



CE

119DU31EN

OPERATOR
FOR SWING GATES



INSTALLATION MANUAL

F7024N



English

EN



WARNING!
important safety instructions for people:
READ CAREFULLY!



PREMISE

- THIS PRODUCT SHOULD ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS EXPLICITLY DESIGNED. ANY OTHER USE IS DANGEROUS. CAME S.p.A IS NOT LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER, WRONGFUL AND UNREASONABLE USE
- KEEP THESE WARNINGS TOGETHER WITH THE INSTALLATION AND OPERATION MANUALS THAT COME WITH THE OPERATOR.

BEFORE INSTALLING

(CHECKING WHAT'S THERE: IF SOMETHING IS MISSING, DO NOT CONTINUE UNTIL YOU HAVE COMPLIED WITH ALL SAFETY PROVISIONS)

- CHECK THAT THE AUTOMATED PARTS ARE IN PROPER MECHANICAL ORDER, THAT THE OPERATOR IS LEVEL AND ALIGNED, AND THAT IT OPENS AND CLOSES PROPERLY. MAKE SURE YOU HAVE SUITABLE MECHANICAL STOPS
- IF THE OPERATOR IS TO BE INSTALLED AT A HEIGHT OF LESS THAN 2.5 M FROM THE GROUND OR OTHER ACCESS LEVEL, MAKE SURE YOU HAVE ANY NECESSARY PROTECTIONS AND/OR WARNINGS IN PLACE
- IF ANY PEDESTRIAN OPENINGS ARE FITTED INTO THE OPERATOR, THERE MUST ALSO BE A SYSTEM TO BLOCK THEIR OPENING WHILE THEY ARE MOVING
- MAKE SURE THAT THE OPENING AUTOMATED DOOR OR GATE CANNOT ENTRAP PEOPLE AGAINST THE FIXED PARTS OF THE OPERATOR
- DO NOT FIT UPSIDE DOWN OR ONTO ELEMENTS THAT COULD BEND. IF NECESSARY, ADD SUITABLE REINFORCEMENTS TO THE ANCHORING POINTS
- DO NOT INSTALL DOOR OR GATE LEAVES ON TILTED SURFACES
- MAKE SURE ANY SPRINKLER SYSTEMS CANNOT WET THE OPERATOR FROM THE GROUND UP
- MAKE SURE THE TEMPERATURE RANGE SHOWN ON THE PRODUCT LITERATURE IS SUITABLE TO THE CLIMATE WHERE IT WILL BE INSTALLED
- FOLLOW ALL INSTRUCTIONS AS IMPROPER INSTALLATION MAY RESULT IN SERIOUS BODILY INJURY
- IT IS IMPORTANT TO FOLLOW THESE INSTRUCTIONS FOR THE SAFETY OF PEOPLE. KEEP THESE INSTRUCTIONS.

INSTALLING

- SUITABLY SECTION OFF AND DEMARCATATE THE ENTIRE INSTALLATION SITE TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE AREA, ESPECIALLY MINORS AND CHILDREN
- BE CAREFUL WHEN HANDLING OPERATORS THAT WEIGH OVER 20 KG. IF NEED BE, USE PROPER SAFETY HOISTING EQUIPMENT
- ALL OPENING COMMANDS (THAT IS, BUTTONS, KEY SWITCHES, MAGNETIC READERS, AND SO ON) MUST BE INSTALLED AT LEAST 1.85 M FROM THE PERIMETER OF THE GATE'S WORKING AREA, OR WHERE THEY CANNOT BE REACHED FROM OUTSIDE THE GATE. ALSO, ANY DIRECT COMMANDS (WHETHER BUTTONS, TOUCH PANELS, AND SO ON) MUST BE INSTALLED AT LEAST 1.5 M FROM THE GROUND AND MUST NOT BE REACHABLE BY UNAUTHORIZED PERSONS
- ALL MAINTAINED ACTION COMMANDS, MUST BE FITTED IN PLACES FROM WHICH THE MOVING GATE LEAVES AND TRANSIT AND DRIVING AREAS ARE VISIBLE
- APPLY, IF MISSING, A PERMANENT SIGN SHOWING THE POSITION OF THE RELEASE DEVICE
- BEFORE DELIVERING TO THE USERS, MAKE SURE THE SYSTEM IS EN 12453 STANDARD COMPLIANT (REGARDING IMPACT FORCES), AND ALSO MAKE SURE THE SYSTEM HAS BEEN PROPERLY ADJUSTED AND THAT ANY SAFETY, PROTECTION AND MANUAL RELEASE DEVICES ARE WORKING PROPERLY
- APPLY WARNING SIGNS WHERE NECESSARY AND IN A VISIBLE PLACE, (SUCH AS, SUCH AS THE GATE'S PLATE

SPECIAL USER-INSTRUCTIONS AND RECOMMENDATIONS

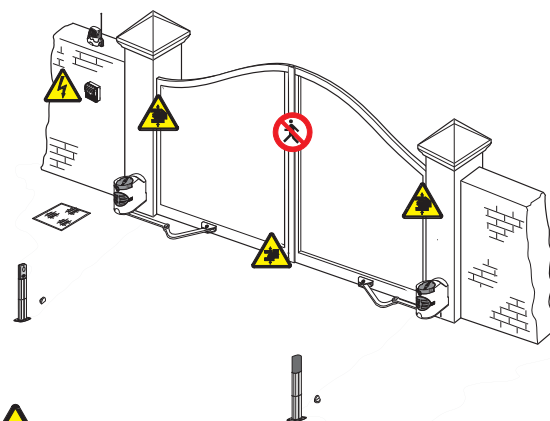
- KEEP GATE OPERATION AREAS CLEAN AND FREE OF ANY OBSTRUCTIONS. MAKE SURE THAT THE PHOTOCELLS ARE FREE OF ANY OVERGROWN VEGETATION AND THAT THE OPERATOR'S AREA OF OPERATION IS FREE OF ANY OBSTRUCTIONS
- DO NOT ALLOW CHILDREN TO PLAY WITH FIXED COMMANDS, OR TO LOITER IN THE GATE'S MANEUVERING AREA. KEEP ANY REMOTE CONTROL TRANSMITTERS OR ANY OTHER COMMAND DEVICE AWAY FROM CHILDREN, TO PREVENT THE OPERATOR FROM BEING ACCIDENTALLY ACTIVATED.
- THE APPARATUS MAY BE USED BY CHILDREN OF EIGHT YEARS AND ABOVE AND BY PHYSICALLY, MENTALLY AND SENSORY-CHALLENGED PEOPLE, OR EVEN ONES WITHOUT ANY EXPERIENCE, PROVIDED THIS HAPPENS UNDER CLOSE SUPERVISION OR ONCE THEY HAVE BEEN PROPERLY INSTRUCTED TO USE THE APPARATUS SAFELY AND TO THE POTENTIAL HAZARDS INVOLVED. CHILDREN MUST NOT PLAY WITH THE APPARATUS. CLEANING AND MAINTENANCE BY USERS MUST NOT BE DONE BY CHILDREN, UNLESS PROPERLY SUPERVISED
- FREQUENTLY CHECK THE SYSTEM FOR ANY MALFUNCTIONS OR SIGNS OF WEAR AND TEAR OR DAMAGE TO THE MOVING STRUCTURES, TO THE COMPONENT PARTS, ALL ANCHORING POINTS, INCLUDING CABLES AND ANY ACCESSIBLE CONNECTIONS. KEEP ANY HINGES, MOVING JOINTS AND SLIDE RAILS PROPERLY LUBRICATED
- PERFORM FUNCTIONAL CHECKS ON THE PHOTOCELLS AND SENSITIVE SAFETY EDGES, EVERY SIX MONTHS. TO CHECK WHETHER THE PHOTOCELLS ARE WORKING, WAVE AN OBJECT IN





FRONT OF THEM WHILE THE GATE IS CLOSING; IF THE OPERATOR INVERTS ITS DIRECTION OF TRAVEL OR SUDDENLY STOPS, THE PHOTOCELLS ARE WORKING PROPERLY. THIS IS THE ONLY MAINTENANCE OPERATION TO DO WITH THE POWER ON. CONSTANTLY CLEAN THE PHOTOCELLS' GLASS COVERS USING A SLIGHTLY WATER-MOISTENED CLOTH; DO NOT USE SOLVENTS OR OTHER CHEMICAL PRODUCTS THAT MAY RUIN THE DEVICES

- IF REPAIRS OR MODIFICATIONS ARE REQUIRED TO THE SYSTEM, RELEASE THE OPERATOR AND DO NOT USE IT UNTIL SAFETY CONDITIONS HAVE BEEN RESTORED
- CUT OFF THE POWER SUPPLY BEFORE RELEASING THE OPERATOR FOR MANUAL OPENINGS AND BEFORE ANY OTHER OPERATION, TO PREVENT POTENTIALLY HAZARDOUS SITUATIONS. READ THE INSTRUCTIONS IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AUTHORIZED TECHNICAL ASSISTANCE SERVICE, OR IN ANY CASE, BY SIMILARLY QUALIFIED PERSONS, TO PREVENT ANY RISK
- IT IS FORBIDDEN FOR USERS TO PERFORM ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED IN THE MANUALS. FOR ANY REPAIRS, MODIFICATIONS AND ADJUSTMENTS AND FOR EXTRA-ORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE
- LOG THE JOB AND CHECKS INTO THE PERIODIC MAINTENANCE LOG.

FURTHER RECOMMENDATIONS FOR ALL

- KEEP CLEAR OF HINGES AND MECHANICAL MOVING PARTS
- DO NOT ENTER THE OPERATOR'S AREA OF OPERATION WHEN IT IS MOVING
- DO NOT COUNTER THE OPERATOR'S MOVEMENT AS THIS COULD RESULT IN DANGEROUS SITUATIONS
- ALWAYS PAY SPECIAL ATTENTION TO ANY DANGEROUS POINTS, WHICH HAVE TO BE LABELED WITH SPECIFIC PICTOGRAMS AND/OR BLACK AND YELLOW STRIPES
- WHILE USING A SELECTOR SWITCH OR A COMMAND IN MAINTAINED ACTIONS, KEEP CHECKING THAT THERE ARE NO PERSONS WITHIN THE OPERATING RANGE OF ANY MOVING PARTS, UNTIL THE COMMAND IS RELEASED
- THE GATE MAY MOVE AT ANY TIME AND WITHOUT WARNING
- ALWAYS CUT OFF THE MAINS POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.



-  Danger of foot crushing
-  Danger of hand crushing
-  Danger! High voltage.
-  No transiting while the barrier is moving

Legend of symbols



This symbol shows parts which must be read with care.



This symbol means the parts which describe safety issues.



This symbol tells you what to tell the end-user.

Destination and conditions of use

Intended use



The F7024N gearmotor is engineered and built by CAME S.p.A. to comply with current safety laws and regulations, and to operate swing-gates in residential or apartment-block settings involving gate-leaves of no more than 300 kg. Any installation and use other than that specified in this manual is forbidden.

Conditions of use

We suggest you always fit an electrolock onto swing gates for a more reliable closure.

Gate-leaf length	1 m	1.5 m	2 m	2.3 m max
Gate-leaf weight	300 kg max	250 kg	215 kg	200 kg
Opening	110 max			

Description

Operator

Self-locking gearmotor complete with jointed transmission-arm for gate-leaves up to 2.3 m long.

Technical features

Power supply to control panel: 230 V AC 50/60Hz

Motor power supply: 24 V DC

Maximum draw: 11A

Power: 140W

Maximum Torque: 180Nm

Opening time (90°): from 16 to 45 s

Duty cycle Intensive use

Protection rating: IP54

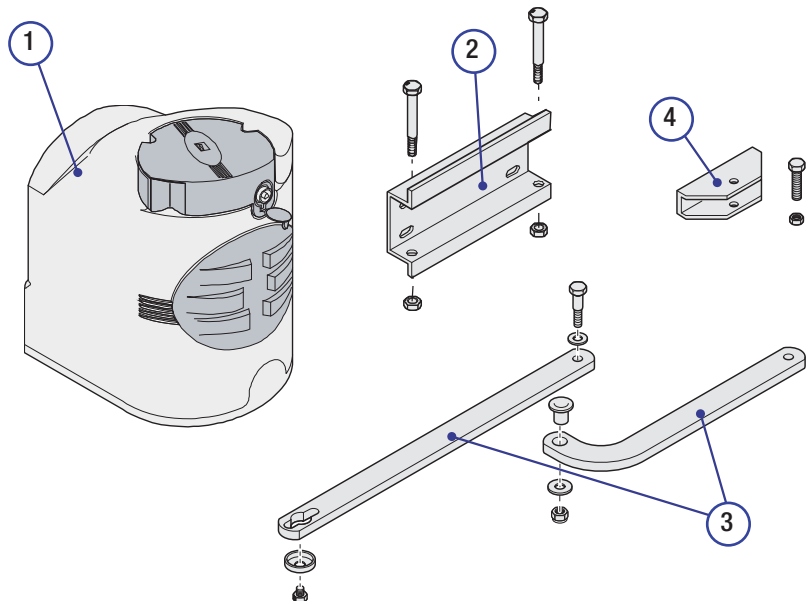
Weight: 10.1 kg

Insulation class:



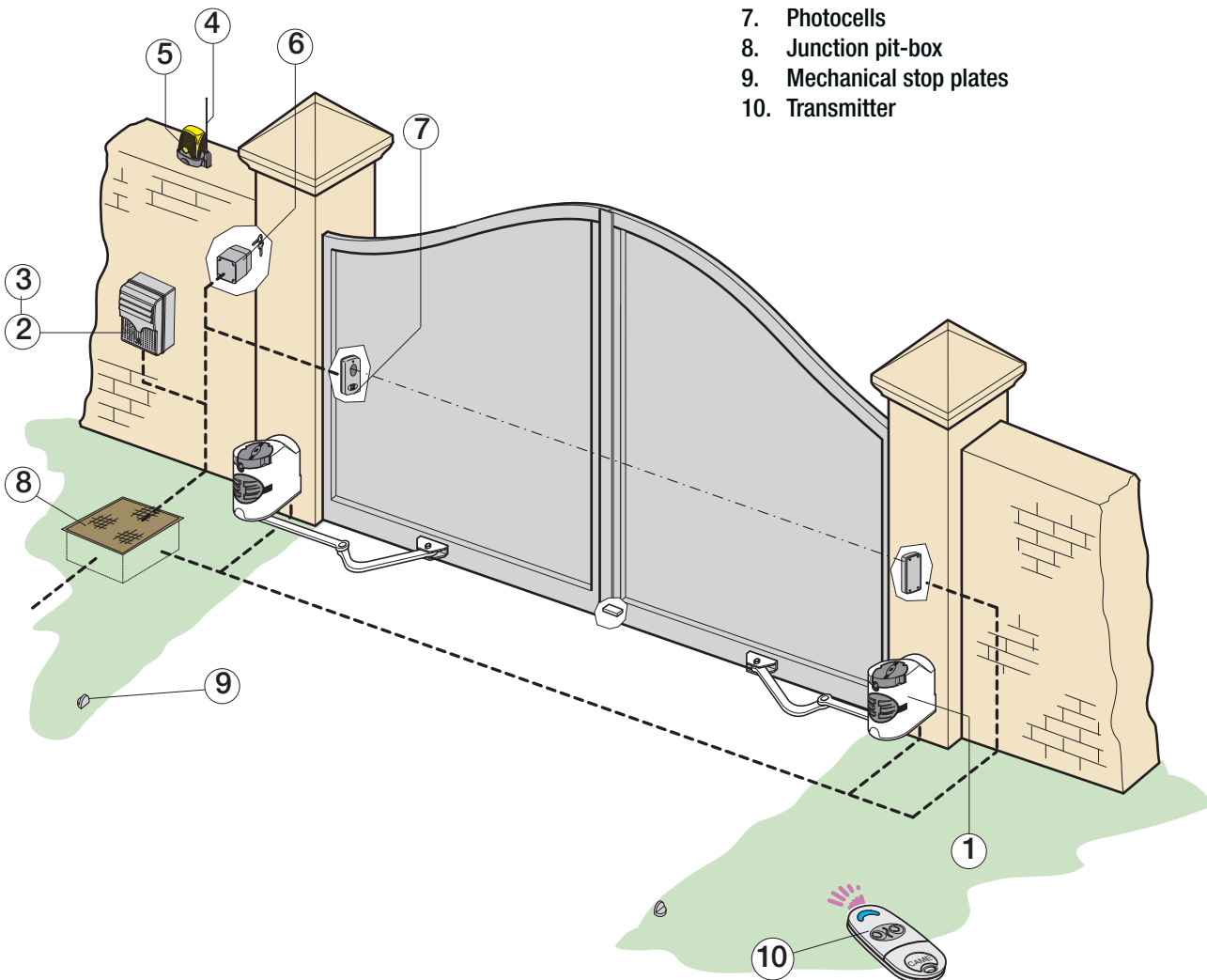
Description of parts

1. Gearmotor
2. Post-fastening bracket
3. Articulated arm
4. Gate-fastening bracket

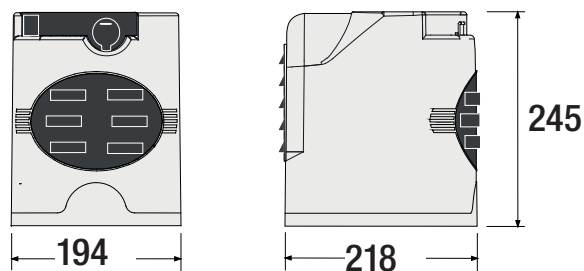


Standard installation

1. Gearmotor
2. Control panel
3. Radiofrequency card
4. Antenna
5. Flashing light
6. Selector
7. Photocells
8. Junction pit-box
9. Mechanical stop plates
10. Transmitter



Dimensions and basic measurements



General installation indications

△ Only skilled, qualified staff must install this product.

Preliminary checks

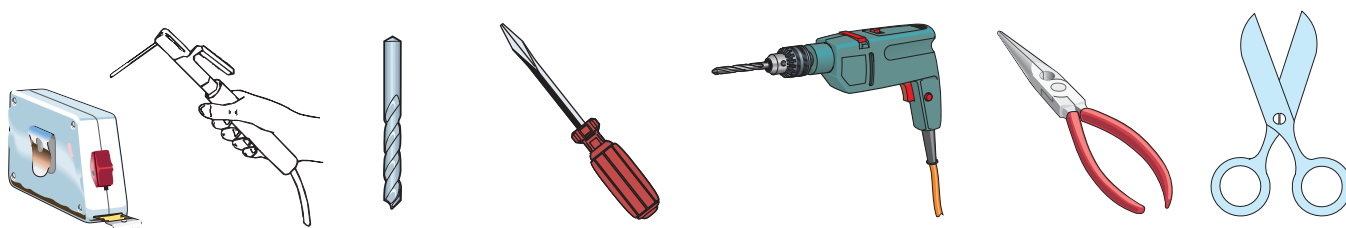
△ Before beginning, do the following:

- check that the gate structure is sturdy enough, the hinges work efficiently and that there is no friction between the fixed and moving parts;
- if ground stops are not, or cannot be, fitted, use the supplied mechanical stops;
- make sure that the point where the gearmotor is fastened is protected from any impacts and that the anchoring surface is solid enough;
- make sure you have set up a suitable dual pole cut off device along the power supply that is compliant with the installation rules. It should completely cut off the power supply according to category III surcharge conditions (that is, with minimum contact openings of 3 mm);
- ⚡ make sure that any connections inside the container (ones that ensure continuity to the protection circuit) are fitted with additional insulation with respect to those of other electrical parts inside:

set up suitable tubes and conduits for the electric cables to pass through, making sure they are protected from any mechanical damage

Tools and materials

Make sure you have all the tools and materials you will need for installing in total safety and in compliance with applicable regulations. The figure shows some of the equipment installers will need.



Cable list and minimum thickness

Connection for	Cable type	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
230 V power supply to control panel	FROR CEI 20-22 CEI EN 50267-2-1	3G x 1.5 mm ²	3G x 2.5 mm ²	3G x 4 mm ²
Motor power supply (V) 24 V		3 x 1 mm ²	3 x 1.5 mm ²	3 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
Accessories power source		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 1 mm ²
Safety and command devices		2 x 0.5 mm ²	2 x 0.5 mm ²	2 x 0.5 mm ²
Antenna	RG58	max. 10 m		

N.B. If cables are of a different length than that shown in the table, determine the cable section based on the actual draw and the number of connected devices and according to what is set forth in the CEI EN 60204-1 code of regulations.

For connections featuring several loads on the same line (i.e. sequential ones), the dimensions shown on the table must be reconsidered according to the total draw and actual distances. When connecting products not featured in this manual, only refer to the literature accompanying such products.

INSTALLATION

△ The following illustrations are just examples, in that the space available for fitting the operator and accessories varies depending on the overall dimensions. It is up to the installer to find the most suitable solution.

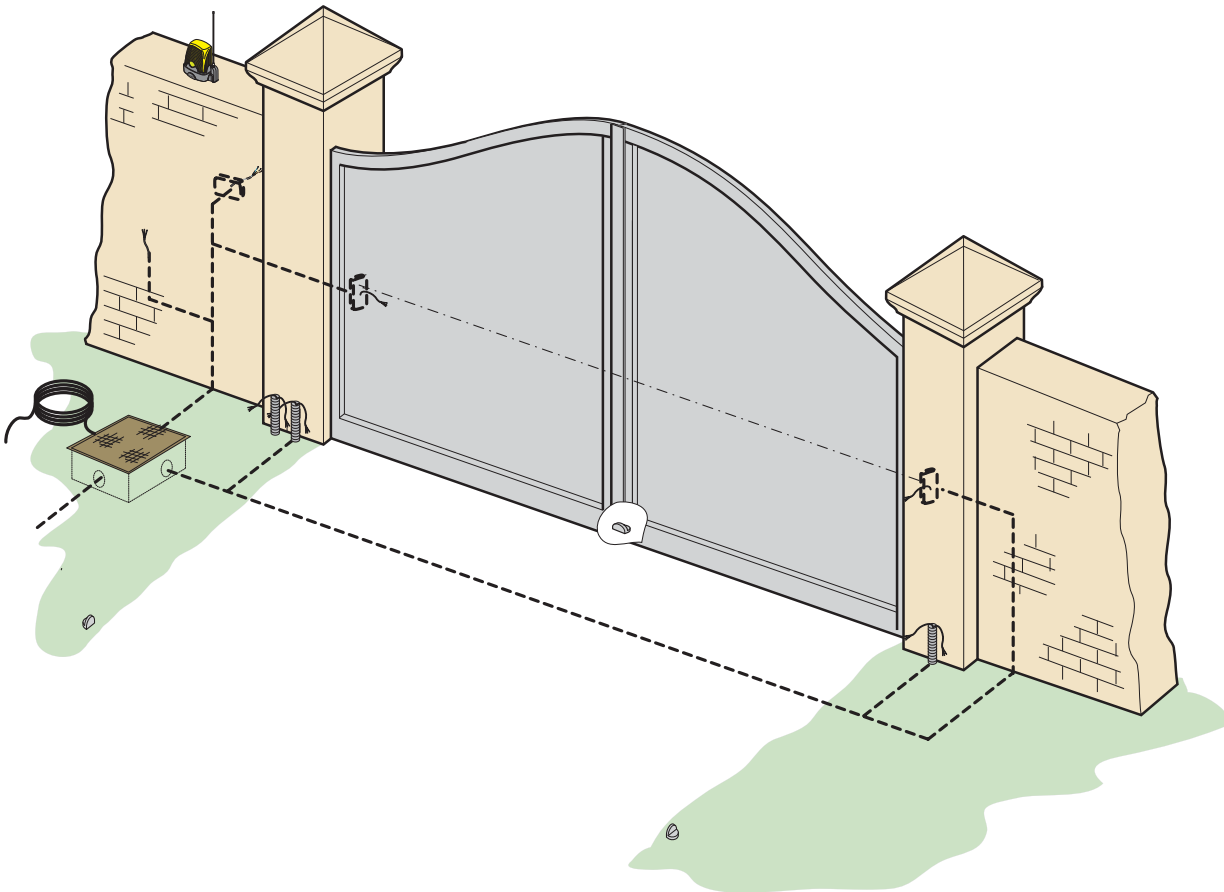
📖 The drawing show an operator fitted on the left. Install the operator on the right, symmetrically.

Corrugate tube laying

Lay the corrugated tubes you will need for the cables coming out of the junction pit.

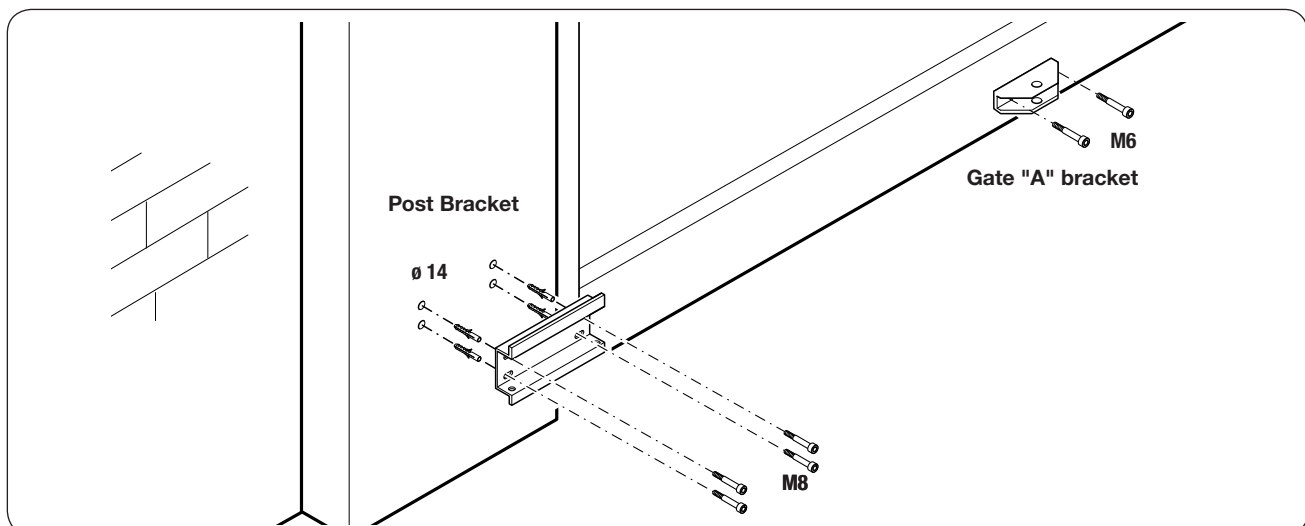
📖 The number of tubes depends on the type of system and the accessories you are going to fit.

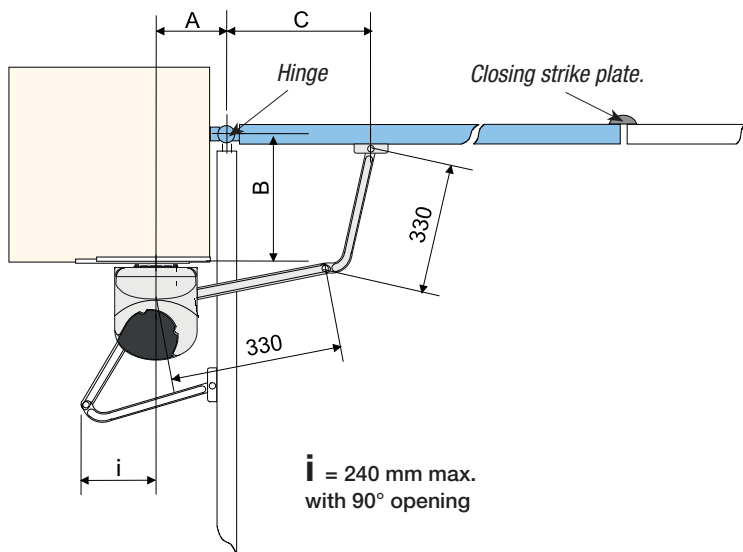
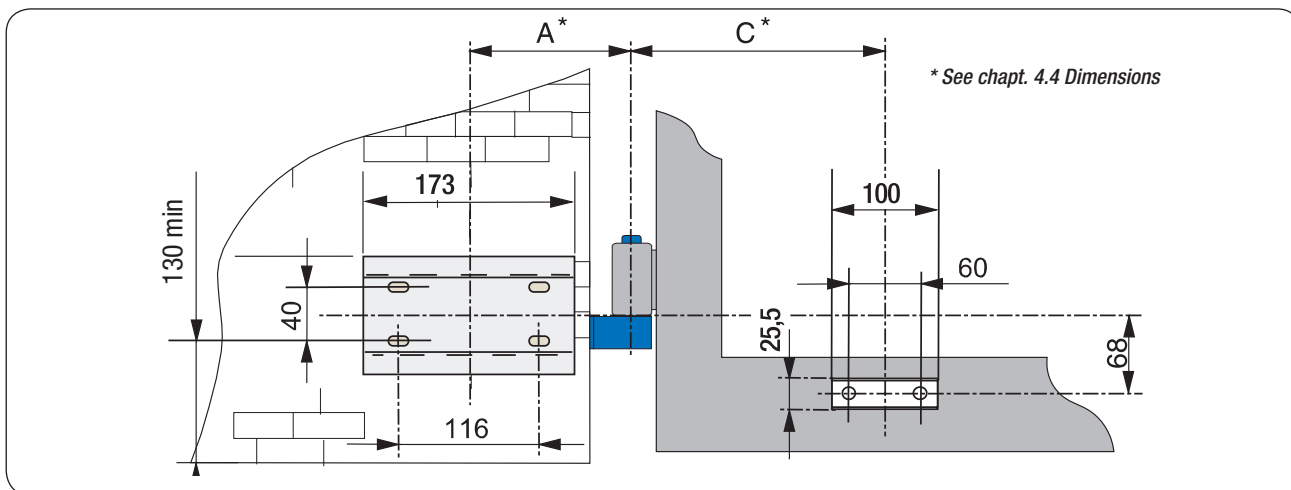
You need to lay two corrugated tubes where the operator is fitted.



Applying the pillar bracket and A gate bracket

- Secure the pillar bracket to the pillar using M8 screws and $\varnothing 14$ mould inserts making sure the minimum distance of 100 mm from the ground is met.
- Fix gate bracket "A" (with M6 screws or by welding) to the gate leaf making sure the measurements mentioned in the table on page 3 and the 68 mm unevenness between the two brackets are met.





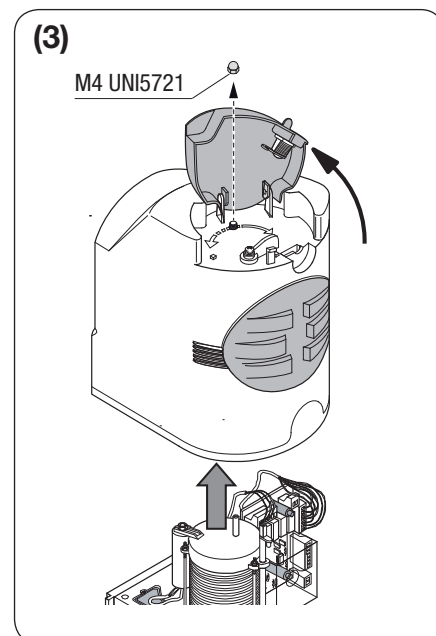
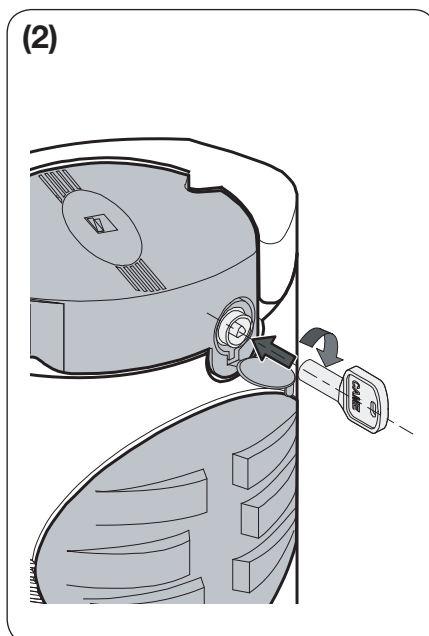
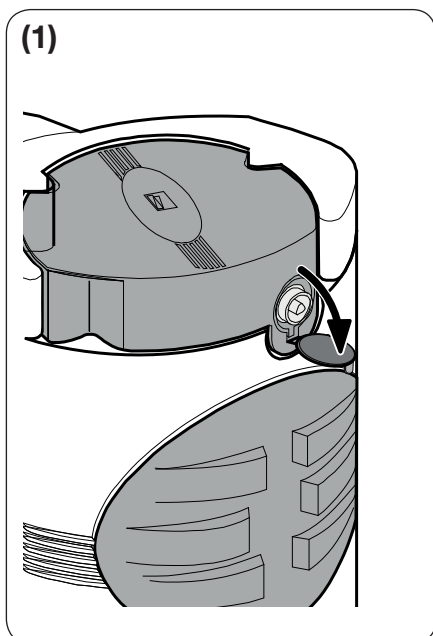
Opening angle	A	B	C
90°	140÷205	0÷50	430
	140÷195	75÷100	430
	140÷185	125÷150	400
	140÷175	175÷200	400
110°	180÷210	0	430
	200÷205	50	430

Installing the gearmotor

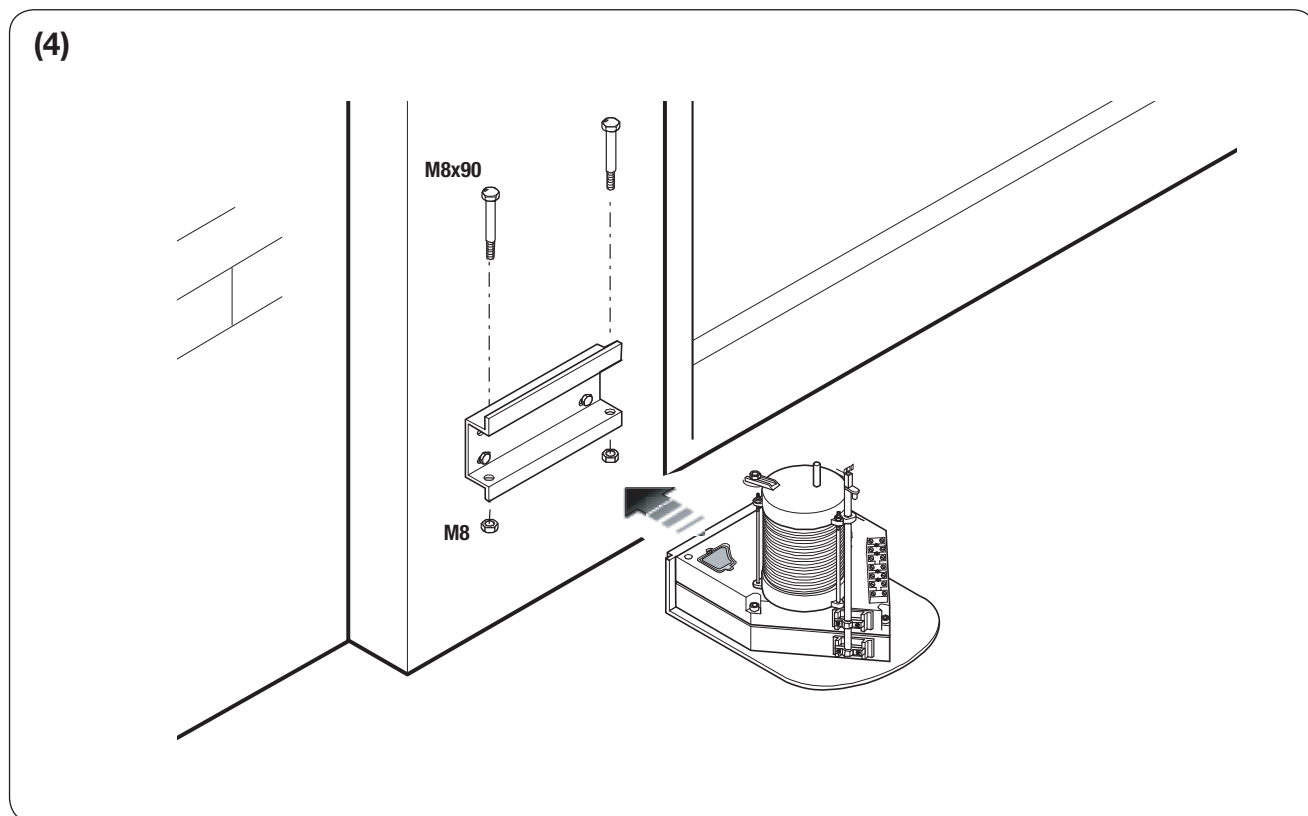
Open the lock cover (1).

Insert the key, push it down and turn it clockwise (2).

Lift the cover, loosen the M4 hex nut and remove the cover from the gearmotor assembly (3).

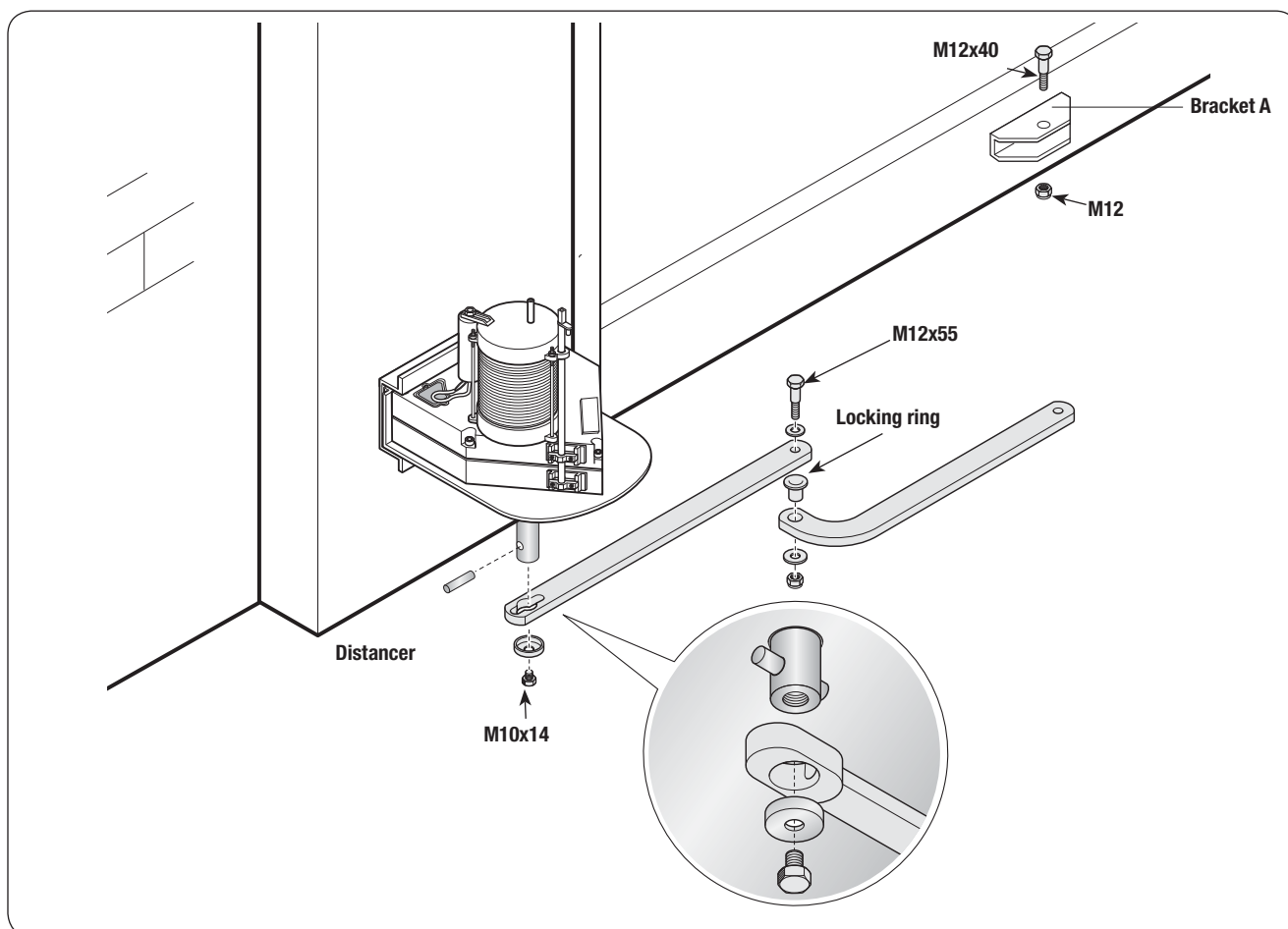


Fit the gearmotor into the post-mounted bracket; match the four holes and fasten it using the two issued M8x90 screws and M8 nuts (4).



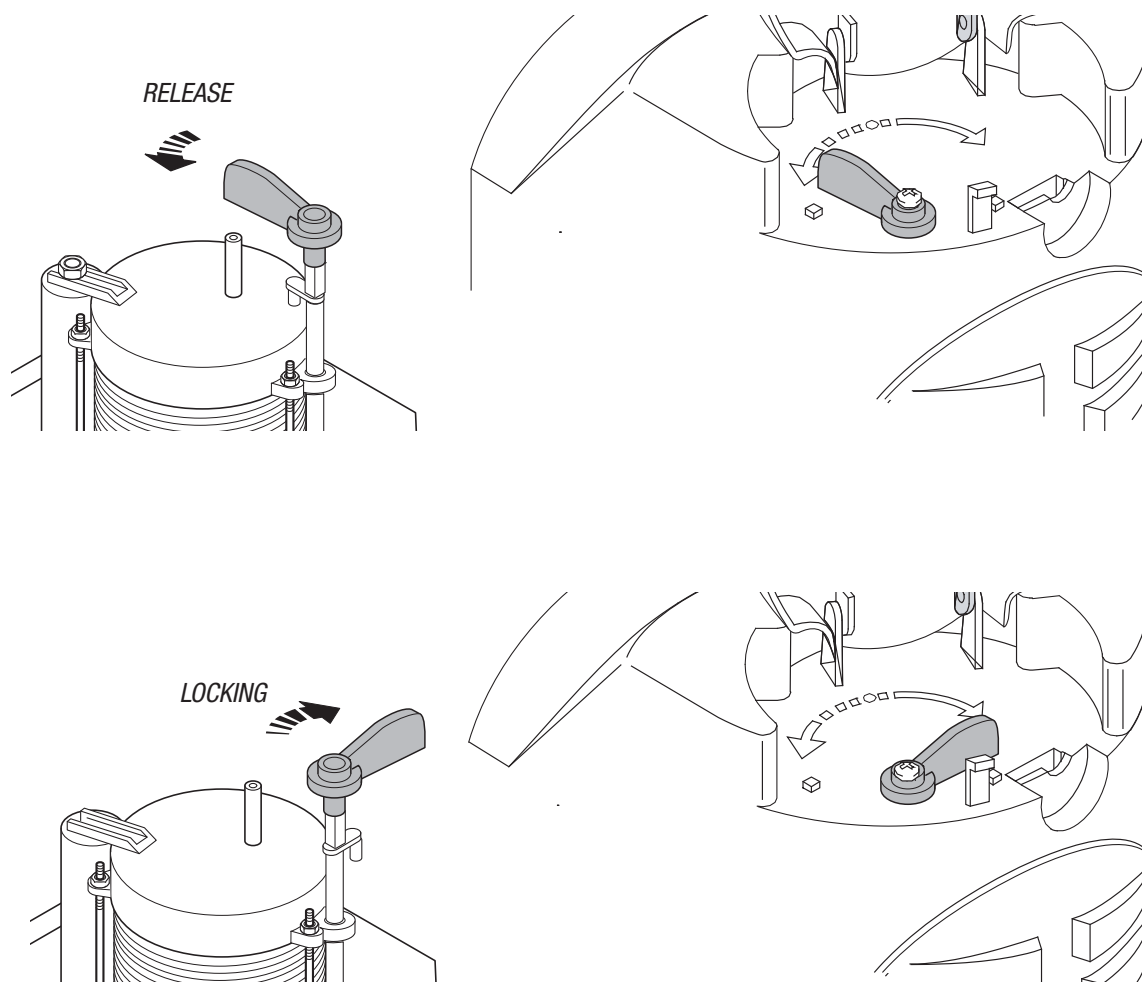
Applying the articulated arm

- Fit and fasten the straight arm in to the gearmotor shaft using a plug, bolt and accompanying distancer.
Lubricate the bushing, fit it onto the straight arm and join it with the curved arm by way of the supplied bolt, washers and nut. Release the gearmotor and fasten the curved arm to bracket A using the supplied nut. Lubricate it and check that it moves freely.



Gearmotor release

To release the gearmotor, used the lever located above the rod.

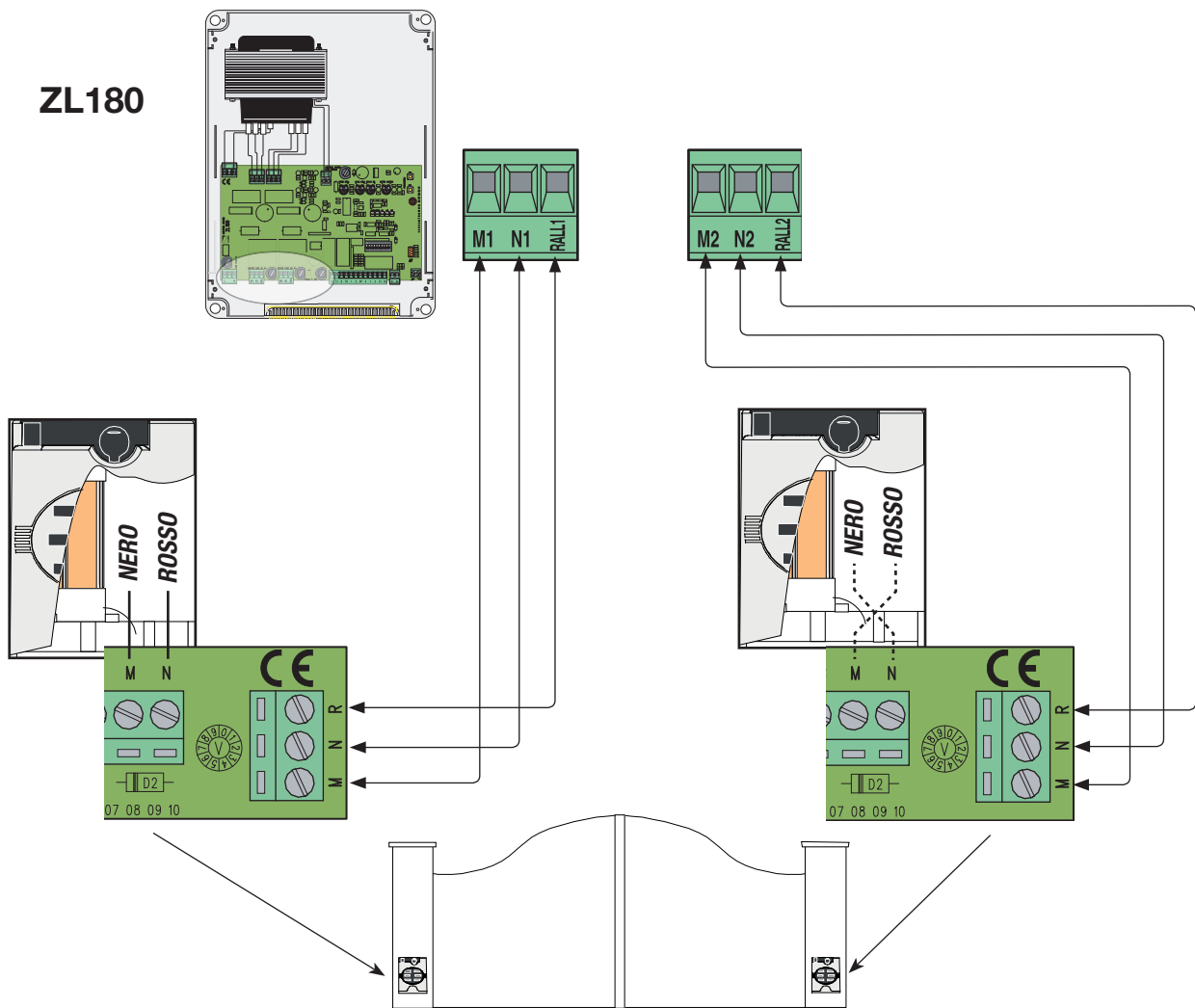


Adjusting the micro-switches

See technical documentation of the ZL180 (319U17) control panel.

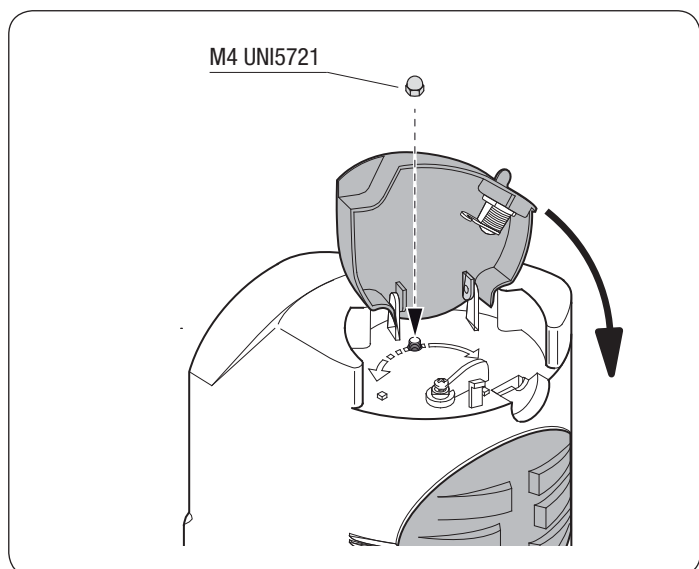
Electrical connections to the control panel

Install the control panel and make the required electrical connections shown in the figure.



Cover mounting

Once finished with mounting, electrical connections and adjustments, replace the cover and secure it using the hex nut M4. Insert the release handle into the 'LOCK' position and secure it.



Installing and connections for outer opening

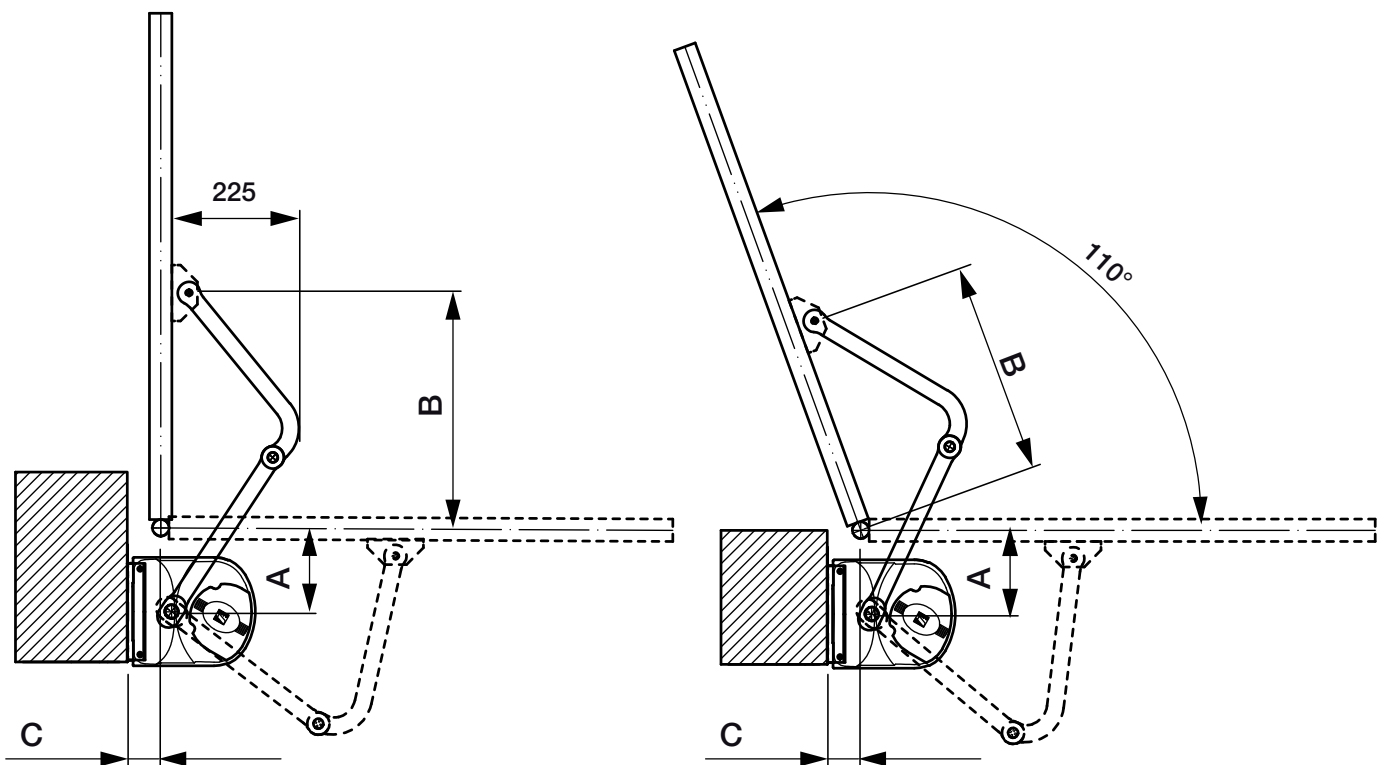
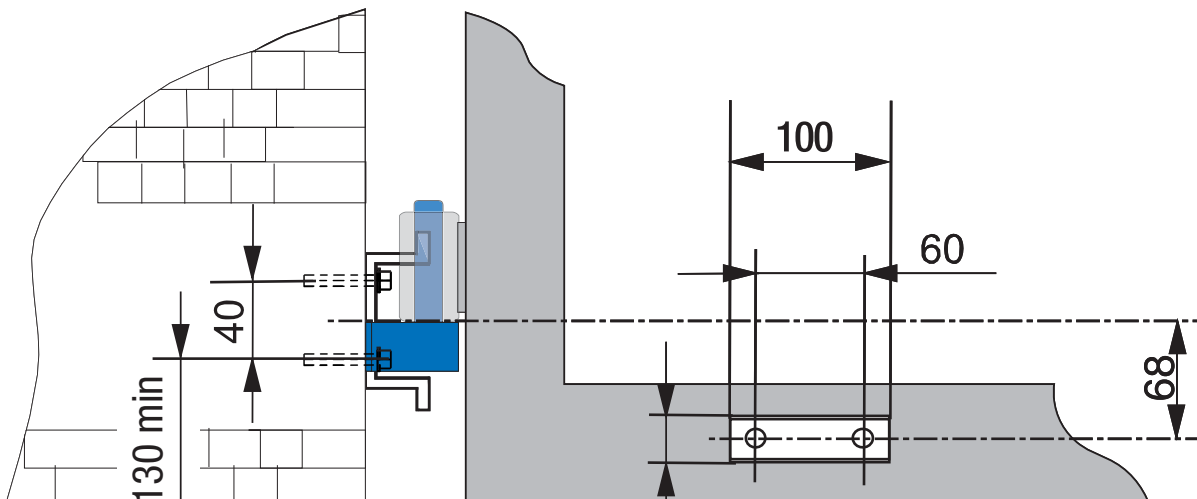
Following, are the only things that change compared to a standard installation:

Fastening the brackets

Establish where you will fit the gate brace and measure where the gate-post brace will fit. Make sure to respect the quotas shown in the drawing and table.

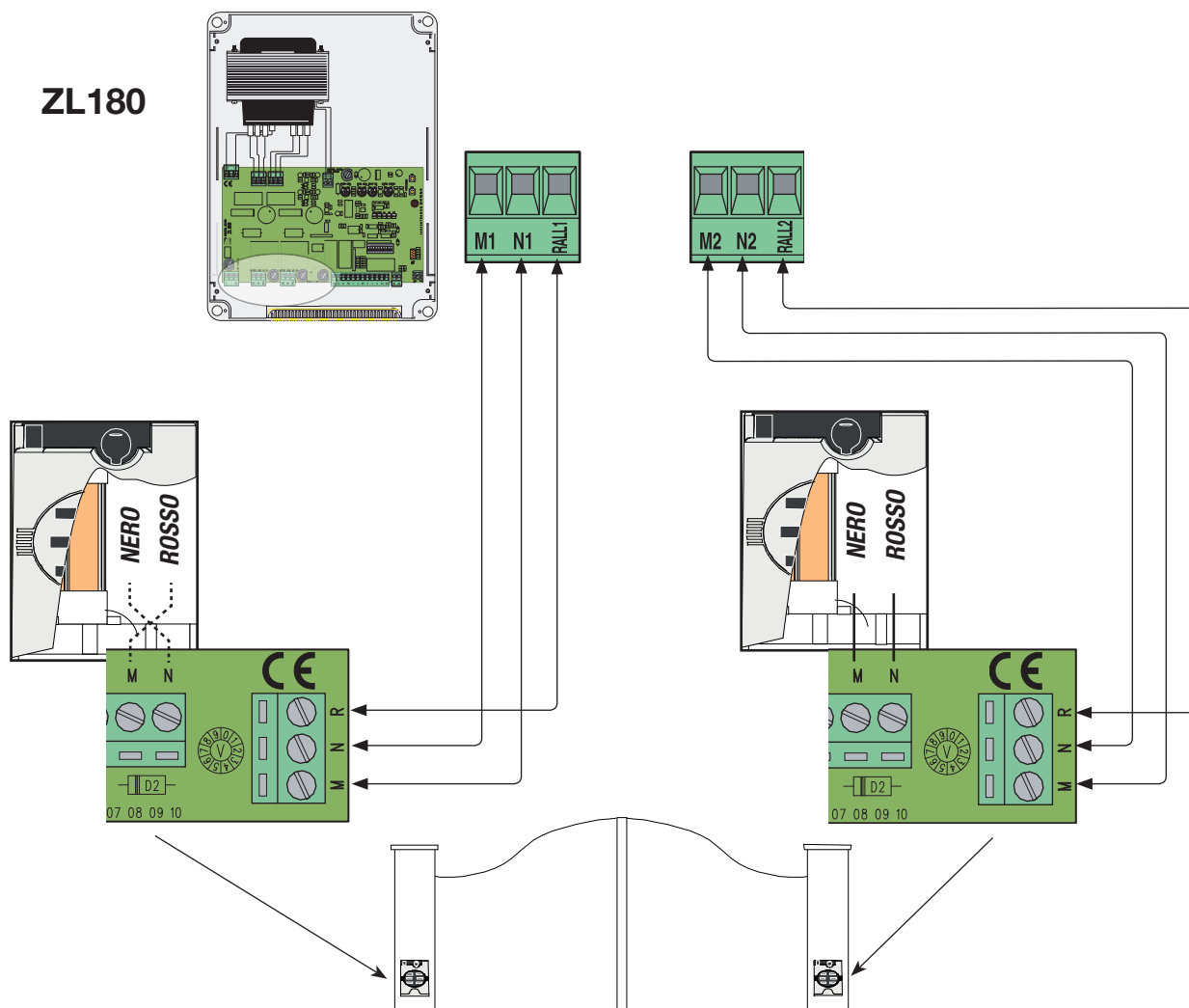
Application dimension (mm)

Leaf opening arc (°)	A	C MAX	B
90°	150	60	420
110°	150	60	380



Electrical connections to the control panel

Install the control panel and carry out the electrical connections as shown in the diagram.



Trouble shooting

MALFUNCTIONS	POSSIBLE CAUSES	CHECKS AND FIXES
The gate neither opens nor closes	<ul style="list-style-type: none"> No power supply The gearmotor is released The transmitter battery is run down The transmitter is out of order The stop button is stuck or broken The opening/closing button or key-switch selector are broken. 	<ul style="list-style-type: none"> Check if network is up Call for assistance Replace the batteries Call for assistance Call for assistance Call for assistance
The gate opens but does not close	The photocells are engaged	<ul style="list-style-type: none"> Check that photocells are clean and in proper working order Call for assistance
The flashing light does not work	Burned out bulb	<ul style="list-style-type: none"> Call for assistance

Maintenance

Periodic maintenance

☞ Before doing any maintenance, cut off the power supply, to prevent any hazardous situations caused by accidentally activating the operator.
Periodic maintenance log kept by users (every six months)

Date	Notes	Signature

Extraordinary maintenance

⚠ The following table is for logging any extraordinary maintenance jobs, repairs and improvements performed by specialized contractors.
📖 Any extraordinary maintenance jobs must be done only by specialized technicians.

Extraordinary maintenance log

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____	

Phasing out and disposal

 CAME S.p.A. employs a UNI EN ISO 14001 certified and compliant environmental protection system at its plants, to ensure that environmental safeguarding.

We ask you to keep protecting the environment, as CAME deems it to be one of the fundamental points of its market operations strategies, by simply following these brief guidelines when disposing:

DISPOSING THE PACKING MATERIALS

The packing components (cardboard, plastic, etc.) are solid urban waste and may be disposed of without any particular difficulty, by simply separating them so that they can be recycled.

Before actions it is always advisable to check the pertinent legislation where installation will take place.

DO NOT DISPOSE OF IN NATURE!

DISPOSING OF THE PRODUCT

Our products are made using different types of materials. The majority of them (aluminium, plastic, iron, electric cables) can be considered to be solid urban waste. They may be recycled at authorised firms.

Other components (electrical circuit board, remote control batteries etc.) may contain hazardous waste.

They must, thus, be removed and turned in to licensed firms for their disposal.

Before acting always check the local laws on the matter.

DO NOT DISPOSE OF IN NATURE!

Reference regulations

The product complies to the reference regulations in effect.

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The contents of this manual may be changed at any time without prior notice.

CAME
safety & comfort



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