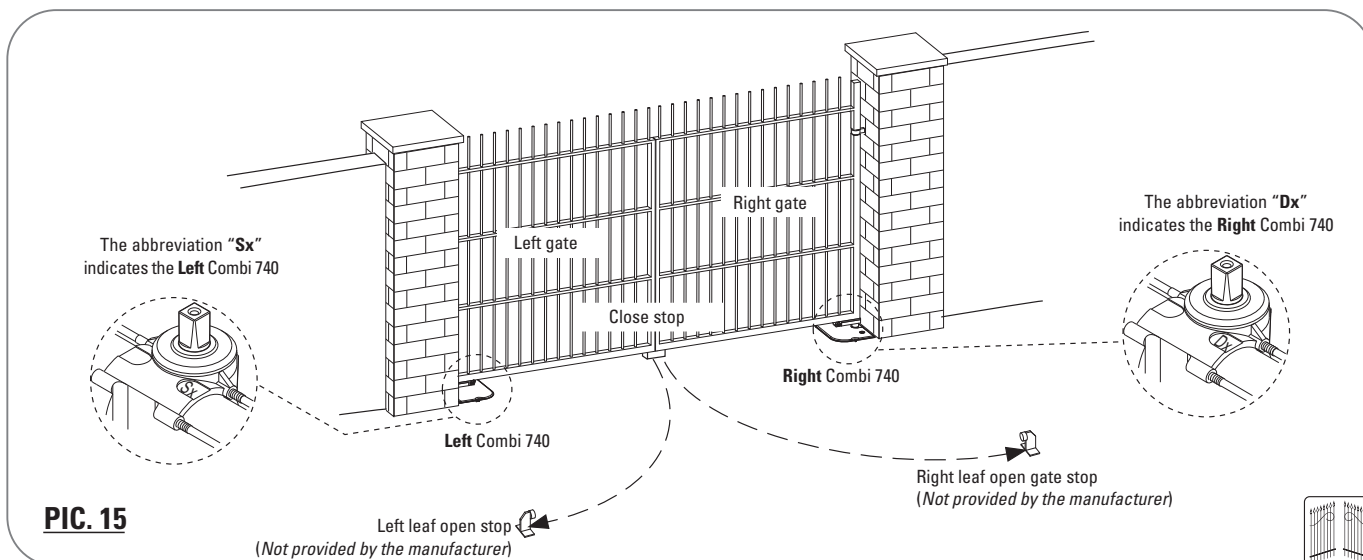
PIC. 14

INSTALLING THE RIGHT AND LEFT COMBI 740 INSIDE THE ENCLOSURE

IMPORTANT: The Right and Left Combi 740 are installed respectively to the right and left of the gate, as seen from the inside of the property; this distinction (version Right and Left) is indicated by the stamp on the base of the square rotation shaft, made during the manufacturing process at the factory (Pic.15).

NOTE: All what previously described also applies to installations with single leaf swing gates.

IMPORTANT: Before installing and making the electrical connections to the automated devices, the leaf opening and closing stops must be secured to the ground (Opening leaf stop approx. 5° before the rotation shaft's end of travel).



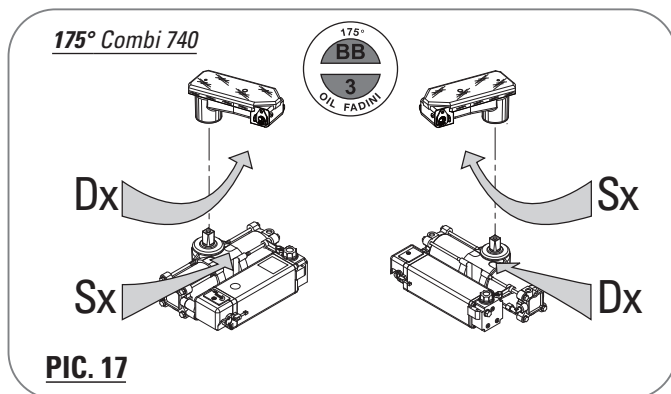
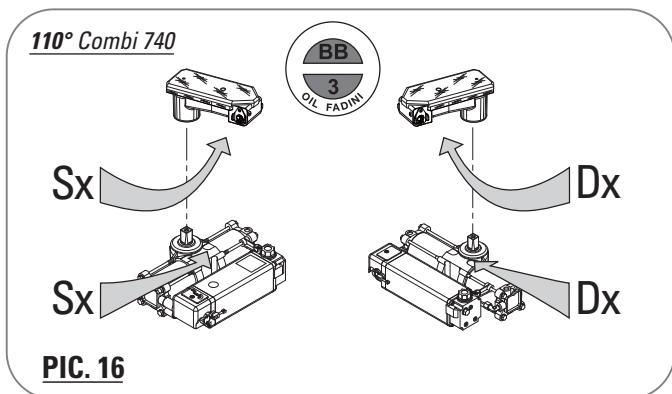
PIC. 15



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IMPORTANT: the emergency manual release is installed differently for the 110° and 175° versions.

- The **RIGHT Combi 740, 110°**, is paired with the **RIGHT (Dx)** emergency manual release, and the **LEFT** with the **LEFT** (Pic.16).
- The **RIGHT Combi 740, 175°** is paired with the **LEFT (Sx)** emergency manual release, and the **LEFT** with the **RIGHT** (Pic.17).

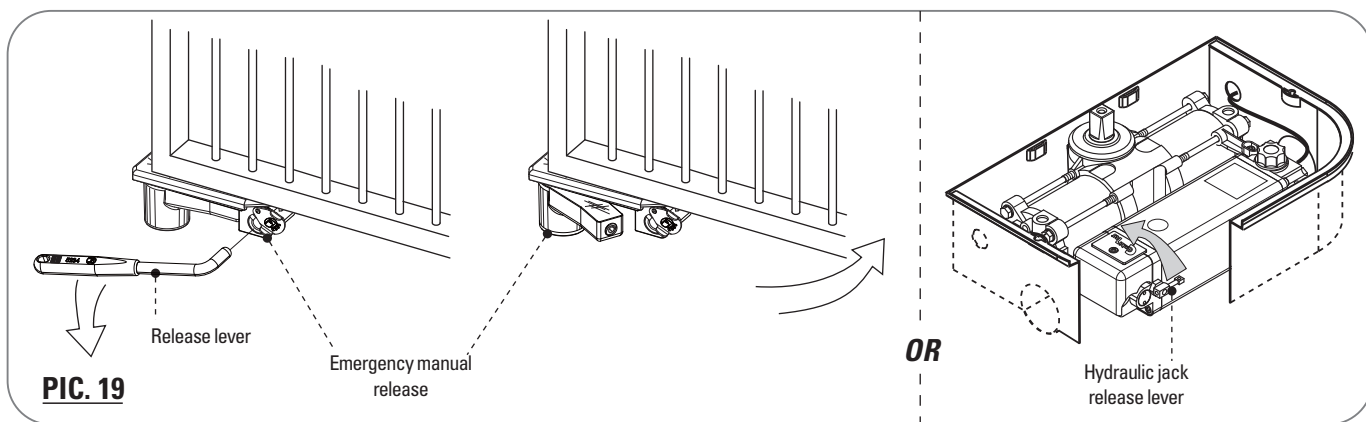
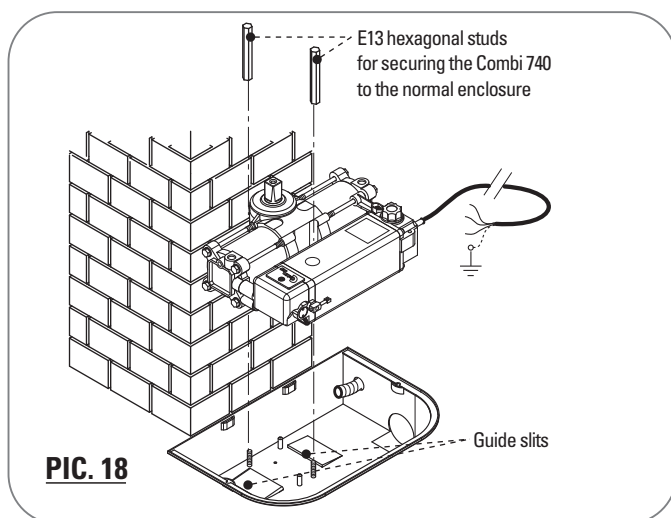


- The Combi 740 is inserted into the enclosure, secured using the two hexagonal studs and held in place by two raised slits at the base of the enclosure (Pic.18).
- After inserting the Right and Left Combi 740 into the enclosures, the gate leaves can be installed.

Important: before beginning any operation, even manual, the closing and opening gate stops must be installed (Pic. 15, pg. 23).

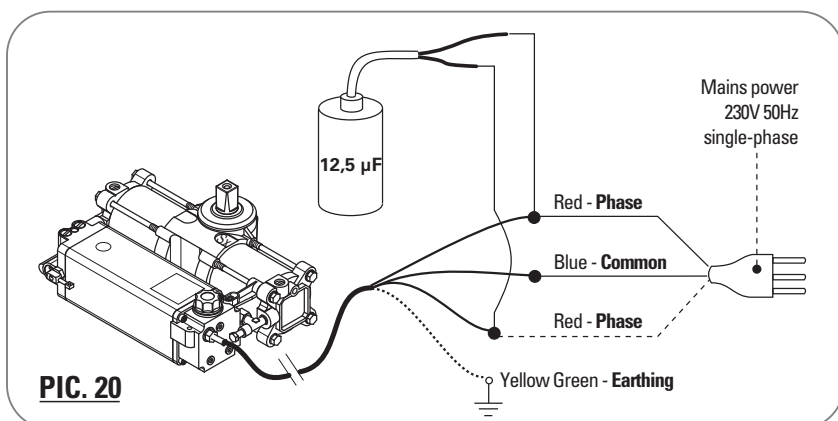
The first opening manoeuvres, even manual, can be carried out by “releasing” the Combi 740 from the leaf, using the release key (if the emergency manual release is installed), or by turning the **release lever of the hydraulic jack** (Pic.19).

Attention: this lever must always **be closed** during normal Combi 740 operation.



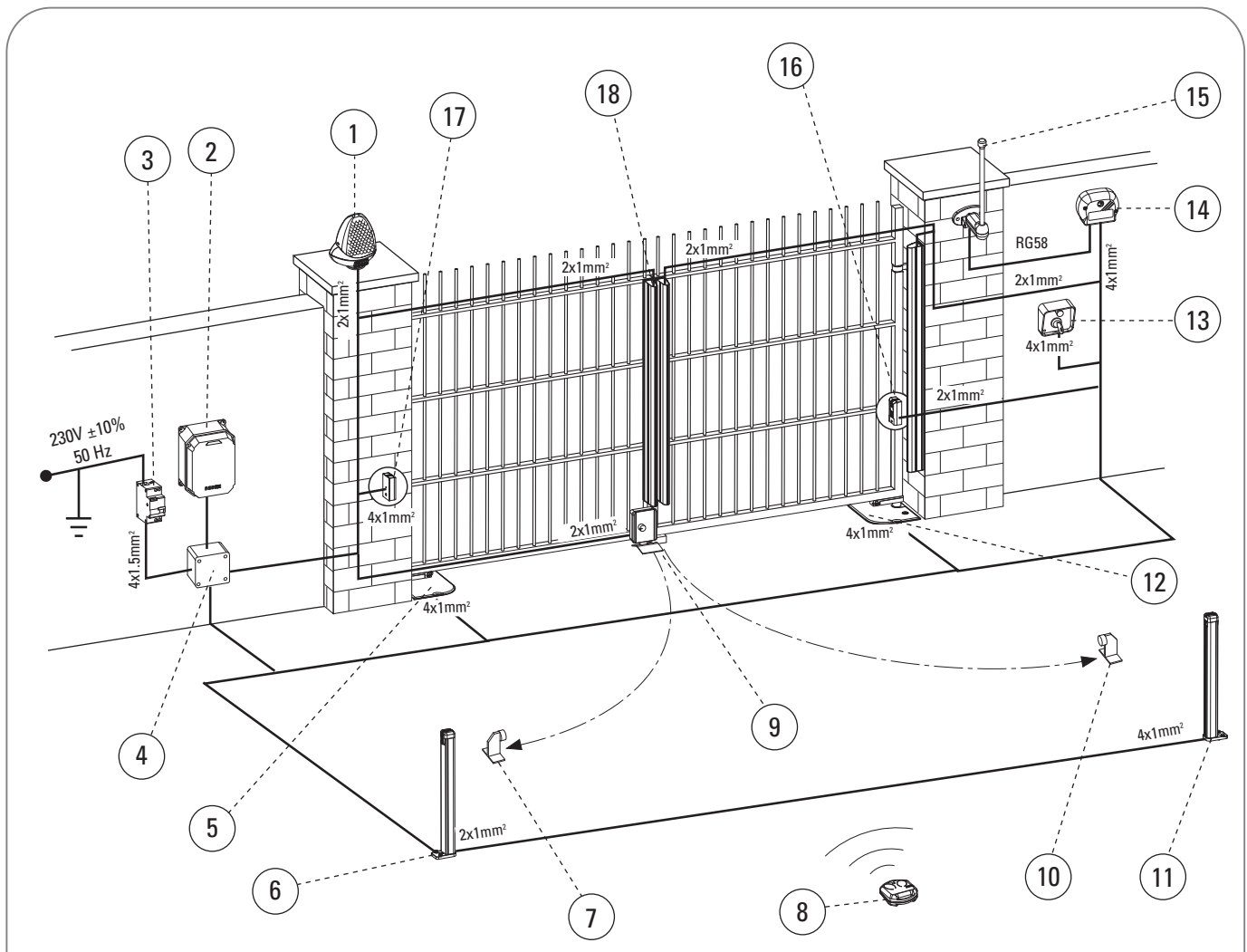
FIRST OPERATION TESTS

To carry out the first shaft rotation tests, the power supply can be connected directly to the Combi 740 motor. Make the connection in accordance with the diagram in Pic.20, adding a 12.5 µF condenser, installed in parallel with the two phases. To invert the shaft rotation direction, swap the connections of the phases.



IMPORTANT: all of the electrical connections and wiring (Pic. 21) must be completed in compliance with installation standards and in accordance with current laws in force (Machinery Directive 2006/42/CE); they must be carried out by qualified, technical personnel, formulating a complete **analysis of all risks** and adopting appropriate safety measures in accordance with the regulations **EN 12445** and **EN 12453** when filling out the **Technical File**.

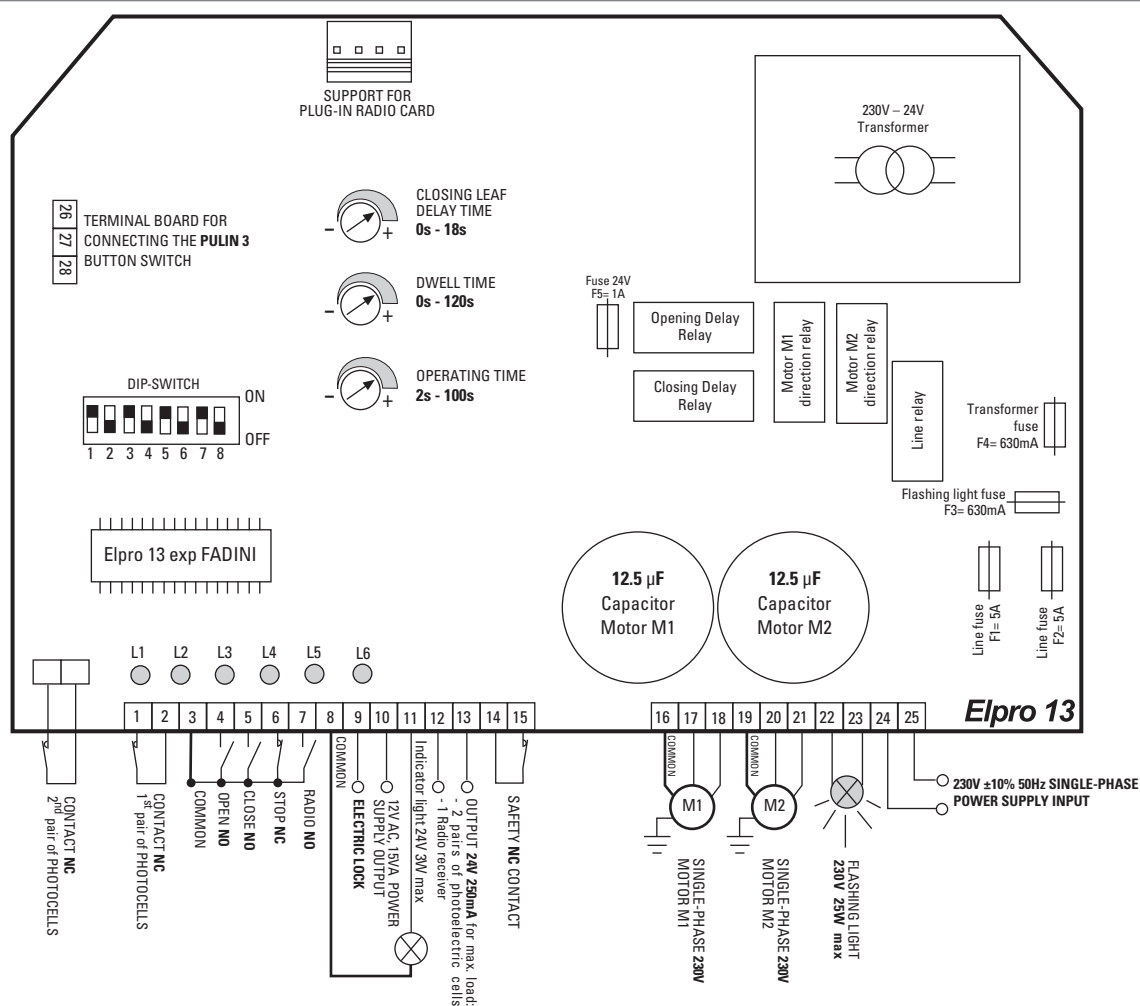
- The **Elpro 13 exp** programmer should be installed in a dry, protected place, inside its own container; in the case of added components, for the proper operation of the control and safety accessories, it is advised to install everything inside a cabinet certified for outdoor use (not provided by the manufacturer).
- The **Elpro 13 exp** programmer is powered by 1 mm² diameter electrical cables, for a maximum distance of up to 50 meters. For distances longer than 50 meters, use electrical cables with wires of appropriate diameter, in accordance with good installation technique. For all the accessories outside the electrical panel, electrical cables with 1 mm² or 0.5 mm² diameter wires can be used.



Key:

- | | |
|---|---|
| 1 - Miri 4 Flashing lamp (code 4600) | 10 - Right leaf open gate stop (not provided by the manufacturer) |
| 2 - Elpro 13 exp control box (code 7079) | 11 - Trifo 11 Receiver photocell (internal) on post (code 108) |
| 3 - Mains switch 230V - 50Hz Magnetic-thermal differential 0.03A
(not provided by the manufacturer) (for distances longer than 100m,
use 2.5 mm ² section cable) | 12 - Right Combi 740 |
| 4 - Junction box (not provided by the manufacturer) | 13 - Prit 19 Key-switch (code 190) |
| 5 - Left Combi 740 | 14 - Jubi 433 radio receiver, stand alone (code 4330) |
| 6 - Trifo 11 Projector Photocell (internal) on post (code 108) | 15 - Birio A8 Aerial (code 4605) |
| 7 - Left leaf open gate stop (not provided by the manufacturer) | 16 - Trifo 11 Projector photocell (external) (code 107) |
| 8 - Jubi 433 Transmitter (code 4334) | 17 - Trifo 11 Receiver photocell (external) (code 107) |
| 9 - Electric lock with closing leaf stop (code 7083) | 18 - Mechanical wire edge - 6 pieces (code 2077)
(2 pcs on closing, 2 pcs on opening and 2 pcs fixed to the gate post) |

PIC. 21



General description: The Elpro 13 exp is an electronic microprocessor programmer for controlling and managing single-phase gate openers fitted on swinging gates. With its single-phase 50Hz 230V±10% power supply, it satisfies the Low Voltage 2006/95/CE and Electro Magnetic Compatibility regulations 2004/108/CE - 92/31/CEE safety standards and should therefore be installed by a qualified technician in compliance with applicable regulations. **Programmed operation logic:** automatic function, semi-automatic, pre-flashing, step-by-step by radio remote control, input for 2nd pair of photocells, electric lock output, pedestrian opening function, stroke reversing pulse function, operator status indicator light.

The Manufacturer declines responsibility for improper use of the programmer and reserves the right to amend and update this manual and the programmer without prior notice. Non-compliance with installation rules can cause serious damage to properties and people.



IMPORTANT:

- The programmer must be installed in a protected, dry place with its own protective case
- Apply a high sensitivity differential Thermo-magnet circuit breaker type 0.03 A to the programmer's power supply
- Make sure that the electronic programmer has a 230V ±10% 50Hz power supply
- For power supply, flashing light use cable with wires with a section of 1.5 mm² up to a distance of 50m; for Limitswitches and other accessories, use cables with wires with 1mm² sections.
- If the Photocells are not used, insert a jumper between terminals 1 and 2 and if the 2nd pair is not used, jumper the relative terminals
- If no Button switches or key switches without stop button are used, insert a jumper between terminals 3 and 6 NC contact

IF THE PROGRAMMER DOES NOT WORK:

- Ensure that the electronic programmer has a 230V ±10% power supply
- Ensure that the electric motor has a 230V ±10% power supply
- For distances of over 50 metres, increase the section of the wires.
- Check the single-phase 230V supply voltage
- Check the fuses
- Check all normally closed NC contacts of the programmer
- Check that there is no drop in voltage between the programmer and the electric motor

Diagnostic LEDs

- L1= ON** if the programmer is powered
- L2=** Photocell, normally **ON**, switches off with obstacle present
- L3=** Open, normally **OFF**, lights when Open pulse is received
- L4=** Close, normally **OFF**, lights when Close pulse is received
- L5=** Stop, normally **ON**, switches off when Stop impulse is given
- L6=** Radio, normally **OFF**, lights when Radio pulse is received



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DIP-SWITCH

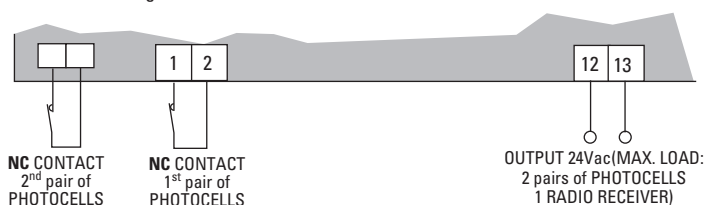
- 1= **ON** 1st pair of Photocells stop gates during opening
- 2= **ON** Radio does not invert during opening
- 3= **ON** Closes in Automatic mode
- 4= **ON** Pre-flashing of flashing light
- 5= **ON** Step-by-step by radio with intermediate stop
- 6= **ON** Single pedestrian when gate is closed
- 7= **ON** Stroke reversing pulse function enabled when opening from closed gate position
- 8= **ON** Eliminates the Leaf Delay when opening. The motors start together



LOW VOLTAGE ELECTRICAL CONNECTIONS

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

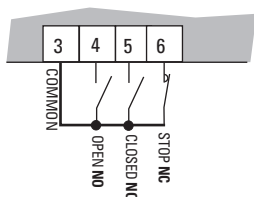
Photocells: The 1st pair of Photocells (device installed on gate posts) is managed by Dip-Switch 1
The 2nd pair of photocells (device installed inside entrance) stops gate during opening and changes gate direction when closing once the obstacle has been removed



DIP-SWITCH 1 (only for 1st pair of Photocells):

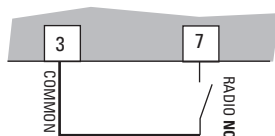
- ON:** Photocell stops gate on opening and changes direction when closing once the obstacle has been removed
- 1 OFF:** Photocell no stop on opening and changes direction when closing in case of an obstacle

Pushbutton switch:



Radio contact:

- Open/Close (normal) changes direction at each pulse
- Step-by-step with intermediate stop



DIP-SWITCH 2:

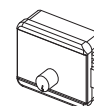
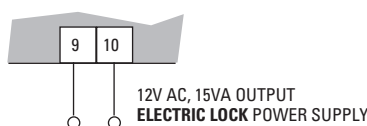
- ON:** Does not change direction during opening
- 2 OFF:** Changes direction at each pulse

DIP-SWITCH 5:

- ON:** Step-by-step with intermediate stop
- 5 OFF:** Normal operation

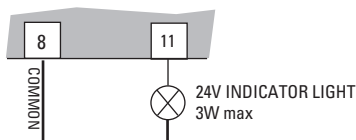
Electric lock:

Accessory that mechanically locks the gate in closed position, recommended for installation with leaves over 1.80 m in length and non locking operators. Operating time: power supply for **2 seconds**, 100ms in advance before leaf movement starts



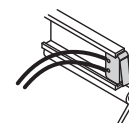
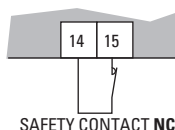
24V 3W Indicator light showing gate in movement:

Indicator light **On** = Gate open
Indicator light **Off** = Gate closed
0.5s flashing (fast)= closing movement
1s flashing= opening movement



Safety contact:

Microswitch on housing lid. If not used, short-circuit terminals 14 and 15




ELECTRIC POWER CONNECTIONS

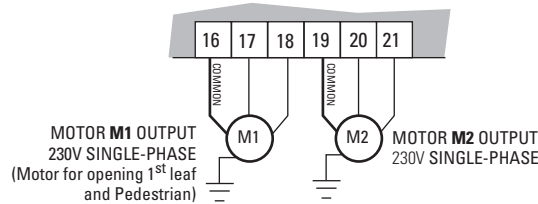
16 17 18 19 20 21 22 23 24 25

Motors: Having terminated the electrical connections to the Motors, the three timers must be adjusted: **Leaf delay on closing, Dwell Time and Operating Time**

 CLOSING LEAF DELAY TIME
0s - 18s

 DWELL TIME (If Dip-Switch 3=ON)
0s - 120s

 OPERATING TIME
2s - 100s



DIP-SWITCH 8:

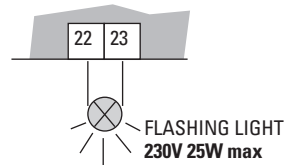
ON: Eliminates the Leaf delay when opening. The motors start together
 8 OFF: Leaf delay when opening enabled

DIP-SWITCH 3

ON = Closes in Automatic mode
 3 OFF = Does not close in Automatic mode Semi-automatic function

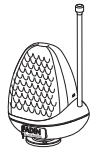
Flashing light:

Pre-flashing Dip-Switch 4=ON: Once the control pulse has been given the flashing light switches on and the operator starts 3 seconds later.



DIP-SWITCH 4:

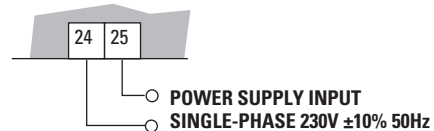
ON: Pre-flashing
 4 OFF: Without pre-flashing



Programmer power supply:

Apply a high sensitivity differential Thermo magnet circuit breaker type 0.03A to the programmer's power supply.

The card requires a 230V $\pm 10\%$ 50Hz single-phase power supply once all the low voltage and power connections have been completed.



FUNCTIONS

Automatic / Semi-automatic function:

Automatic cycle: when an open pulse is given, the leaves open, they stop in dwell for the time set on the timer, after which they close automatically.

Semi-automatic cycle: when an open pulse is given, the leaves open. To close the leaves, give the close pulse.



DWELL TIME
0s - 120s

DIP-SWITCH 3

ON = Closes in Automatic mode
 3 OFF = Does not close in Automatic mode Semi-automatic function

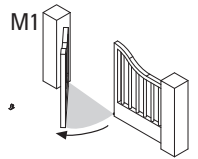
Pedestrian opening:

Pedestrian opening of a completely closed gate leaf is obtained giving an Open command, with **Dip-Switch no. 6=ON**, to terminals 3-4:

- a first opening command opens the **Motor 1** leaf
 - with a second command to terminals 3 and 4, the second leaf also opens.
- The transmitter is always enabled for both leaves with Radio Contact 7-8

DIP-SWITCH 6:

ON= Single-leaf pedestrian service
 6 OFF= Normal service



Stroke reversing pulse:

Function (**Dip-Switch no. 7=ON**) that facilitates disengagement of the electric lock when the gate is completely closed, even in Pedestrian Opening mode: with the gate leaves closed, before opening they are pushed to close for **2 seconds**.

DIP-SWITCH 7:

ON: Stroke reversing pulse function enabled when opening from closed gate
 7 OFF: Stroke reversing pulse deactivated

Step-by-step function:

Dip-Switch no.5=ON At each pulse on the radio contact the gate performs open-stop-close-stop

DIP-SWITCH 5:

ON: Step-by-step function enabled
 5 OFF: Step-by-step function deactivated

External clock (Optional):

CLOCK: The Elpro 13 exp Programmer makes it possible to connect a normal clock for opening-closing

Wiring: connect in parallel the NO contact of the Clock with terminal no. 4 OPEN and no. 3 COMMON, activating automatic re-closing with the Dip-Switch no. 3=ON and setting the dwell time on the trimmer

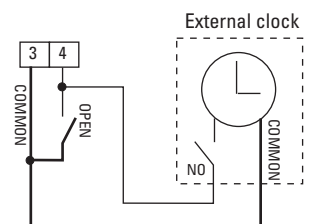
Operation: programme the opening time on the clock, at the time set the gate will open and remain open (the flashing light switches off and the indicator light gives the signal with two quick flashes followed by a longer dwell) and will not accept any further command (including radio commands) until the time set on the clock has elapsed, at the end of which, following the dwell time, automatic reclosure will take place.



DWELL TIME
0s - 120s

DIP-SWITCH No. 3=ON Automatic Closing

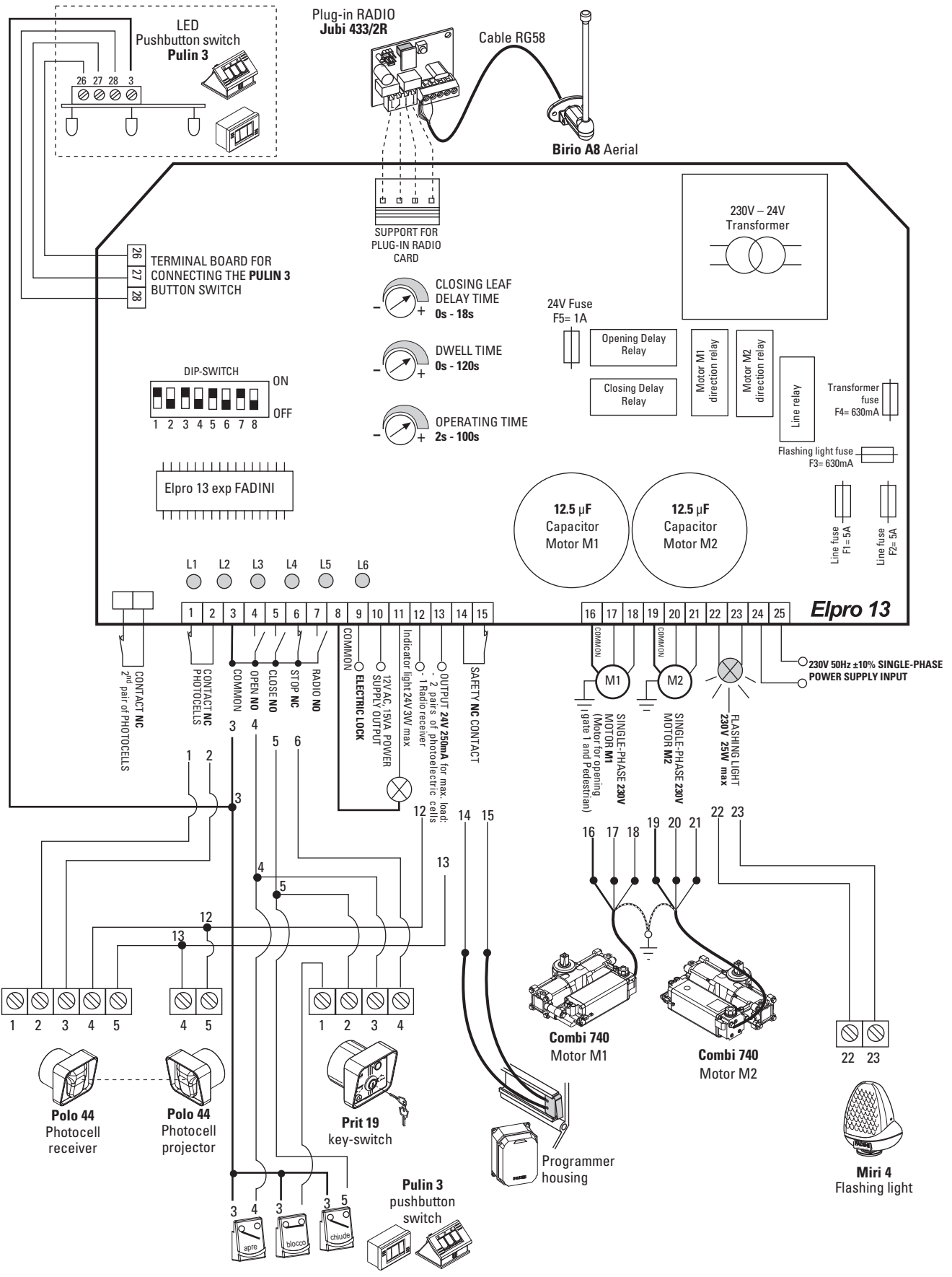
ON = Closes in Automatic mode
 3 OFF = Does not close in Automatic mode Semi-automatic function



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Drwg. No.1643





English

PIC. 22

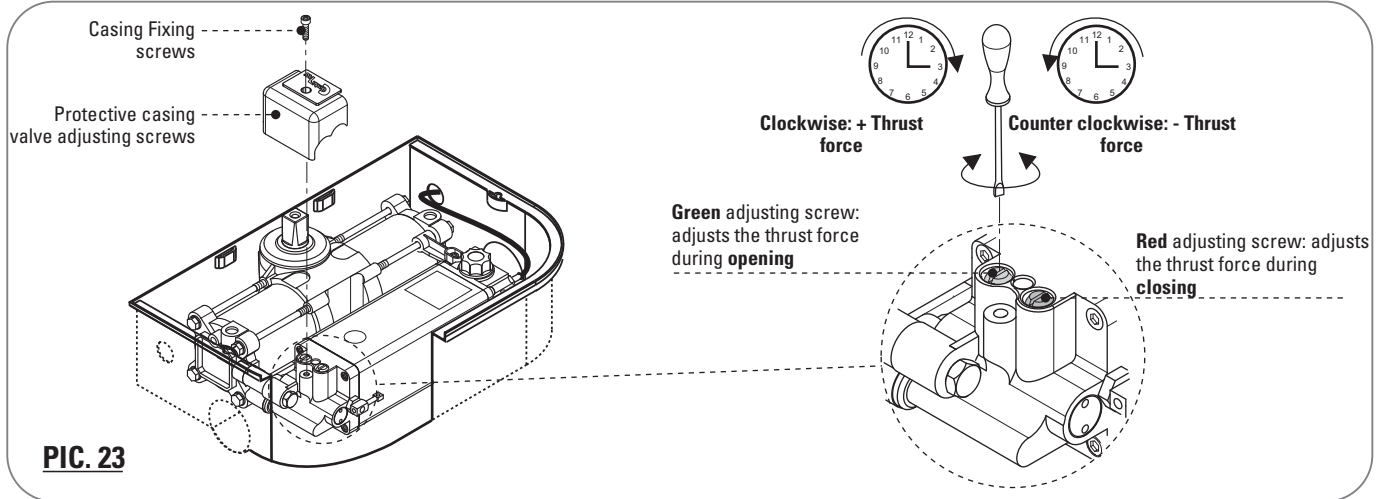


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ADJUSTING THE THRUST FORCE

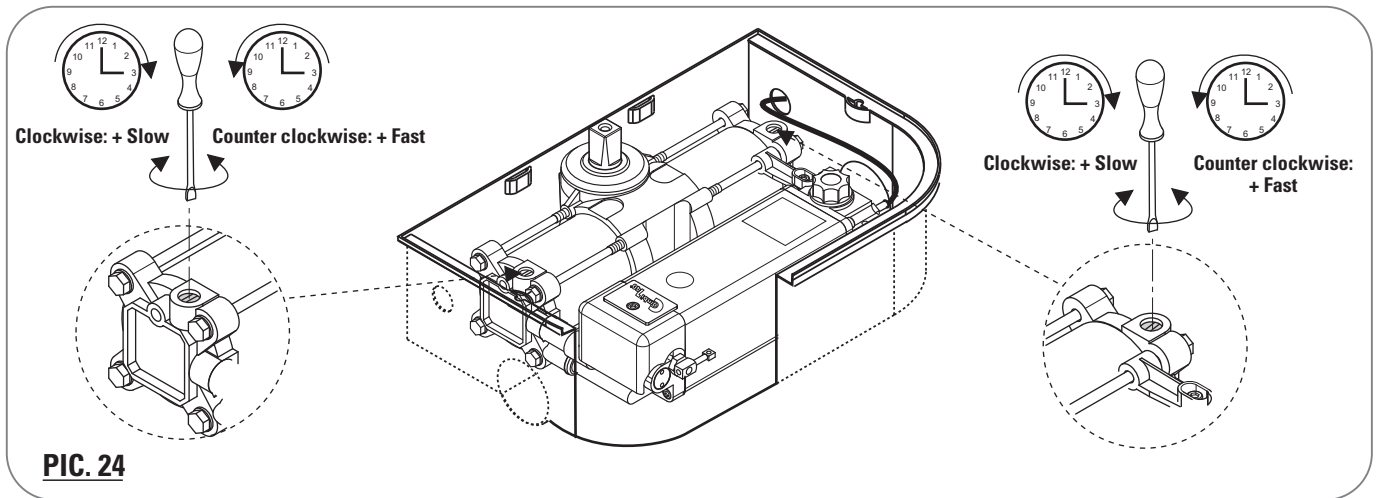
The anti-crushing safety of Combi 740 is ensured by the maximum hydraulic pressure valves, which allow for an accurate and stable adjustment of thrust force over time. These are protected by a casing, secured during testing at the factory; once the protective casing has been removed, loosening the screws with an Allen wrench, the valves can be adjusted. (Pic.23).

- **Red adjusting screw:** tightening (clockwise) the thrust force is increased during **Closing**, loosening it is decreased.
- **Green adjusting screw:** tightening (clockwise) the thrust force is increased during **Opening**, loosening it is decreased.



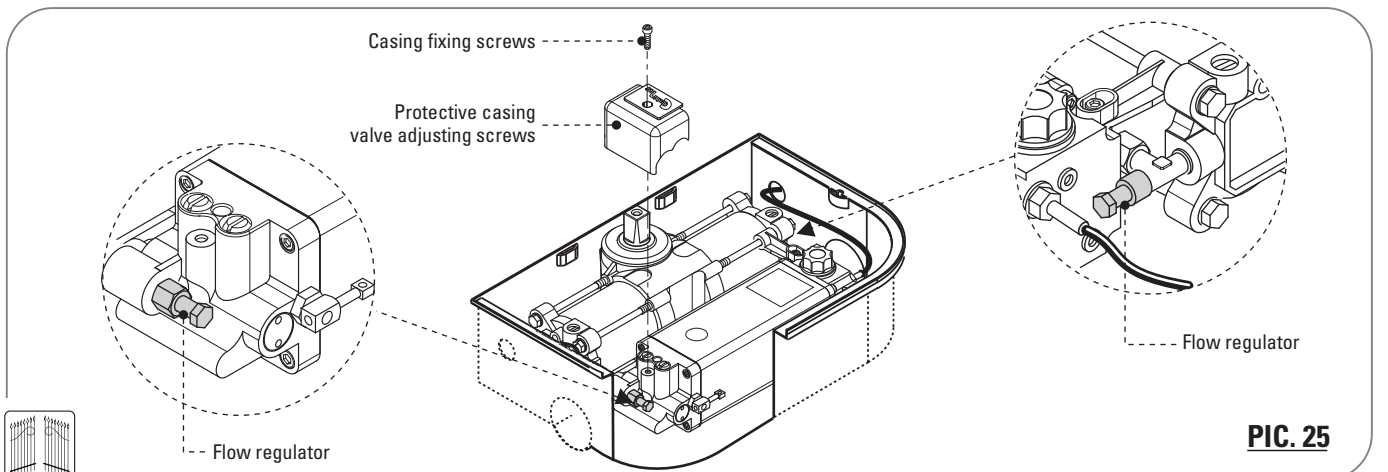
ADJUSTING THE BRAKE FOR COMBI 740 DURING OPENING AND CLOSING

It is possible to adjust the slowdown during the last few leaf rotation degrees (approx. 40cm) (Pic. 24).



LEAF SPEED REGULATOR FOR COMBI 740 WITH FLOW REGULATORS

The hydraulic flow regulator allows leaf speed adjustment in the two movement directions, opening and closing; it is recommended mostly for leaves longer than 2.50 meters (Pic. 25).



DECLARATION OF CONFORMITY of the Manufacturer

Manufacturer:



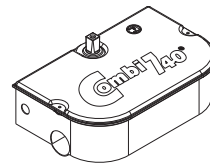
Address:

Via Mantova 177/A - C.P. 126 - 37053 Cerea (VR) Italy
Tel. +39 0442 330422 - Fax +39 0442 331054
e-mail: info@fadini.net - www.fadini.net

CERTIFIES, ASSUMING SOLE RESPONSIBILITY THAT:

Model:

Combi 740®



ground-installed oil-hydraulic gate opener

CONFORMS TO MACHINERY DIRECTIVE2006/42/CE

FURTHER:

The Combi 740 is sold to be installed as an "automated system", with original accessories and components specified by the manufacturer.

An automation, in legal terms, is a "machine" and therefore all safety regulations must be applied by the installer. The installer is also required to issue a Declaration of Conformity.

The Manufacturer does not assume responsibility for improper use of the product.

The product conforms to the following, specific legislation:

- Risk analysis and subsequent actions to remove them: **EN 12445 & EN 12453**
- Low Voltage Directive **2006/95 CE**
- Electromagnetic Compatibility Directive **2004/108/CE & 92/31 CEE**

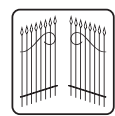
In order to certify the product, the Manufacturer declares, assuming sole responsibility, its compliance with
PRODUCT STANDARDS **EN 13241-1**

Date: 03-03-10

Meccanica Fadini s.n.c.

Managing Director

CE



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COMBI 740 TECHNICAL SPECIFICATIONS

ELECTRIC MOTOR, TWO PHASE CLASS H

Power output	0.18KW (0.25CV)
Absorbed power.....	250W
Frequency.....	50Hz
Supply voltage.....	230V ±10%
Absorbed current.....	1.2A
Capacitor.....	12.5µF
Motor rotation speed	1'350 r.p.m.
Intermittent service.....	S3

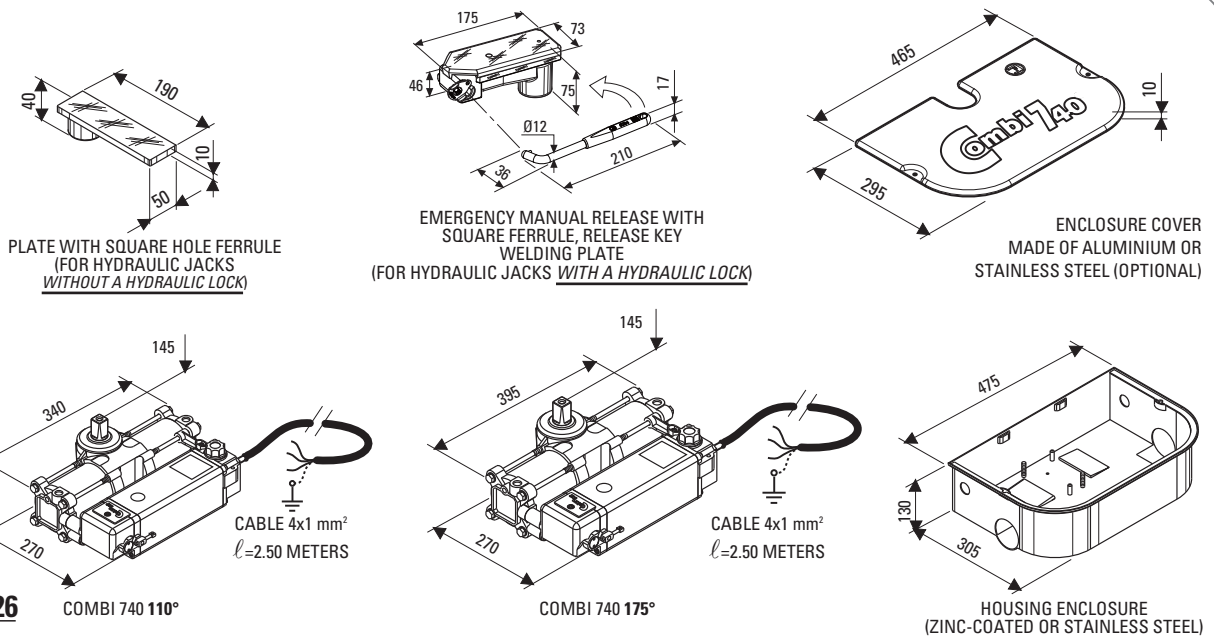
DOUBLE STROKE JACK AND OIL-HYDRAULIC PUMP

Pump flow rate - P3.....	0.85 l/1'
Working pressure	1 MPa (10bar)
Max pressure	3 MPa (30bar)
Working temperature.....	-20°C +80°C
Rotation time (110°).....	23 s
Rotation time (175°).....	28 s
Oil type.....	Oil Fadini
Shaft rotation angle	110° / 175°
Torque.....	235 Nm
Cylinder bore	75 mm
Stroke	52 mm
Weight of Combi 740 with accessories	27 Kg
IP standards	IP 673
Leaf maximum static weight	700 Kg(1.0m length) - 350Kg(2.8m length)
Overall dimensions (LxWxH).....	475x305x130 mm

PERFORMANCE (for 110°)

Duty service cycles.....	23s Open - 30s Dwell - 23s Close - 30s Dwell
Time of one complete cycle.....	106 s
No. Completed cycles Open - Dwell - Close - Dwell	34/hour
No. cycles a year, 8 hours of operation a day	99'000

COMBI 740 OVERALL DIMENSIONS

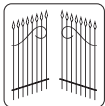


English

ORDINARY MAINTENANCE

To ensure optimal system performance over time and according to safety regulations, it is necessary to carry out correct maintenance and monitoring of the entire installation: the automation, the electronic equipment installed and all cabling attached to such equipment. Installation must be completed by qualified technical personnel, filling out the Maintenance Manual indicated in the Regulations Booklet to be requested:

- Oil-hydraulic automation: maintenance check at least every six months.
- Electronic equipment and safety systems: maintenance check at least once per month.
- Scheduled and extraordinary maintenance operations must be agreed upon between the client and the company that will perform the work.
- Leave the handling of all packaging materials including cardboard, nylon, polystyrene, etc... to companies that specialise in waste recovery.
- **THROWING AWAY MATERIALS HARMFUL TO THE ENVIRONMENT IS PROHIBITED**
- In case the actuator is removed, **do not cut the electrical wires**; instead remove them from the terminal board by loosening the screws inside the junction box.



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The MECCANICA FADINI'S development has always been based on ensuring the quality of products and on the existence of a TOTAL QUALITY CONTROL system, which guarantees quality levels over time as well as constant updating in compliance with European standards, in order to ensure continued improvement.



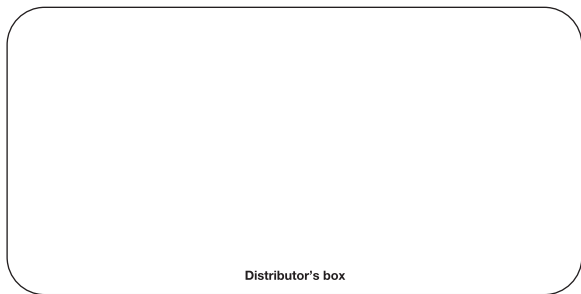
meccanica FADINI s.n.c.

AUTOMATIC GATE MANUFACTURERS

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Tel. +39 0442 330422 r.a. - Fax +39 0442 331054
e-mail: info@fadini.net - www.fadini.net



2003/108/CE Directive for waste electrical and electronic equipments
DISPOSE OF PROPERLY ENVIRONMENT-NOXIOUS MATERIALS



Distributor's box

The manufacturer reserves the right to make amendments to this manual without prior notice and declines all responsibility for any errors, personal injury or damage to property.