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119AU35EN

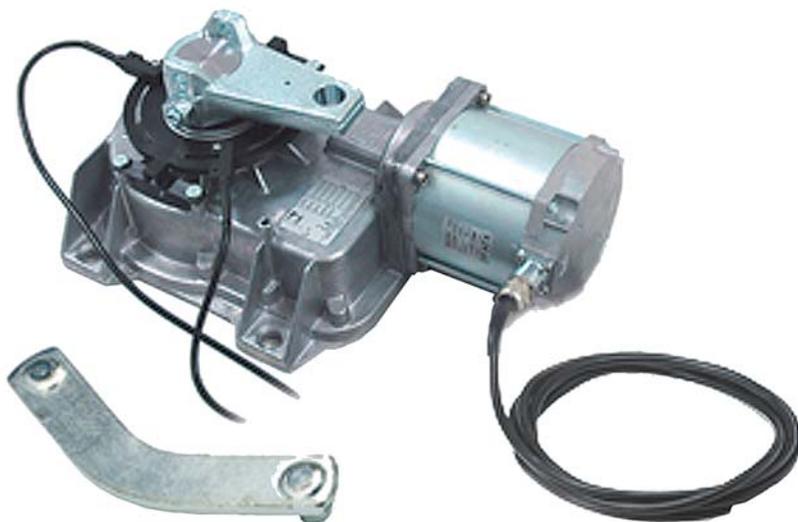
UNDERGROUND OPERATOR
FOR SWING GATES

Official Partner



MILANO 2015

FEEDING THE PLANET
ENERGY FOR LIFE



Installation manual

FROG-A24 / FROG-A24E



English

EN

WARNING!
important safety instructions:
READ CAREFULLY!



Introduction

• Use this product only for the specific purpose for which it is designed. Any other use is therefore improper and dangerous. CAME Cancelli Automatici S.p.A. is not liable for any damage due to improper, erroneous and unreasonable use • Keep these warnings together with the installation and users' manual for the automation system.

Before installing

(check what's there: if you find something wrong, proceed only after correcting the problem so the equipment is safe to use)

• Check that the part you want to automate is in good mechanical condition, that it is balanced and aligned, and that it opens and closes properly. Make sure you have suitable mechanical stops • If the operator will be installed less than 2.5 m from the floor or from any other access level, check whether you need additional protections and/ or warnings • With pedestrian doors framed into the doors that will be automated, a system must be in place to block their opening during movement • Make sure the opening of the automated door leaf does not cause any trapping situations involving any surrounding fixed parts • Do not install the operator upside down or on any elements that may bend. If necessary, add suitable reinforcements at the fastening points • Do not install on sloping ground (only install on flat ground) • Check that any watering devices cannot wet the gearmotor from the bottom upwards.

Installation

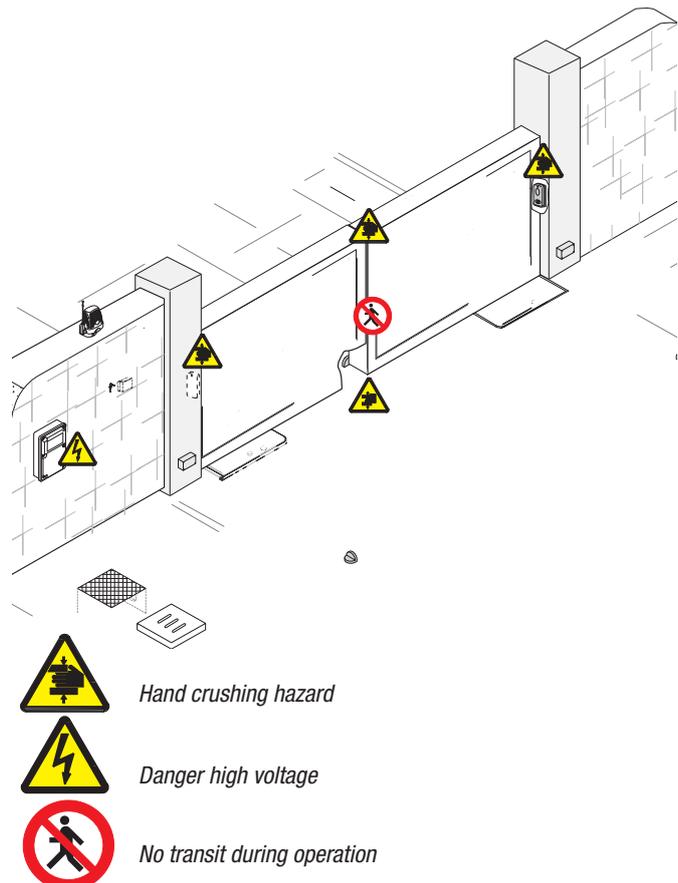
• Properly signal and demarcate the entire site prevent any careless people from entering the works area • Be careful when handling operators that weigh more than 20 kg (see installation manual. If such is the case, make sure you have proper hoisting equipment. All opening commands (buttons, key selectors, magnetic card readers, and so on) must be installed at least 1.85 M from the gate's area of movement, or so that they are unreachable from the outside. Moreover, the direct commands (from buttons, swipe cards, and so on) must be installed 1.5 m high off the ground and must not be reachable by the public • All "hold-to-run" commands must be placed where the operating gate leaves and transit areas are completely visible. • Apply a permanent label that shows the position of the release device • Before turning over the installation to the user, check that the system conforms to standards EN 12453 and EN12445 (impact testing), making sure the device has been properly adjusted and that the safety and protection and release devices function properly • Where necessary apply the Warning Signs so that they are clearly visible (e.g. the gate plate)

Instructions and special recommendations for users

• Keep the barrier's areas of operations unobstructed. Check that the photocells are free of any vegetation blocking them, and that there are no obstacles to the free movement of the operator. Do not allow children to play with the fixed command devices, or in the barrier's area of operation. Keep transmitters and any other command devices away from children, to prevent the operator from being activated by mistake • Frequently check the system, to scan for any anomalies or wear and tear in the moving structures, the operator's components, all fastening points and devices, the cables and accessible connections. Keep any jointed parts like hinges lubricated and clean of debris and the guide-sleds free of any friction • Perform functional checks to the photocells and sensitive edges every six months. To check that the photocells work properly, wave an object in front of them during closing; if the operator inverts its direction of travel or blocks movement, then the photocells are working properly. This is the only maintenance job that can be done to the gate when it is powered up. Ensure proper cleaning of the glass on the photocells (use a slightly damp cloth); do not use any solvents or other chemical products that may ruin the devices) • Should any repairs or changes to the system settings be needed, release the operator and refrain from using it until safety conditions have been restored • Cut the power off before releasing the operator for manual opening, to avoid any hazardous situations. Check instructions • It is FORBIDDEN for users to perform ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUESTED OF SAID USERS in the manuals. Any repairs, adjustments or extraordinary maintenance, EXCLUSIVELY CALL TECHNICAL ASSISTANCE • Log any service jobs onto the periodic maintenance journal.

Special instructions and recommendations for everyone

• Keep away from the hinges and any moving mechanical parts • Stay out of the operating range of the operator while it is moving • Do not oppose the movement of the operator as this may result in danger • Always be careful around the dangerous parts, which must be properly indicated with warning signs and black and yellow stripes • When using a selector switch or a maintained-action mode command, keep checking that no persons come within the operating range of the moving parts, until the command is released • The gate may move at any moment without warning. Always cut off the main electric power supply before performing any cleaning or maintenance.



KEY

-  This symbol indicates parts to read carefully.
-  This symbol indicates parts about safety.
-  This symbol tells you what to say to the end users.

REGULATORY REFERENCES

Came Cancelli Automatici is a company with an ISO 9001-certified company quality management system and an ISO 14001-certified environmental management system.

The product in question complies with the regulations referred to in the declaration of conformity.

DESCRIPTION

The product consists of: a foundation box, a gearmotor and motion transmission arms.

Intended use

Designed to power swing gates for residential or condominium use.

 Any installation and operation that differs from what is set out in this manual is prohibited.

Limits of use

Model	FROG-A24 / FROG-A24E		
Gate leaf length (m)	3.5	2.5	2.0
Gate leaf weight (kg)	400	600	800

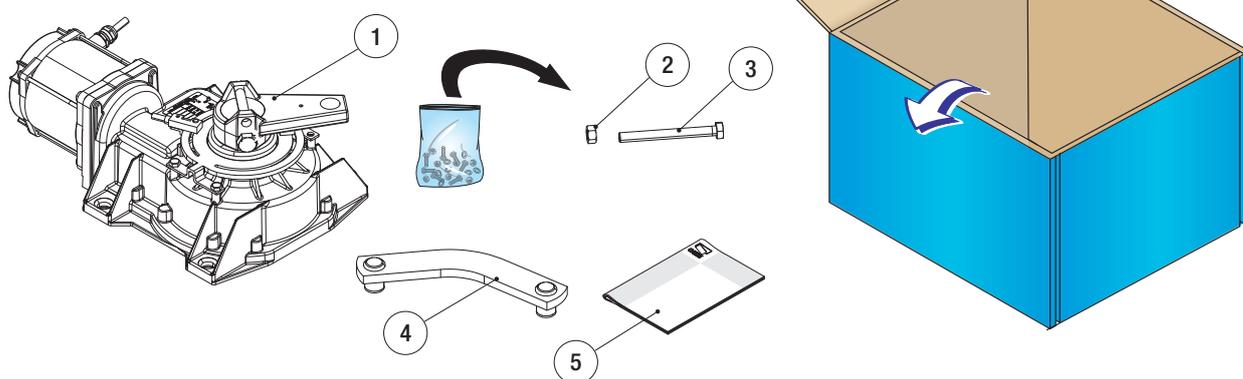
With swing gates it is always advisable to install and electro-lock. This is to ensure a reliable closing and to protect the gearmotor's inner workings. But whereas with reversible operators it is merely advisable, with irreversible ones, beyond 2.5 m, it is obligatory.

Technical data

Type	FROG-A24 / FROG-A24E
Protection rating (IP)	67
Power supply (V - 50/60 Hz)	230 AC
Motor power supply (V - 50/60 Hz)	24 DC
Current draw (A)	15 max.
Power (W)	180
Thrust (N)	320 max.
Opening time to 90° (sec)	ADJUSTABLE
Duty Cycle (%)	INTENSIVE USE
Operating temperature (°C)	-20 - +55
Motor thermal protection (°C)	-
Gear ratio	1/1152
Insulation class	I
Weight (kg)	11.5

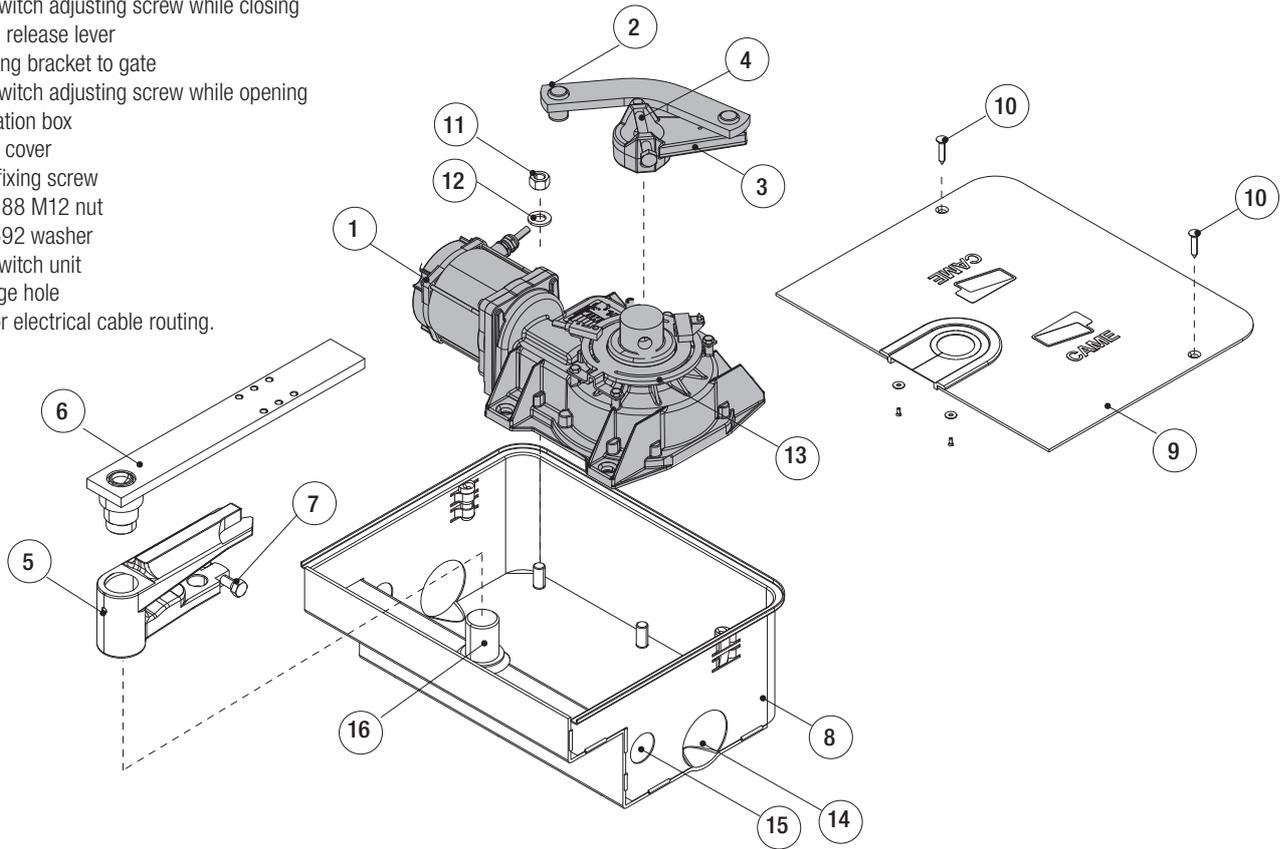
Packing list

1. 1 x Gearmotor
2. 1 x UNI 5588 M10 nut
3. 1 x UNI 5739 M10 x 100 hex screw
4. 1 x Transmission lever
5. 1 x Installation manual



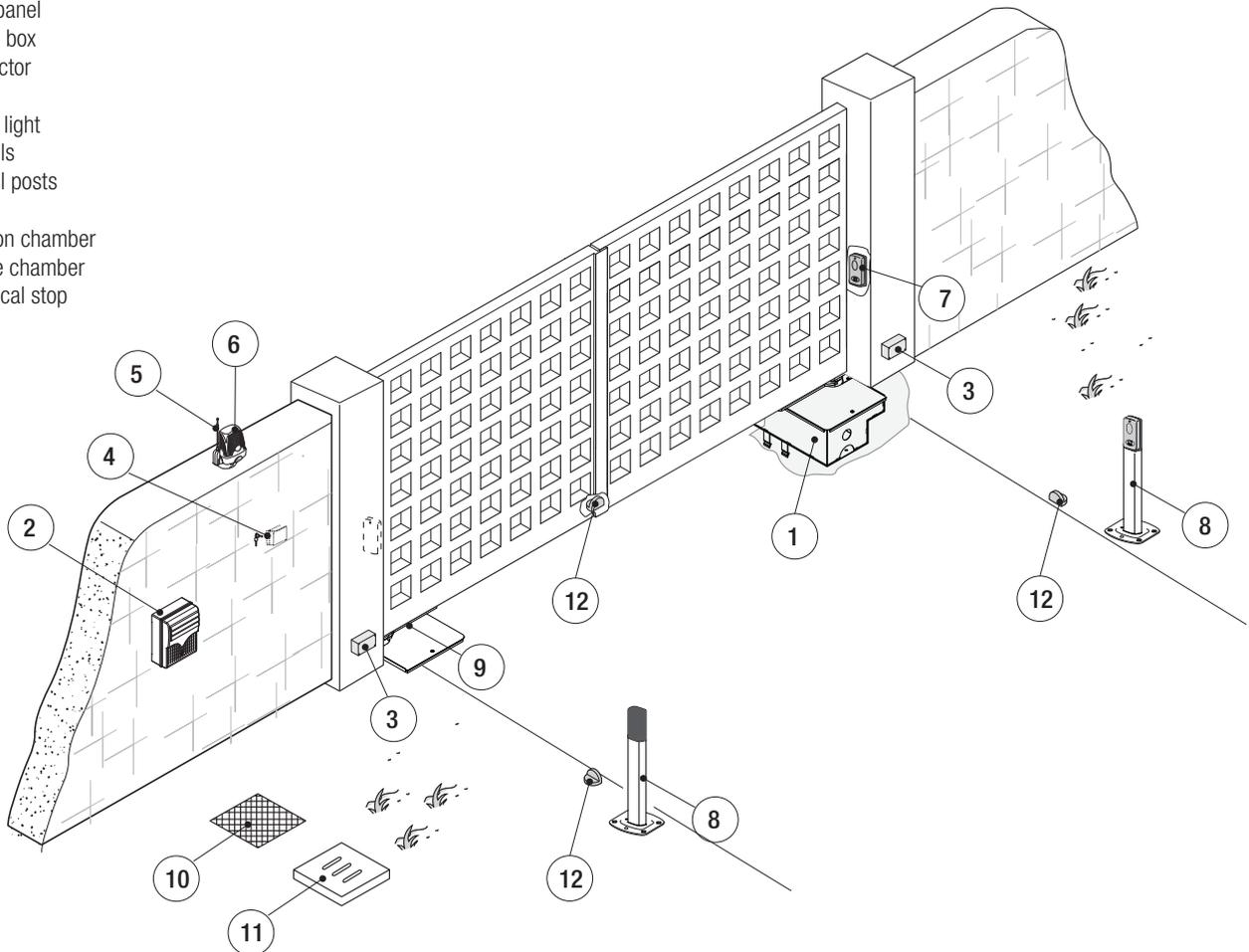
Description of the components

1. Gearmotor
2. Transmission lever
3. Gearmotor arm
4. Limit switch adjusting screw while closing
5. Couple release lever
6. Mounting bracket to gate
7. Limit switch adjusting screw while opening
8. Foundation box
9. Casing cover
10. Cover fixing screw
11. UNI 5588 M12 nut
12. UNI 6592 washer
13. Limit switch unit
14. Drainage hole
15. Hole for electrical cable routing.
16. Pin

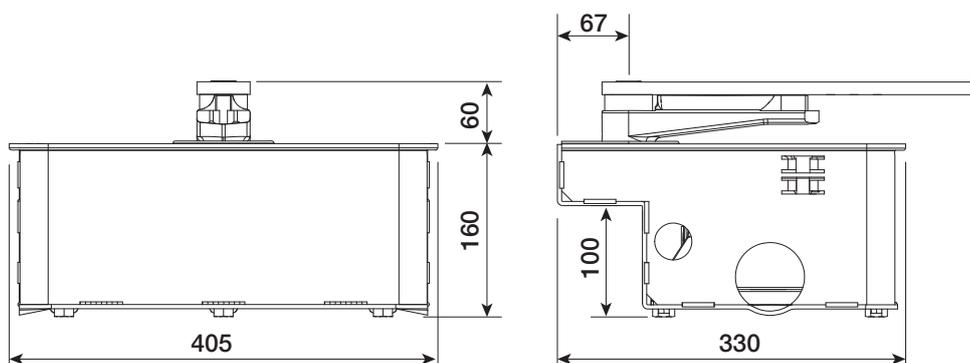


Example of a system

1. Gearmotor with foundation box
2. Control panel
3. Junction box
4. Key selector
5. Antenna
6. Flashing light
7. Photocells
8. Photocell posts
9. Latch
10. Inspection chamber
11. Drainage chamber
12. Mechanical stop



Dimensions (mm)



GENERAL INSTALLATION INSTRUCTIONS

△ Installation must be carried out by qualified and experienced personnel in compliance with applicable regulations.

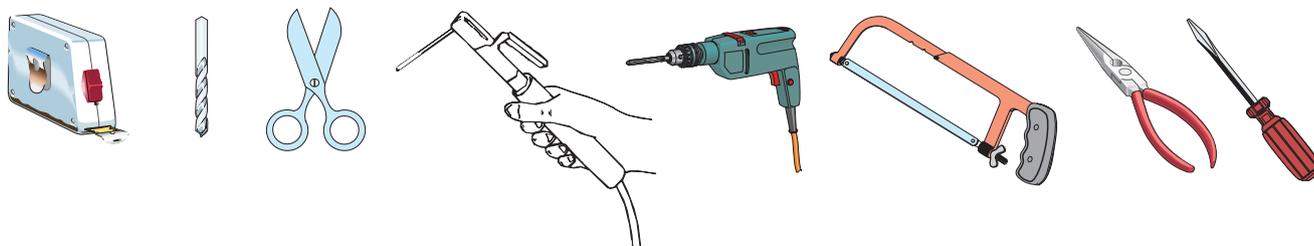
Preliminary checks

△ Before installing the operator:

- Provide a suitable single-pole disconnection device, with a maximum of 3 mm between the contacts, to disconnect the power supply;
- Prepare suitable piping and ducts for routing the electrical cables, ensuring protection against mechanical damage;
- Prepare a drain pipe to prevent stagnation that may cause oxidation;
- ⊕ Make sure that any connections within the container (made to ensure the continuity of the protection circuit) are fitted with additional insulation compared to the other internal conductor parts;
- Make sure the gate structure is sturdy enough, that the hinges are in proper working order and that there is no friction between the moving and fixed parts;
- Make sure there are opening and closing mechanical stops,

Tools and materials

Make sure you have all the tools and materials you will need for the installation at hand to work in total safety and compliance with current standards and regulations. The figure shows some examples of installer's tools.



Types of cables and minimum thicknesses

Connection	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Control panel power supply 230 V	FROR CEI 20-22 IEC EN 50267-2-1	3G x 1.5 mm ²	3G x 1.5 mm ²	3G x 2.5 mm ²
Motor power supply 24 V		2 x 1.5 mm ²	2 x 1.5mm ²	2 x 2.5 mm ²
Flashing light		2 x 0.5 mm ²	2 x 1 mm ²	2 x 1.5 mm ²
Photocell transmitters		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Photocell receivers		4 x 0.5 mm ²	4 x 0.5 mm ²	4 x 0.5 mm ²
Control and safety devices		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
End run		4 x 0.5 mm ²	4 x 0.5 mm ²	4 x 0.5 mm ²
Encoder	TWISTED	max. 30 m		
Antenna	RG58	max. 10 m		

N.B. : If the cables differ in length from what is shown in the table, the cable cross-section is determined according to the actual current draw of the devices connected and according to the provisions of the IEC EN 60204-1 standard.

For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please refer to the documentation provided with said products.

INSTALLATION

⚠ The following illustrations are only examples, given that the space for securing the operator and accessories varies depending on the overall dimensions. The installation technician is responsible for choosing the most suitable solution.

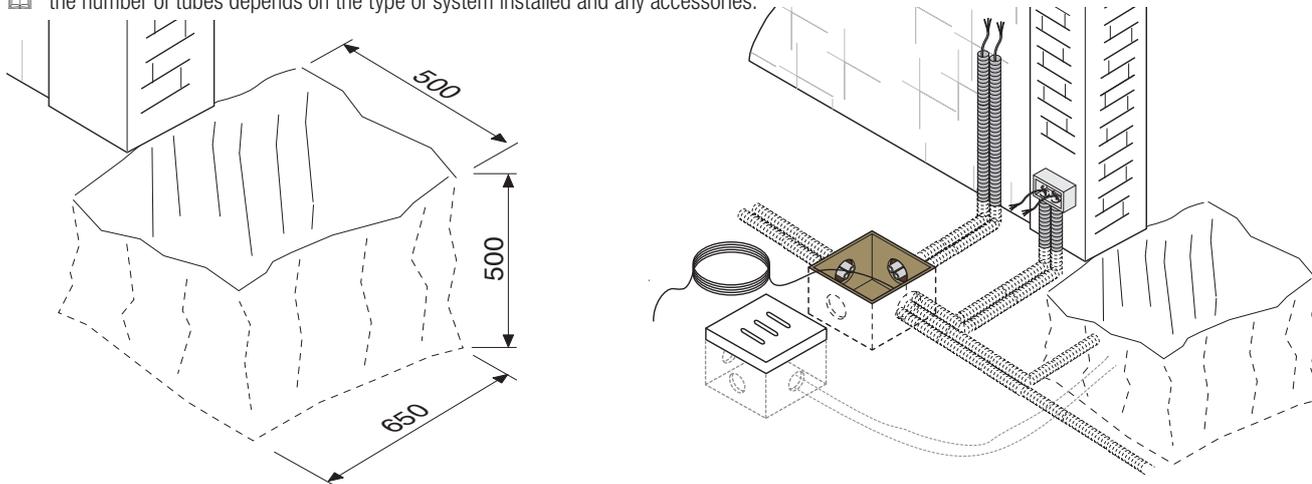
📖 the figures below illustrate the installation of the right-hand foundation box.

Laying the corrugated pipes and inspection chambers

Make the hole for the box.

Prepare the junction boxes and corrugated pipes necessary for connection to the inspection chamber and the drain pipe.

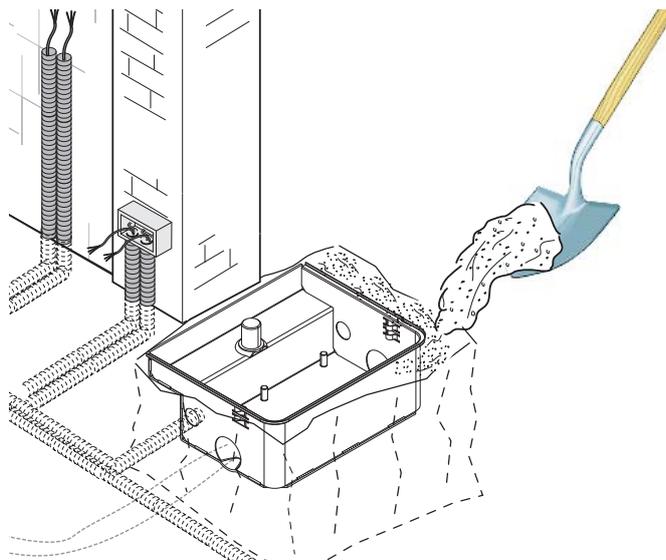
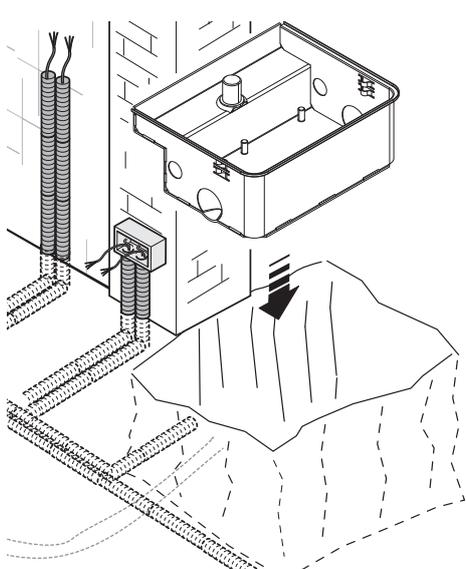
📖 the number of tubes depends on the type of system installed and any accessories.



Installing the foundation box

Lean the box against the pillar making sure that the corrugated pipes and the drain pipe pass through the designated holes.

Fill the hole with concrete.



Position the box level with the ground and place the pin in line with the upper gate hinge. Wait at least 24h to cure.

Clean any remaining concrete from inside the box.

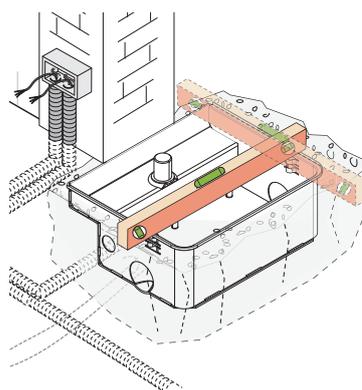
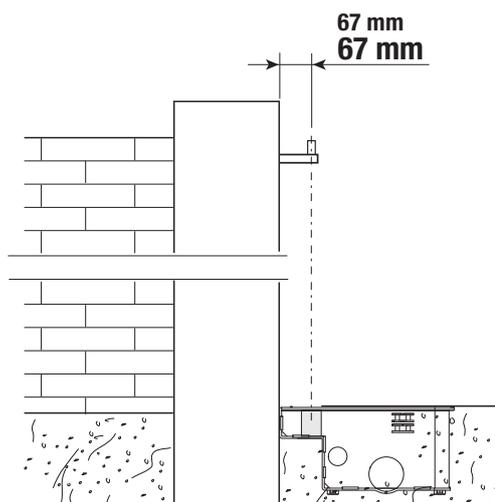
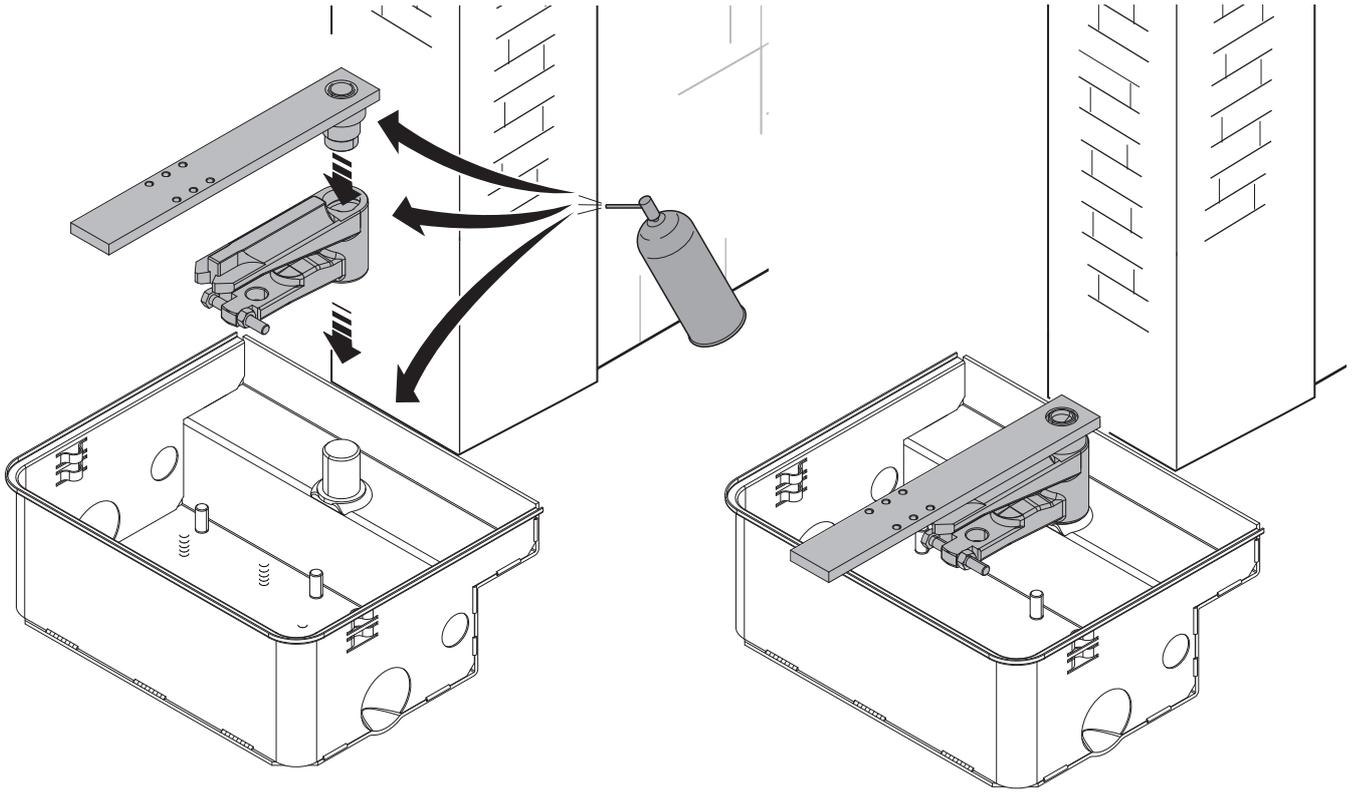
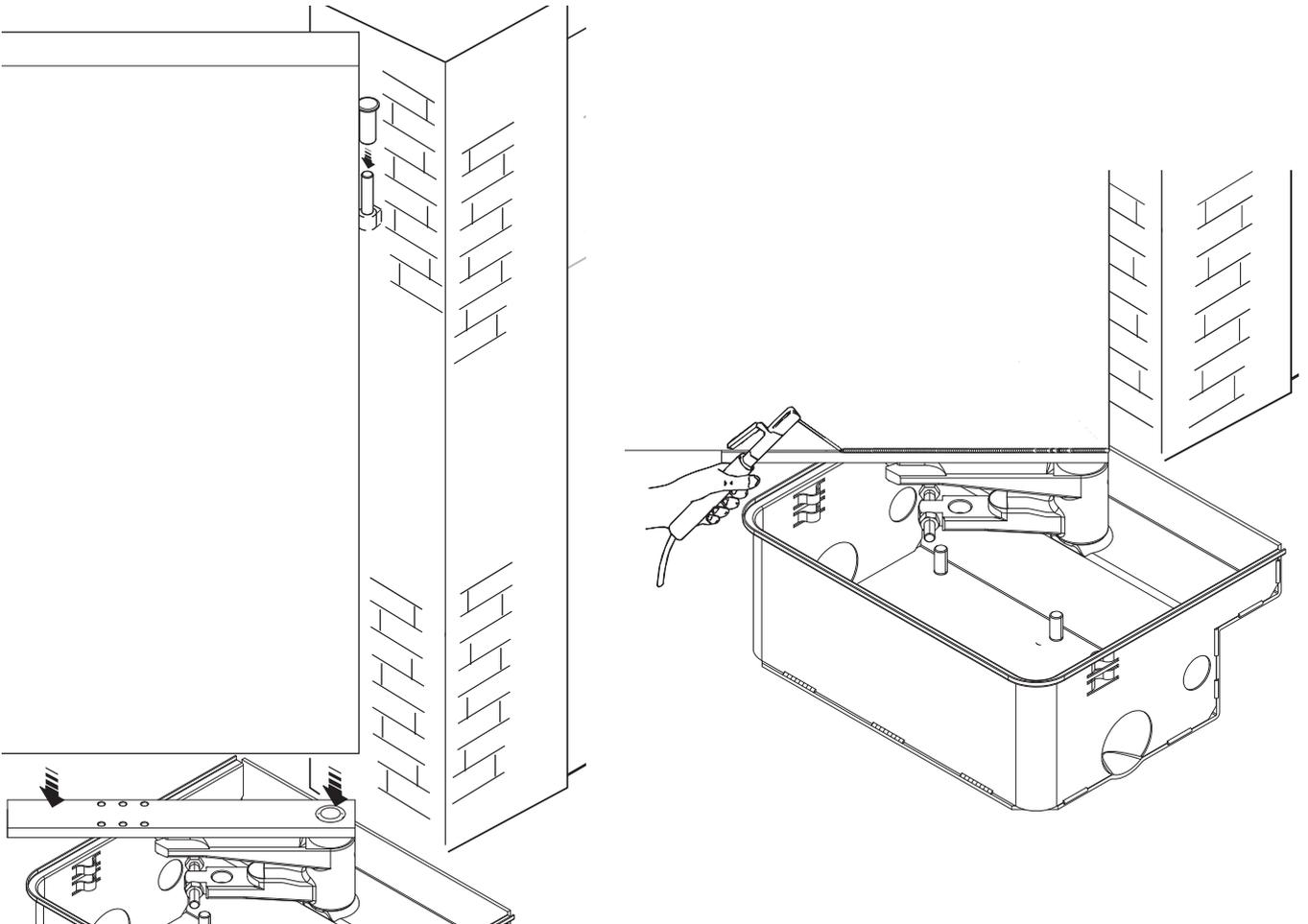


 figure direction: internal right side view.

Lubricate the foundation case pin, the latch and the gate bracket pin.

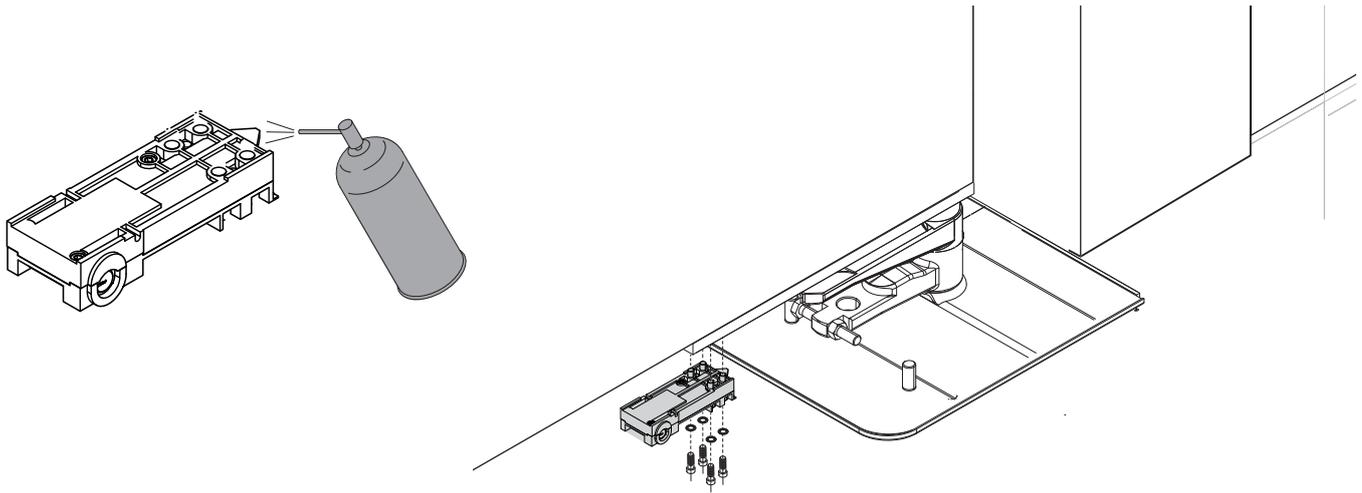


Install the gate leaf, inserting the upper hinge.
Check that the leaf opens and closes without difficulty.
Carefully fix or weld the door to the gate fixing bracket.



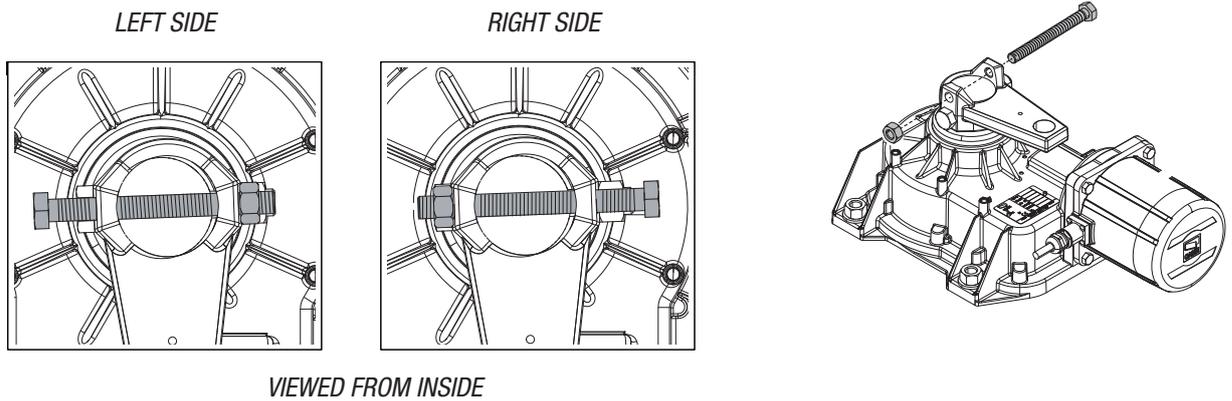
Securing the release

It is important to lubricate the release tab; follow the instructions in the manual of the device selected.

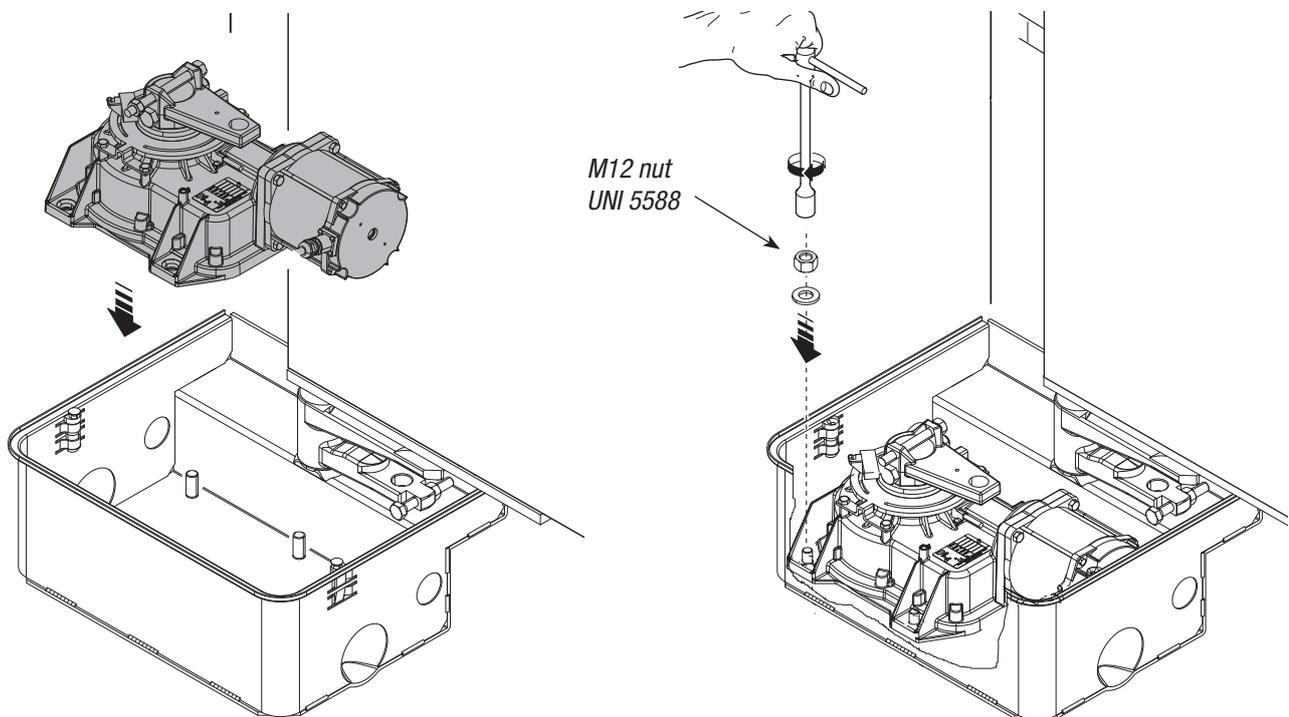


Securing the gearmotor

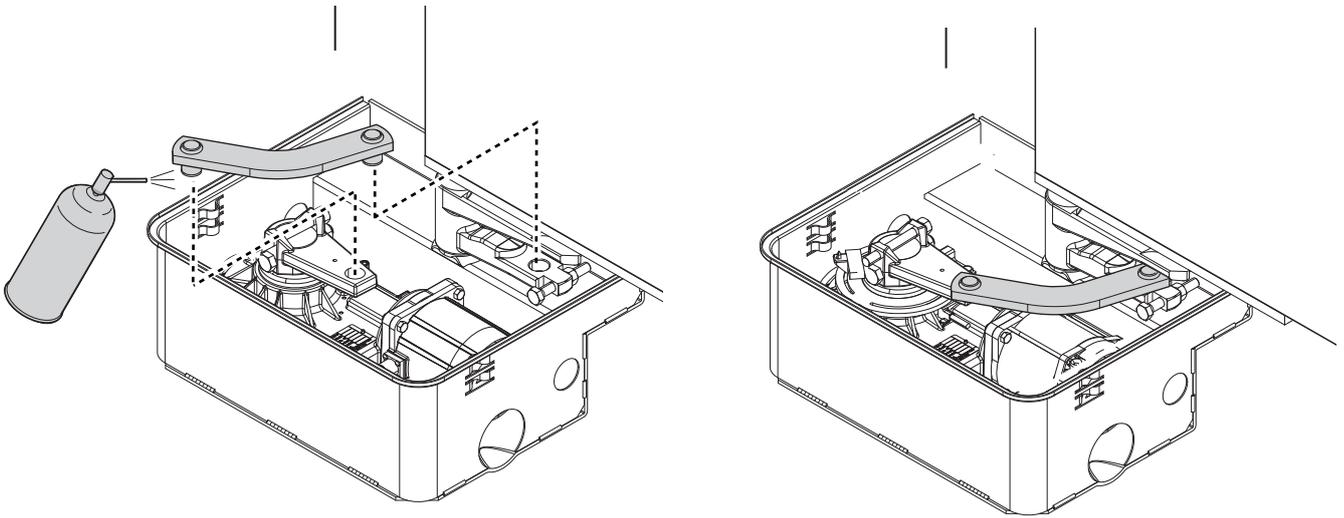
Fit the adjusting screw into the motor arm. The direction in which the screw must be installed depends on the position of the operator.



Open the leaf to simplify gearmotor installation and securing inside the foundation case.
Use studs and nuts (supplied).



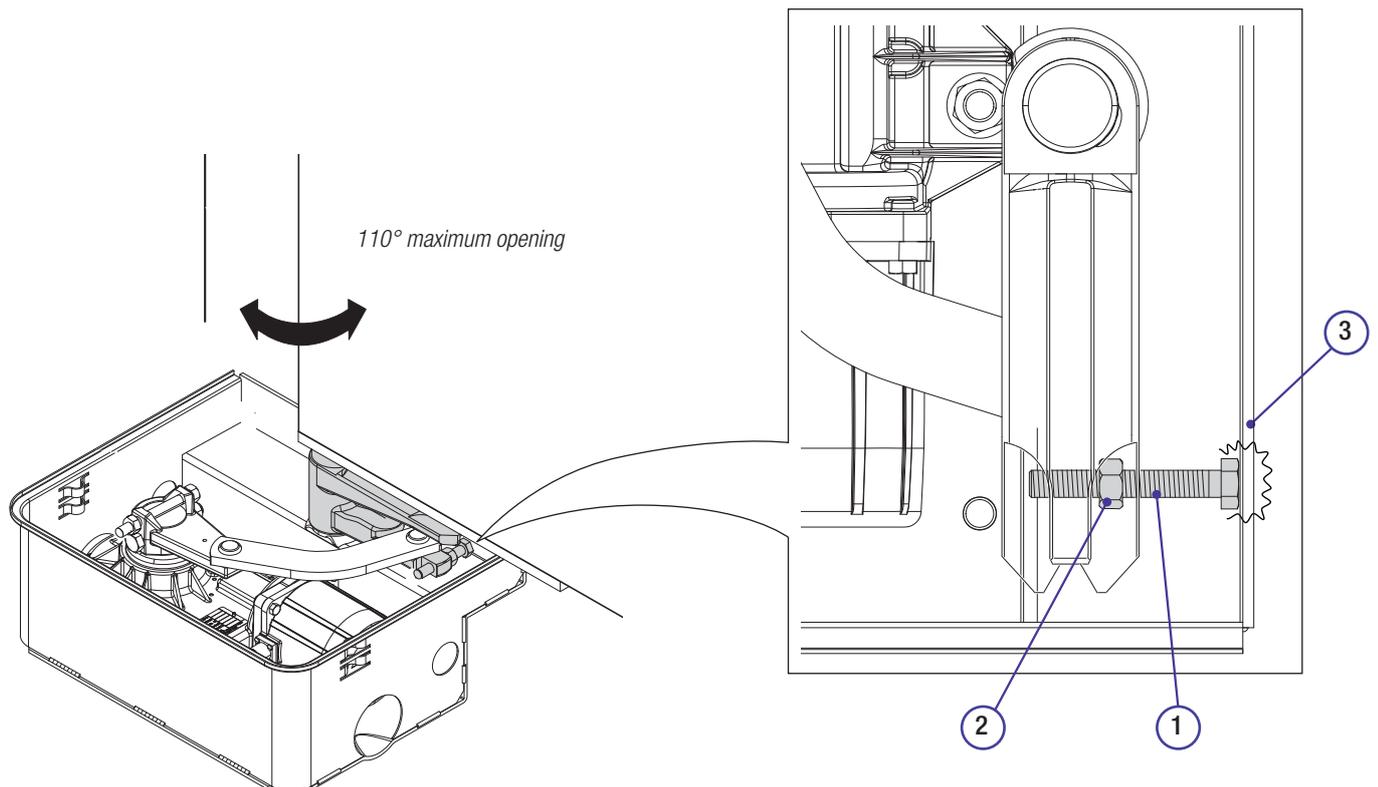
Lubricate the transmission lever and push it into the holes of the gearmotor arm and case lever.



Determining the end run points

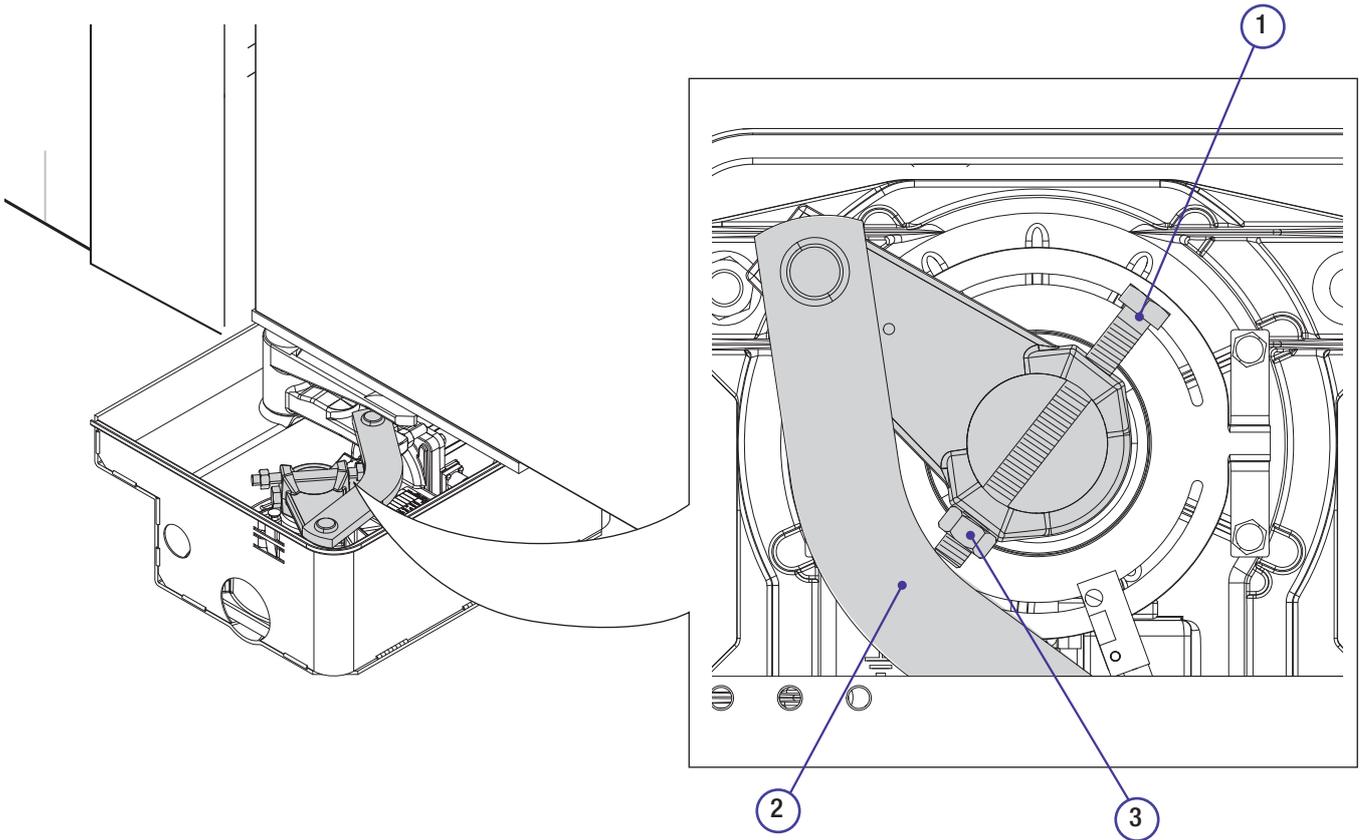
During opening:

- open the leaves completely (the maximum aperture is 110 °);
- loosen the screw (1) until it makes contact with the case (3);
- Tighten the nut (2) to lock the screw into position.



During closing:

- close the leaves completely;
- loosen the adjusting screw (1) until it makes contact with the transmission lever (2);
- Tighten the nut (3) to lock the screw into position.



ELECTRICAL CONNECTIONS

For electrical connection operations follow the information in the control panel technical documents (see table).

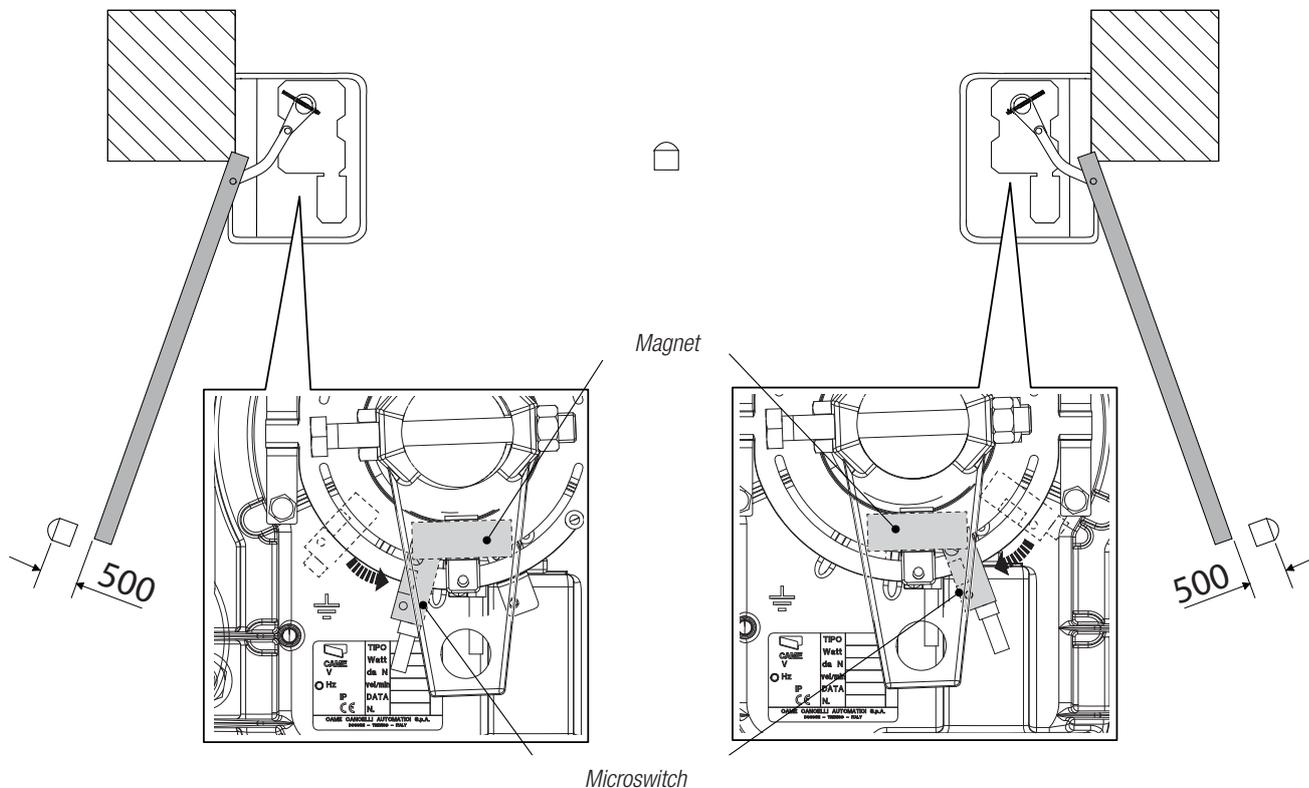
Gearmotor	Control panel
FROG-A24	ZL19N - ZL170N
FROG-A24E	ZLJ14 - ZLJ24

Establishing slowdown points (only for FROG-A24)

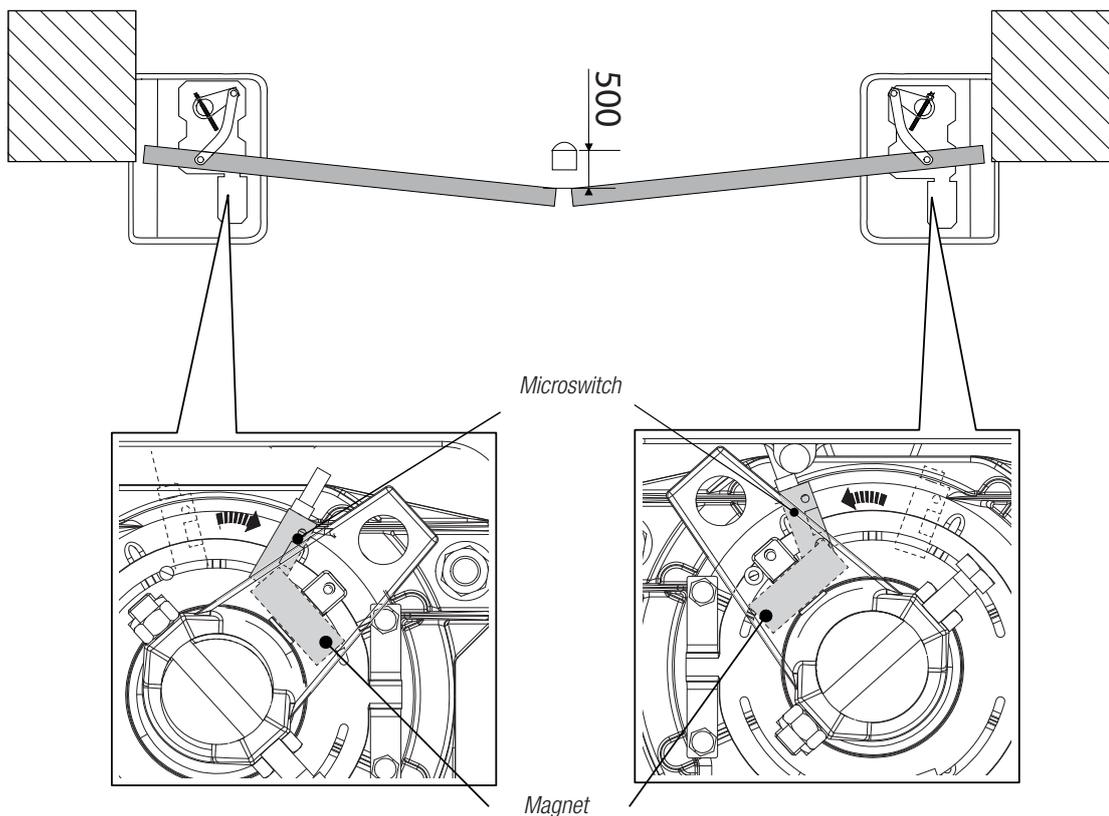
The points where slowdown begins while opening and closing are detected via a magnetic field.
 The procedure for determining these points must be repeated several times, or until the leaves begin slowing to 500 mm from the end run.

During opening.

Bring the leaves to about 500 mm from the end runs during opening, operating the gearmotor. On both gearmotors, place the microswitch near the magnet attached below the motor shaft.

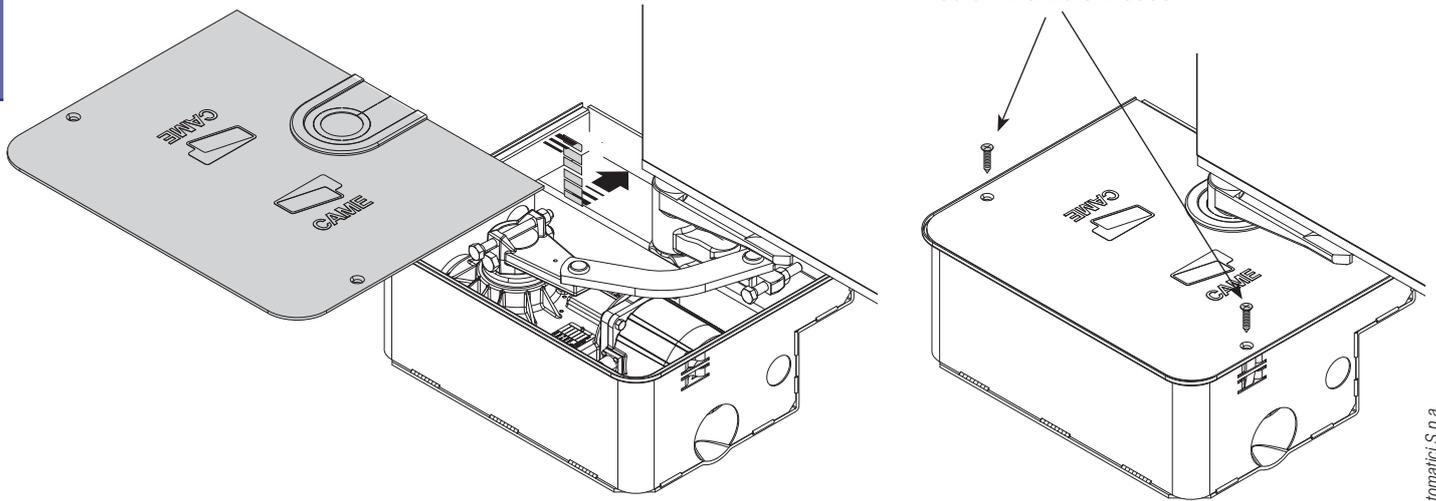


During closing.



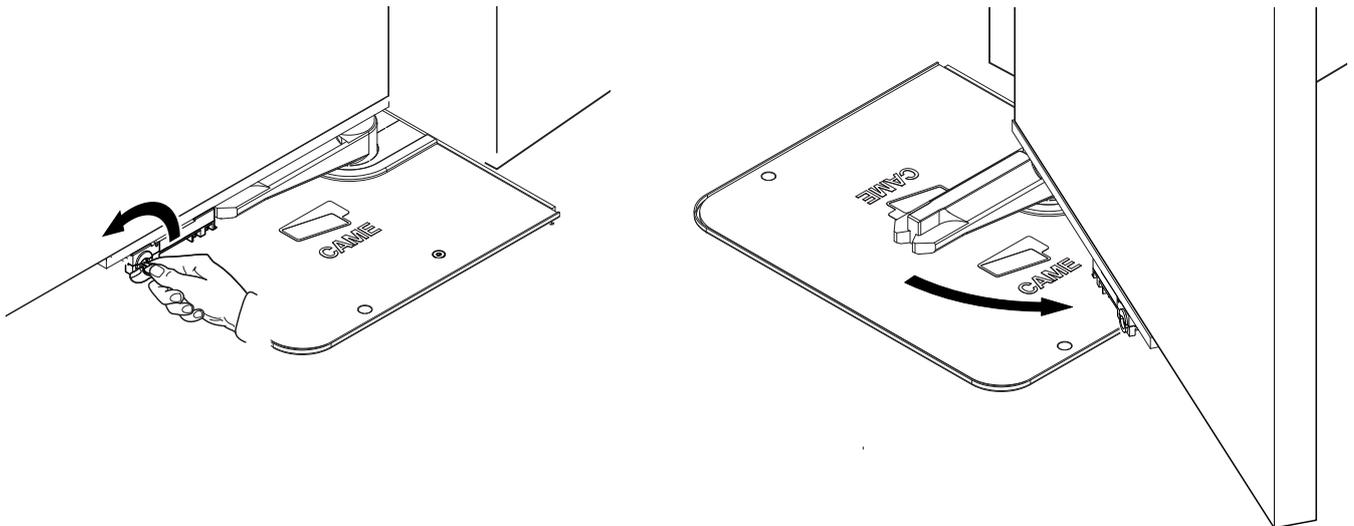
Securing the cover

Rest the cover on the foundation box and secure using the screws (supplied).

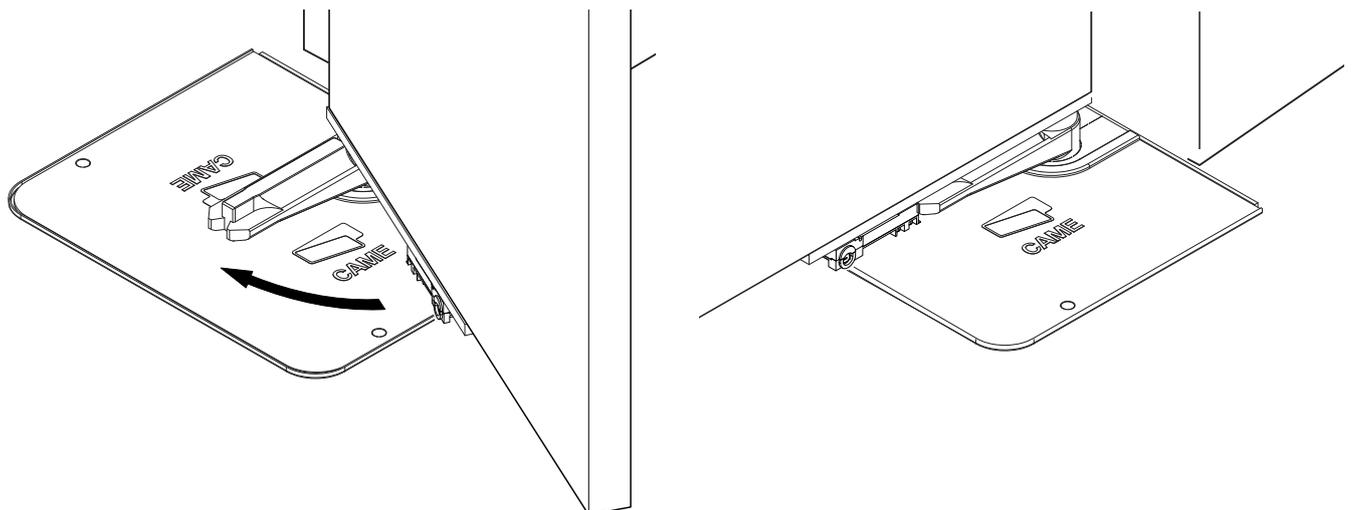


Manual leaf release

Insert the key/lever into the release lock and turn it counter-clockwise. Open the leaf until its end run



To relock the door, return it to its closed position.



Extraordinary maintenance

△ The table below is used to note any extraordinary maintenance, repairs or improvements carried out by specialist companies.

△ Extraordinary maintenance must be carried out by specialist technicians.

Extraordinary maintenance log

Installation technician stamp	Operator name
	Date of intervention
	Technician signature
	Customer signature
Intervention carried out _____ _____ _____	

Installation technician stamp	Operator name
	Date of intervention
	Technician signature
	Customer signature
Intervention carried out _____ _____ _____	

Installation technician stamp	Operator name
	Date of intervention
	Technician signature
	Customer signature
Intervention carried out _____ _____ _____	

Installation technician stamp	Operator name
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	Technician signature
	Customer signature
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Installation technician stamp	Operator name
	Date of intervention
	Technician signature
	Customer signature
Intervention carried out _____ _____ _____	

Installation technician stamp	Operator name
	Date of intervention
	Technician signature
	Customer signature
Intervention carried out _____ _____ _____	

TROUBLESHOOTING

MALFUNCTIONS	POSSIBLE CAUSES	CHECKS AND REMEDIES
The gate does not open or close	<ul style="list-style-type: none"> • No power • The gearmotor is unlocked • The transmitter battery is flat • The transmitter is broken • The stop button is stuck or broken • The opening/closing button or the key selector switch are stuck 	<ul style="list-style-type: none"> • Check for mains power • Lock the gearmotor • Replace the batteries • Contact service • Contact service • Contact service
The gate opens but does not close	<ul style="list-style-type: none"> • The photocells are engaged 	<ul style="list-style-type: none"> • Make sure that the photocells are clean and work correctly • Contact service

DISMANTLING AND DISPOSAL

☞ CAME CANCELLI AUTOMATICI S.p.A. implements an EN ISO 14001-certified and compliant Environmental Management System at its plants, to ensure environmental protection.

Please continue our efforts to protect the environment, something that CAME considers to be one of the foundations in developing its business and market strategies, simply by observing brief recommendations as regards disposal:

♻️ DISPOSAL OF PACKAGING

Packaging components (cardboard, plastic, etc.) can be disposed of together with normal household waste without any difficulty, by simply separating the different types of waste and recycling them.

Before proceeding, it is always advisable to check specific regulations in force in the place of installation.

DISPOSE OF PROPERLY!

♻️ DISPOSAL OF THE PRODUCT

Our products are made with different materials. Most of them (aluminium, plastic, iron, electrical cables) can be disposed of together with normal household waste. They can be recycled if collected, sorted and sent to authorised centres.

Other components (control boards, transmitter batteries etc.), on the other hand, may contain pollutants.

They should therefore be removed and handed over to companies authorised to recover and recycle them.

Before proceeding, it is always advisable to check specific regulations in force in the place of disposal.

DISPOSE OF PROPERLY!

DECLARATION OF CONFORMITY

Declaration CE - - Came Cancelli Automatici S.p.A. declares that this device complies with the essential requirements and other relevant provisions established in 2006/42/CE e 2004/108/CE.

Reference code for requesting a true copy: *DDI B EN A001c*



English - Manual code: **119AU35EN** ver. 5 05/2014 © CAME cancelli automatici S.p.A.
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CAMEGROUP

CAME Cancelli Automatici S.p.a.

Via Martiri Della Libertà, 15
31030 **Dosson Di Casier** (Tv)

☎ (+39) 0422 4940

☎ (+39) 0422 4941

Assistenza Tecnica/Numero Verde 800 295830