

## INDUSTRIAL DOOR OPERATOR

FA01734-EN



**C-BX\_C-BXK\_CBXE\_CBXEK  
C-BXT\_C-BXET\_C-BXE24**

INSTALLATION MANUAL

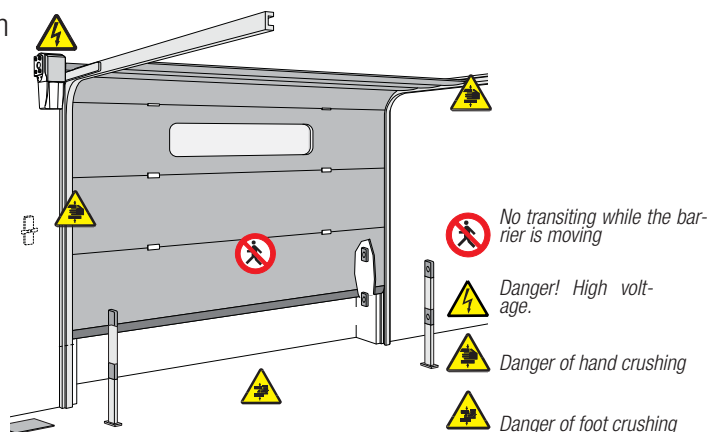
EN English

## AVVERTENZE GENERALI PER L'INSTALLAZIONE

### **⚠ IMPORTANT! Important safety instructions.**

**Please follow all of these instructions. Improper installation may cause serious bodily harm.  
Before continuing, please also read the general precautions for users.**

- Only use this product for its intended purpose. Any other use is hazardous.
- The manufacturer cannot be held liable for any damage caused by improper, unreasonable or erroneous use.
- This product is defined by the Machinery Directive (2006/42/EC) as partly completed machinery.
- Partly completed machinery means an assembly which is almost machinery but which cannot in itself perform a specific application.
- Partly completed machinery is only intended to be incorporated into or assembled with other machinery or other partly completed machinery or equipment thereby forming machinery to which the Machinery Directive (2006/42/EC) applies.
- The final installation must comply with the Machinery Directive (2006/42/EC) and the European reference standards in force.
- The manufacturer declines any liability for using non-original products, which would also void the warranty.
- All operations indicated in this manual must be carried out exclusively by skilled and qualified personnel and in full compliance with the regulations in force.
- The device must be installed, wired, connected and tested according to good professional practice, in compliance with the standards and laws in force.
- All the components (e.g. actuators, photocells and sensitive edges) needed for the final installation to comply with the Machinery Directive (2006/42/EC) and with the reference harmonised technical standards are specified in the general CAME product catalogue or on the website [www.came.com](http://www.came.com).
- Make sure the mains power supply is disconnected during all installation procedures.
- Check that the temperature ranges given are suitable for the installation site.
- Do not install the operator on surfaces that could yield and bend.
- If necessary, add suitable reinforcements to the anchoring points.
- Make sure that no direct jets of water can wet the product at the installation site (sprinklers, water cleaners, etc.).
- 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.
- Demarcate the entire site properly to prevent unauthorised personnel from entering, especially minors.
- In case of manual handling, have one person for every 20 kg that needs hoisting; for non-manual handling, use proper hoisting equipment in safe conditions.
- Use suitable protection to prevent any mechanical hazards due to persons loitering within the operating range of the operator.
- The electrical cables must pass through special pipes, ducts and cable glands in order to guarantee adequate protection against mechanical damage.
- The electrical cables must not touch any parts that may overheat during use (such as the motor and transformer).
- Before installation, check that the guided part is in good mechanical condition, and that it opens and closes correctly.
- The product cannot be used to automate any guided part that includes a pedestrian gate, unless it can only be enabled when the pedestrian gate is secured.
- Make sure that nobody can become trapped between the guided and fixed parts, when the guided part is set in motion.
- All fixed controls must be clearly visible after installation, in a position that allows the guided part to be directly visible, but far away from moving parts. In the case of a hold-to-run control, this must be installed at a minimum height of 1.5 m from the ground and must not be accessible to the public.
- Where operated with a hold-to-run control, install a STOP button to disconnect the main power supply to the operator, to block movement of the guided part.
- If not already present, apply a permanent label describing how to use the manual release mechanism close to it.
- Make sure that the operator has been properly adjusted and that the safety and protection devices and the manual release are working properly.
- Before handing over to the final user, check that the system complies with the harmonised standards and the essential requirements of the Machinery Directive (2006/42/EC).
- Any residual risks must be indicated clearly with proper signage affixed in visible areas, and explained to end users.
- Put the machine's ID plate in a visible place when the installation is complete.



## LEGEND OF SYMBOLS



This symbol tells you to read the part very carefully.



This symbol tells of parts that have to do with safety.



This symbol tells what to say to the user.

## INTENDED USE AND LIMITS TO USE

### Intended use

The CBX series gearmotor was designed to mainly power sectional doors which are directly coupled onto Ø 1" (Ø 25,4 mm) spring loaded, chain transmission shafts. It is also suited for large sliding and folding doors with their relative accessories.



Any use other than the above mentioned intended one and installations made differently than what is explained in this technical manual, are prohibited.

### Limits to use

For large, directly-coupled sectional doors	<ul style="list-style-type: none"> <li>• door height up to 5.5 m</li> <li>• Speed* 7.15 m/1' with ~Ø 105 mm reel barrel</li> <li>• Speed* 9.3 m/1' with ~Ø 138 mm reel barrel</li> </ul>
For large chain-transmission sectional doors	<ul style="list-style-type: none"> <li>• door height up to 8.5 m</li> <li>• Speed* 9.15 m/1' with ~Ø 208 mm reel barrel</li> </ul>
For large, sliding or folding doors	<ul style="list-style-type: none"> <li>• Door width of up to 5.5 m for the C-BXE / C-BXE24 / C-BXET / C-BXEK</li> <li>• Door width of up to 11 m for C-BX / C-BXT / C-BXK</li> <li>• Door weight max 1,000 kg</li> </ul>

\* Speed is variable depending on the barrel diameter. The descriptions are based on common cable winch barrels, in the above mentioned sizes, as used by mainstream sectional door manufacturers.

### Contexts of operation

<b>C-BX / C-BXK / C-BXE / C-BXEK</b>	Residential - Apartment block - Industrial
<b>C-BXE24</b>	Residential - Apartment block
<b>C-BXT / C-BXET</b>	Industrial

## DESCRIPTION

### Gearmotor

The gearmotor is designed and manufactured by Came S.p.A. and complies with the current safety standards laws.

The case, is partly made of cast aluminium, holds a working electromechanical, irreversible gearmotor, and partly made of ABS plastic coating to hold the electronic connection terminals.

The CBX series comes in several versions depending on the intended use; whether it's for residential, apartment block or industrial applications, with mechanical or encoder based endstops (see paragraph 2.3 Contexts of application).

The complete range:

#### *230V Gearmotor with mechanical gearmotor and control panels*

001C-BX / 001C-BXK - 230V A.C. Gearmotor with mechanical endstop

002 ZC3 / 002 ZM3E - Control Panel

002 ZC3C / 002 ZM3EC - Control panel with safety locking of command buttons

#### *230 V Gearmotor with encoder and control panels*

001C-BXE / 001C-BXEK - 230V A.C. Gearmotor with encoder

002 ZCX10 – Control panel

002 ZCX10C – Control panel with safety locking of command buttons

#### *230V/400V tri-phase Gearmotor with mechanical endstops and control panels*

001C-BXT - 230V/400V A.C. tri-phase gearmotor with mechanical endstop

002 ZT6 – Control panel

002 ZT6C - Control panel with safety locking of command buttons

#### *230V/400V tri-phase Gearmotor with encoder and control panel*

001C-BXET - 230V/400V A.C. Gearmotor with encoder

002 ZT5 – Control Panel

002 ZT5C - Control panel with safety locking of command buttons

#### *24V Gearmotor with encoder and control panels*

001C-BXE24 - 24V D.C. Gearmotor with encoder

002 ZL80 – Control panel

002 ZL80C - Control panel with safety locking of command buttons

002LBD2 – Card for connecting two (12V - 1.2Ah) emergency batteries

The CBX series may come with some of the following accessories, depending on the type of installations (i.e. sectional, folding or sliding):

001 CMS – Release handle with customised key and reset cord (L = 7 m);

009 CCT – Simple 1/2" chain for large sliding or folding doors;

009 CGIU – Joint for 1/2" chain;

821XC-0150 – Manual winch for large sectional doors;

001 C002 – Pendulum release system;

001 C003 - Chain tension reset system and brackets for large sliding doors;

001 C004 – Chain tension reset system and brackets for large folding doors;

001 C005 – Chain transmission system for large sectional doors with heights greater than 5.5 m;

001 C006 – Package with two brackets for large sectional doors (specific for direct coupling applications with Ø 1 spring loaded shafts");

001 C007/8 – Adaptors for sectional doors with Ø25 mm (C007), or Ø40 mm (C008) shafts;

001 C009 – Bracket for large sectional doors (specific for direct coupling applications with Ø 1 spring loaded shafts");

001 C011 - Chain transmission mechanism for off-axis applications with a transmission ratio of 1:1



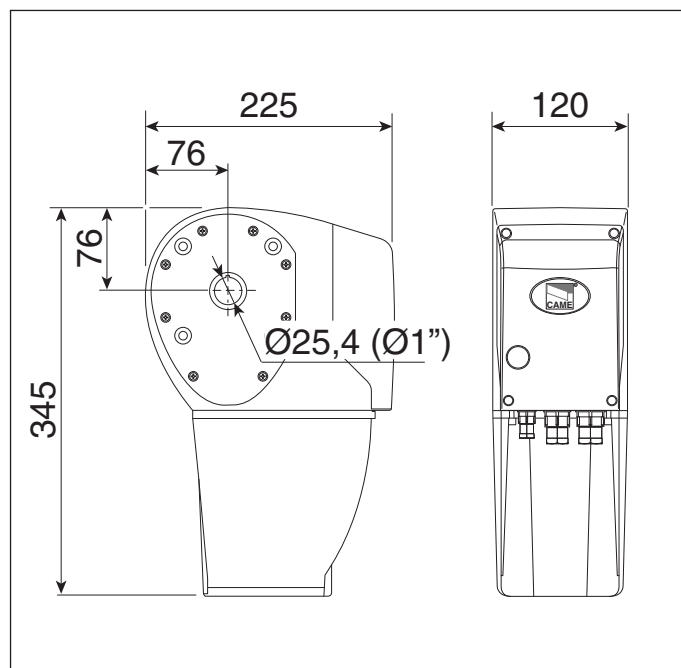
Make sure that the command and safety equipment and accessories are CAME originals; this ensures easy installation and system's maintenance.

## Technical information

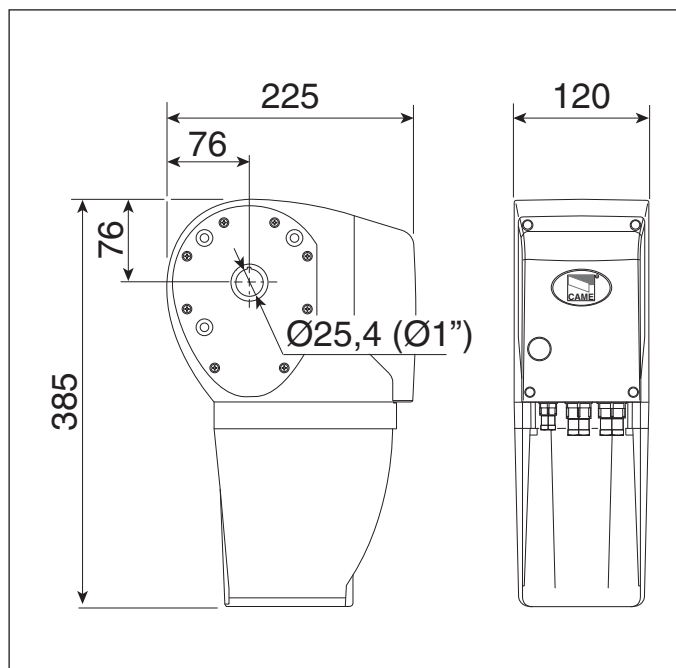
	C-BX	C-BXK	C-BXE	C-BXEK	C-BXT	C-BXET	C-BXE24
Power to motor			230V A.C. 50/60Hz			230-400V A.C. 50/60Hz	24V D.C. 50/60Hz
Draw* A	2.2	3.6	2.2	3.6		2.5	9
Power* W	450	750	450	750		780	240
Max torque* Nm	60	120	60	120		80	25
Gear ratio	1/67,45						
Max n. of shaft revolutions	32	32	16	16	32	16	16
Rotation velocity rpm	21.5						2.5
Duty cycle	30%	30%	30%	30%	50%	50%	intensive
Protection rating	IP54						
Motor's thermal protection	150 °C						/
Weight kg	11.3	11.8	13.3	13.9	11.2	11.3	11.2
Working temperature	-20 / +55 °C						
Operator insulation	Class I						
* Values depending on control panel in use							

## Overall dimensions

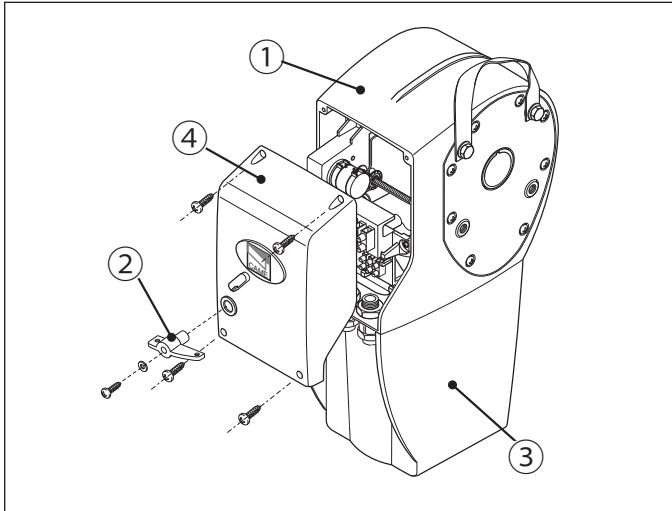
C-BX / C-BXE  
C-BXT / C-BXET  
C-BXE24



C-BXK / C-BXEK



## Description of parts

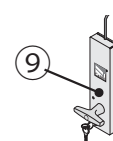
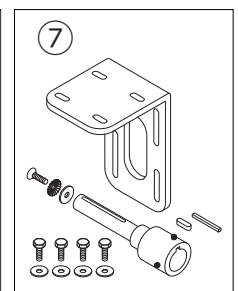
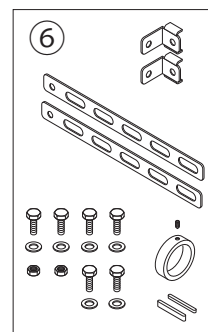
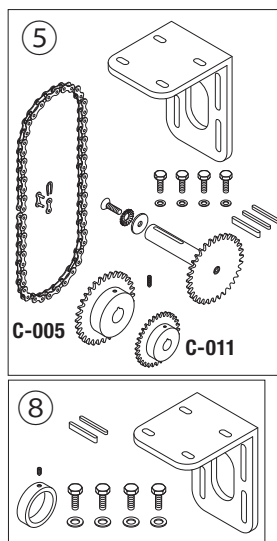
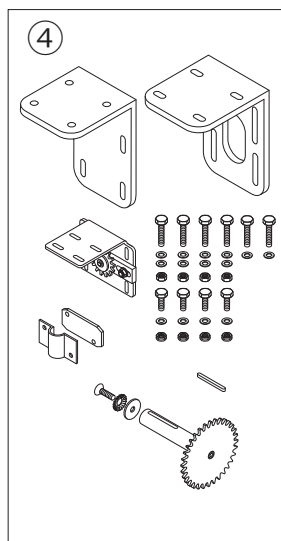
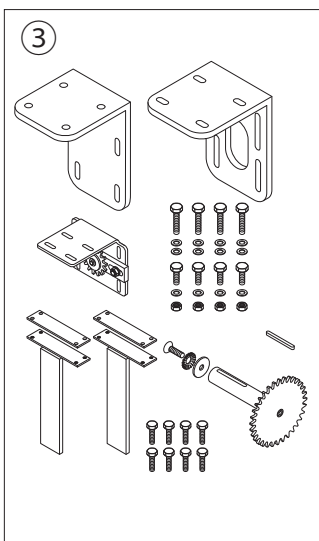
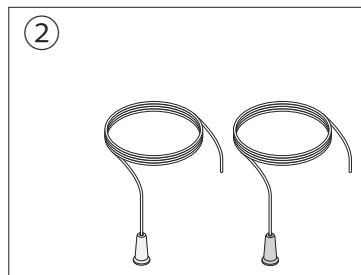
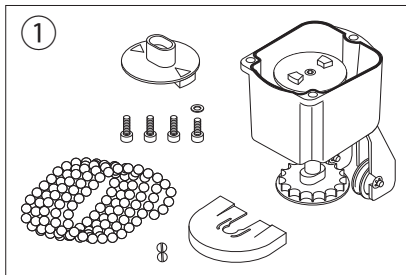


### GEARMOTOR ASSEMBLY

- ① Motoriduttore
- ② Maniglia di sblocco
- ③ Calotta inferiore
- ④ Coperchio di protezione

### ACCESSORIES

- ① 821XC-0150 - Winch
- ② C002 - Pendulum release system
- ③ C003 - Chain tension reset system and brackets for large sliding doors
- ④ C004 - Chain tension reset system and brackets for large folding doors
- ⑤ C-005 / C011 - Chain transmission system for large sectional doors
- ⑥ C006 - Perforated brackets for motors on large sectional doors
- ⑦ C007/8 - Adaptors for large sectional doors
- ⑧ C009 - Bracket for motor support on large sectional doors
- ⑨ CMS - Release handle with key
- ⑩ CCT - Simple 1/2" chain
- ⑪ CGIU - 1/2" chain coupling




## INSTALLAZIONE

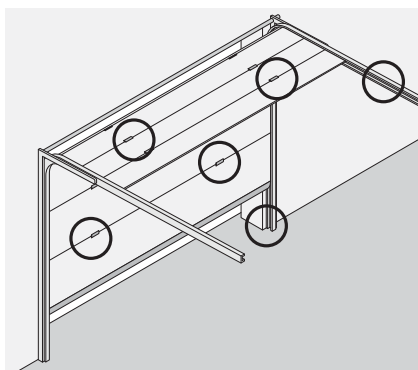
 The installation must be done by qualified, expert personnel and in compliance with the current laws.

### Initial checks

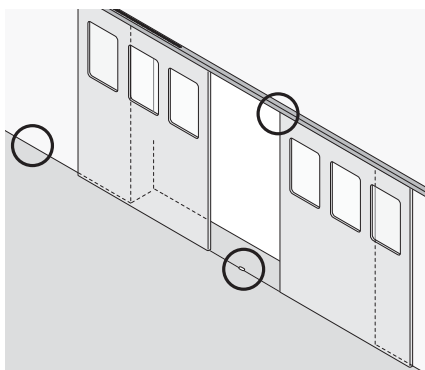
 Before installing the automation you must:

- make sure the gearmotor will be fixed where it is protected from impact, and that the anchoring surface is solid and that the gearmotor is fixed using suitable means (i.e. screws, bolts, etc.) to the surface;
- make sure you include a suitable omnipolar cut-off device, that features a distance of more than 3 mm among contacts, and that the power is insulated.
-  Connections within the case made for protection circuit continuity are allowed, as long as they are fitted with supplementary insulation as compared to other internal conducting parts;
- Set up proper tubes and conduits for electrical cables to run through, and to guarantee protection from mechanical damage;
- Check that the door structure is robust enough, that the hinges are in proper working order and that there is no friction among fixed and moving parts.
- Make sure there is a mechanical door jamb for both closing and opening.

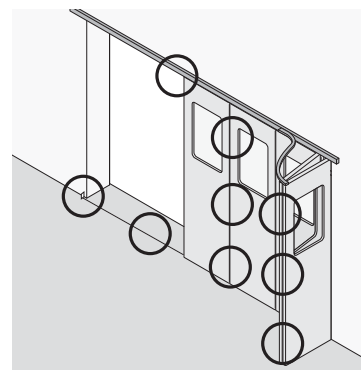
SECTIONAL DOORS



SLIDING DOORS

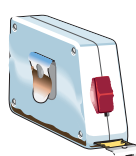
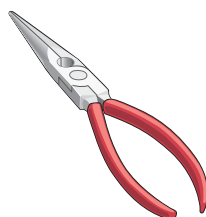
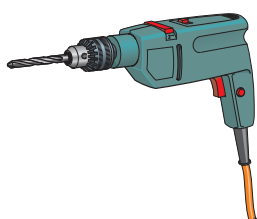


FOLDING DOORS



### Tools and equipment

Check that you have all the necessary tools and equipment, to carry out the installation in total safety, according to the current laws. The figure shows an installer's minimal equipment and tool requirements.








## Cable type and minimum thicknesses

Connection	Cable length 1 < 10 m	Cable length 10 < 20 m	Cable length 20 < 30 m
Power 230/400V AC	4G x 1,5 mm <sup>2</sup>	4G x 1.5 mm <sup>2</sup>	4G x 2.5 mm <sup>2</sup>
Power 230V AC	3G x 1,5 mm <sup>2</sup>	3G x 1.5 mm <sup>2</sup>	3G x 2.5 mm <sup>2</sup>
Power to motor 230/400V AC	4G x 1,5 mm <sup>2</sup>	4G x 1.5 mm <sup>2</sup>	4G x 2.5 mm <sup>2</sup>
Power to motor 230/400V AC	3G x 1,5 mm <sup>2</sup>	3G x 1.5 mm <sup>2</sup>	3G x 2.5 mm <sup>2</sup>
Power to motor 24V DC	2G x 1,5 mm <sup>2</sup>	2G x 1.5 mm <sup>2</sup>	2G x 2.5 mm <sup>2</sup>
Flashing light	2 x 1,5 mm <sup>2</sup>	2 x 1.5 mm <sup>2</sup>	2 x 1.5 mm <sup>2</sup>
Left Photocells	2 x 0,5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>
Right Photocells	4 x 0,5 mm <sup>2</sup>	4 x 0.5 mm <sup>2</sup>	4 x 0.5 mm <sup>2</sup>
Power to accessories	2 x 0,5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>	2 x 1 mm <sup>2</sup>
Command buttons	2 x 0,5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>	2 x 0.5 mm <sup>2</sup>
Endstops	3 x 0,5 mm <sup>2</sup>	3 x 1 mm <sup>2</sup>	3 x 1.5 mm <sup>2</sup>
Encoder connection		max. 30 m	
Antenna connection		max. 10 m	

When operating at 230 V and outdoors, use H05RN-F-type cables that are 60245 IEC 57 (IEC) compliant; when indoors, use H05VV-F-type cables that are 60227 IEC 53 (IEC) compliant. For power supplies up to 48 V, use cables compliant with standard EN 50267-2-1 (CEI).

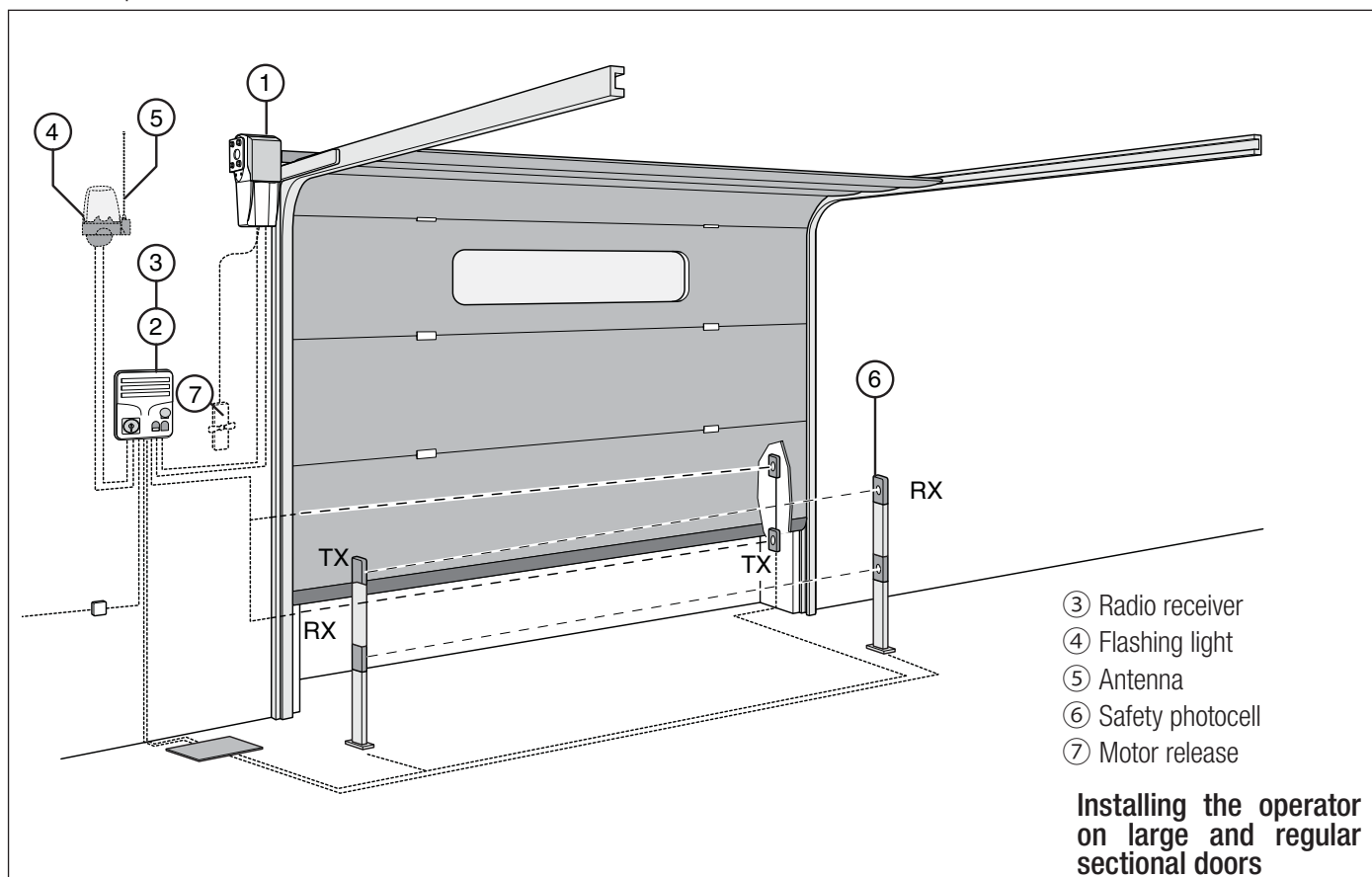
 To connect the antenna, use RG58 cable (up to 5 m).

 If cable lengths differ from those specified in the table, establish the cable sections depending on the actual power draw of the connected devices and according to the provisions of regulation CEI EN 60204-1.

 For multiple, sequential loads along the same line, recalculate the values in the table according to the actual power draw and distances. For connecting products that are not covered in this manual, please see the documentation accompanying the relevant products.

① Gearmotor

② Control panel with buttons

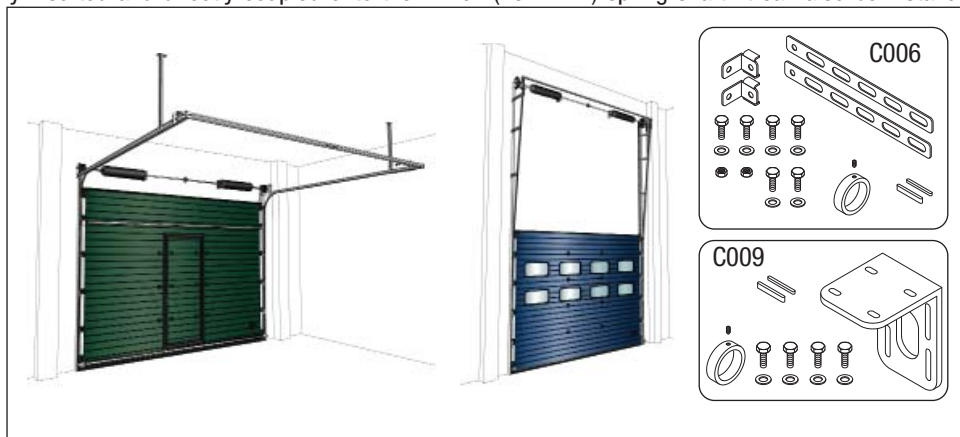




**!** The following applications are only examples, in that the space needed for fixing the gearmotor and accessories varies depending on the overall dimensions and so it is up to the installer to choose the most suitable solution.

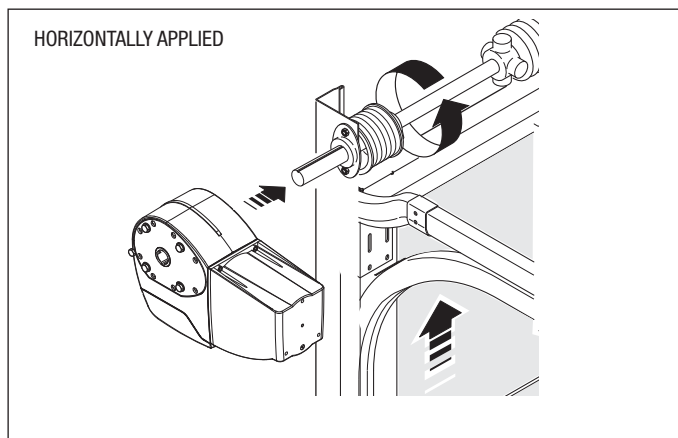
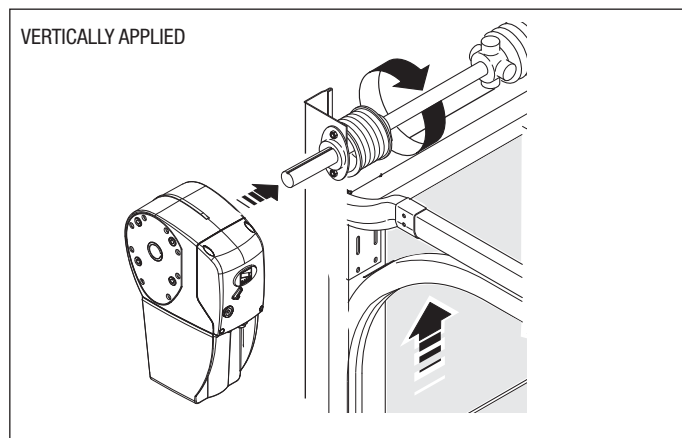
### DIRECT COUPLING

The CBX gearmotor is made to be vertically inserted and directly coupled onto the 1 inch (25.4 mm) spring shaft. It can also be installed horizontally. To do this, it requires the proper complementary accessory (Art. C006 or C009).di completamento (Art. C006 o C009).



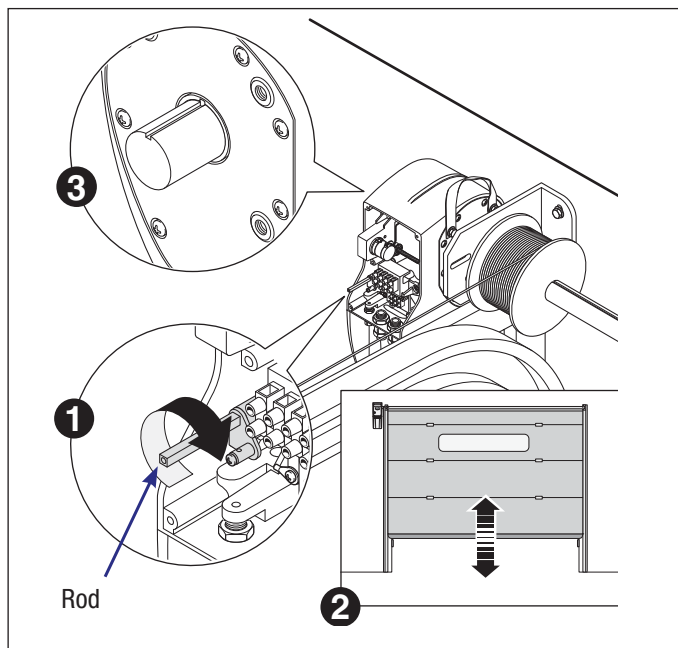
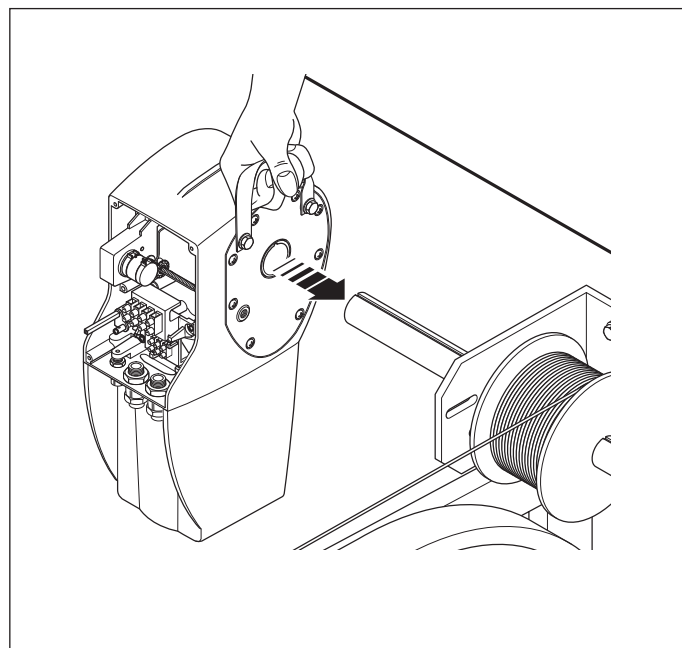
**!** For the following gearmotors only: CBXE, CBXEK, C-BXET and C-BXE24, before inserting the motor into the post, move the door halfway along its run.

**!** Before inserting the gearmotor onto the shaft, open the door and check the direction of rotation of the cable winch-barrel. Insert the gearmotor vertically or horizontally depending on the direction of rotation. (see diagram).



1) insert the gearmotor onto the spring shaft using the handle.

2) Manually release the gearmotor using the rod in a clockwise direction and move the door so that the spring-shaft cavity coincides with that of the gearmotor's cable.

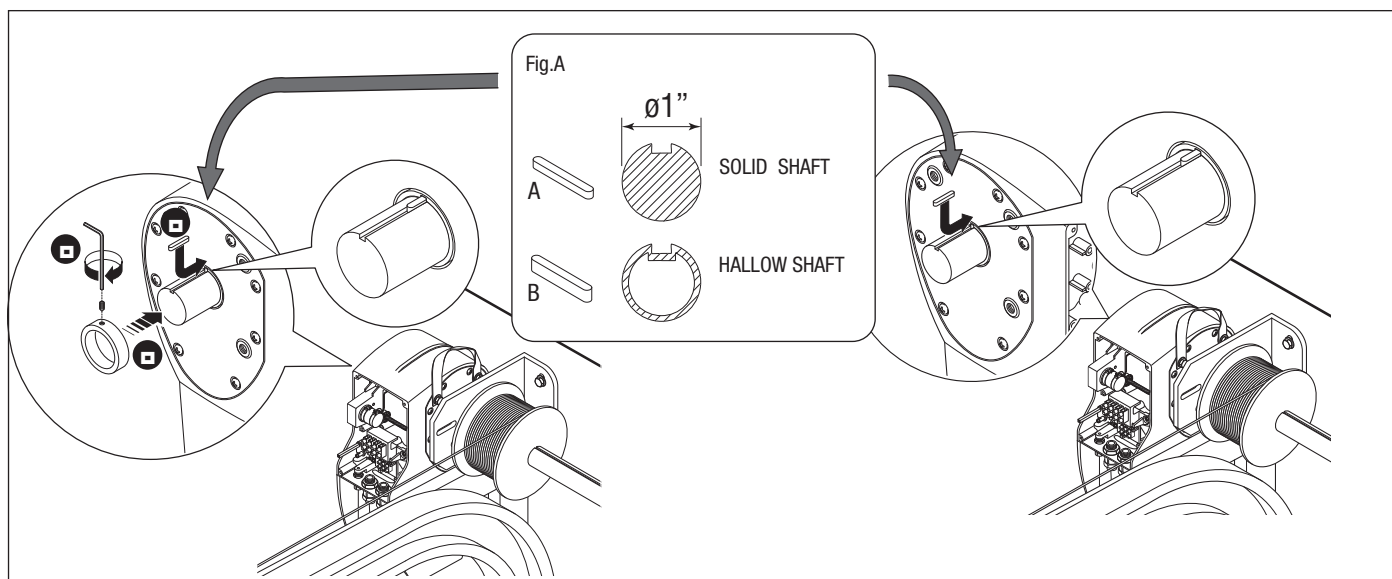


3) With "C006" accessory:

Insert tab A or B depending on the shaft type (see fig A) between the two cavities. Insert the bushing into the shaft and secure using the screw.

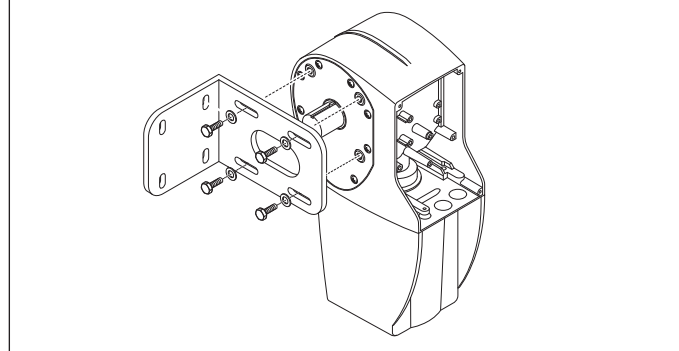
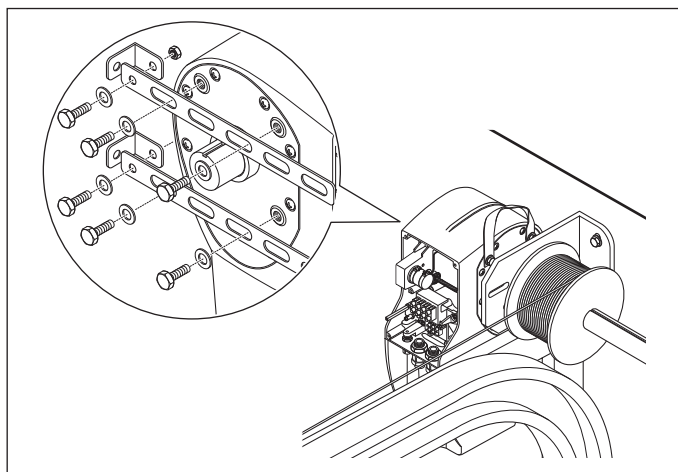
3) With "C009" accessory:

Insert tab A or B depending on the shaft type (see fig A) between the two cavities.



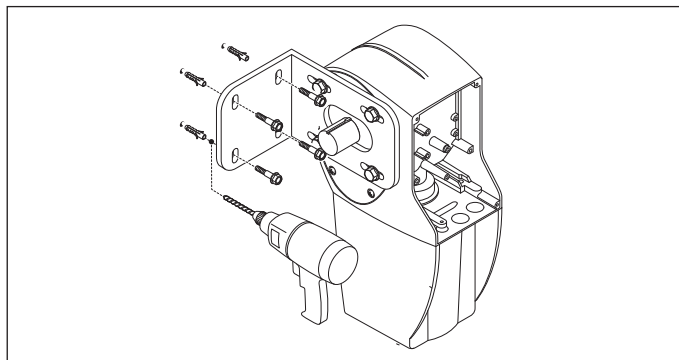
4) Assemble the brackets and fix them ( N.B. don't tighten them completely) to the gearmotor using the issued screws.

4) Secure the elbow bracket to the gearmotor using UNI5739 M8x16 screws (N.B. : don't tighten them completely)

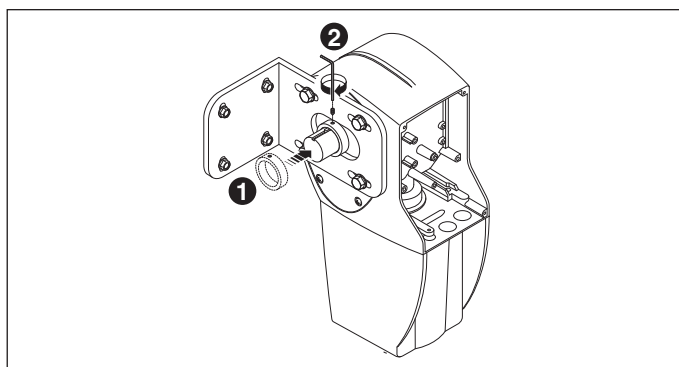


5) Secure the brackets to the wall using suitable screws. Tighten them on the gearmotor

5) Secure the brackets to the wall using suitable screws. Tighten them on the gearmotor



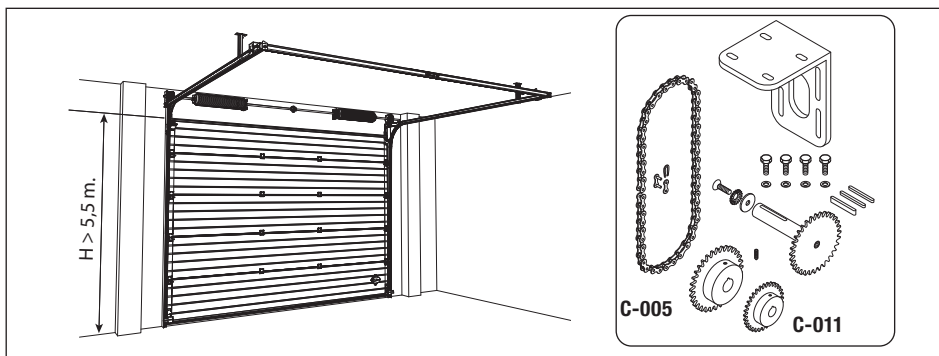
6) Insert the bushing into the shaft and secure it using the UNI5927 M6x16 headless screw.



## CHAIN TRANSMISSION

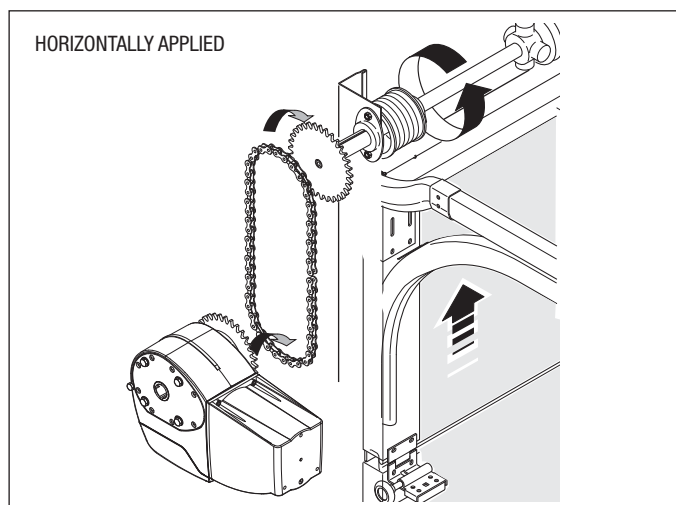
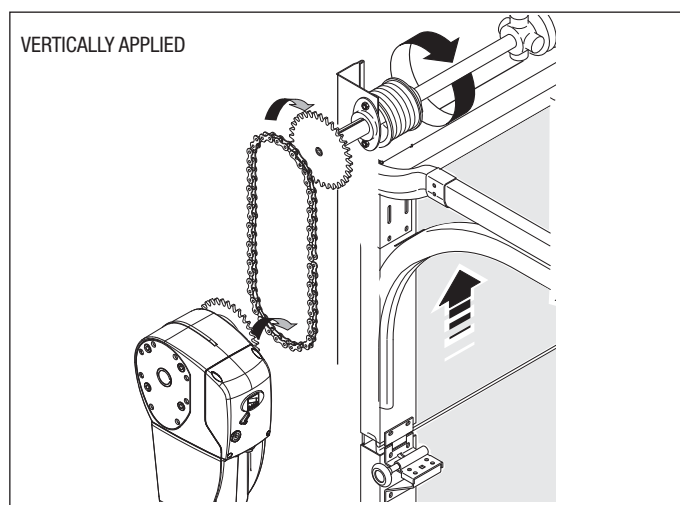
When installing on large sectional doors that are taller than 5 m., the (Art. C005) accessory must be used.

For doors where the gearmotor cannot be assembled in alignment with the door springs, use the C-011 accessory.

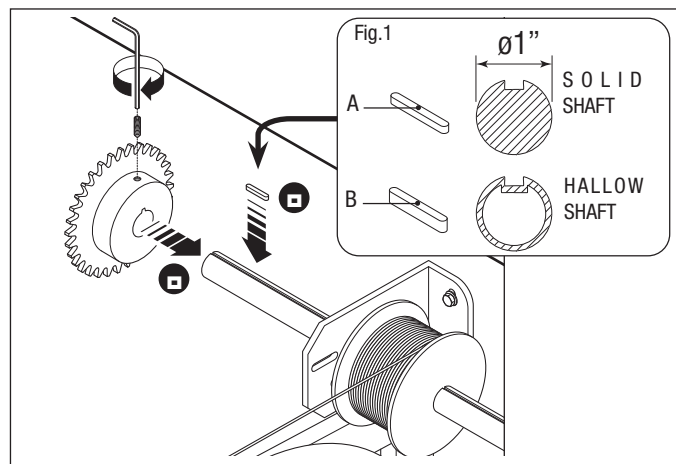


**!** For the following gearmotors only: CBXE, CBXEK, C-BXET and C-BXE24, before securing the chain to the motor, move the door halfway along its run.

**!** Before securing the chain to the motor, open the large door to check the direction of rotation of the cable winch-barrel. Insert the gearmotor vertically or horizontally depending on the direction of travel.

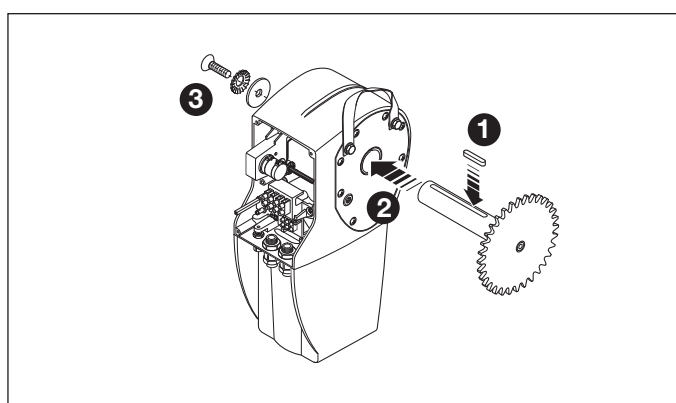
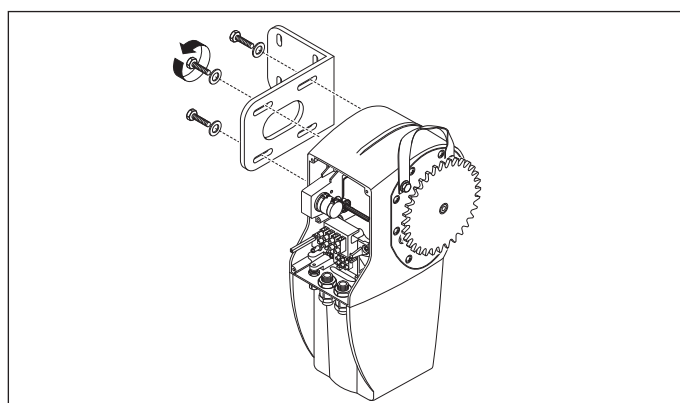


1) First insert the A or B tab into the spring shaft, (see fig. 1) and then the cog wheel line with the tab. Secure the cog wheel and shaft using the screw.

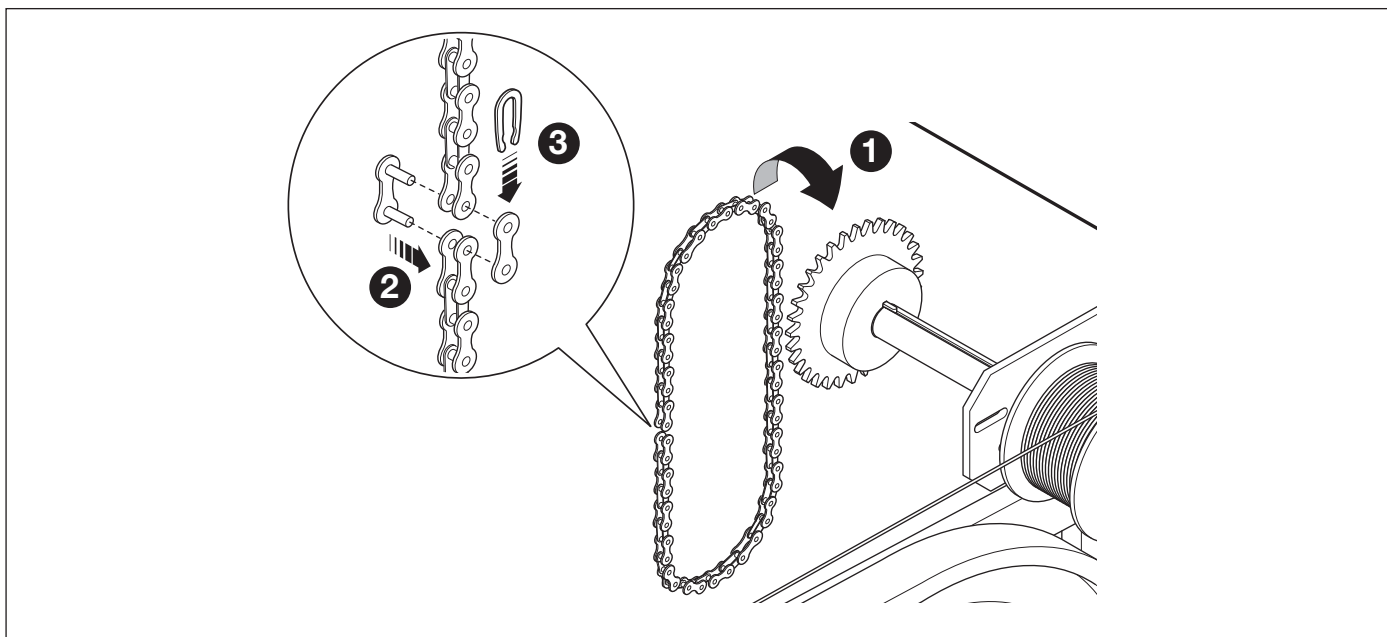


2) insert the A tab into the cavity of the cogged pinion shaft, insert the pinion into the gearmotor hallow shaft and secure it using UNI 5933 M6x16 screw and the two washers on the opposite side.

3) Secure the elbow bracket to the gearmotor using the issued screws.

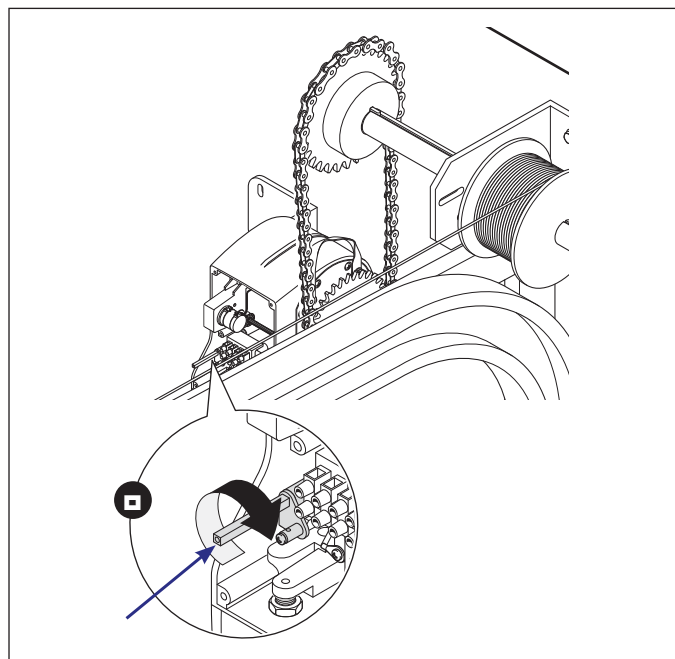
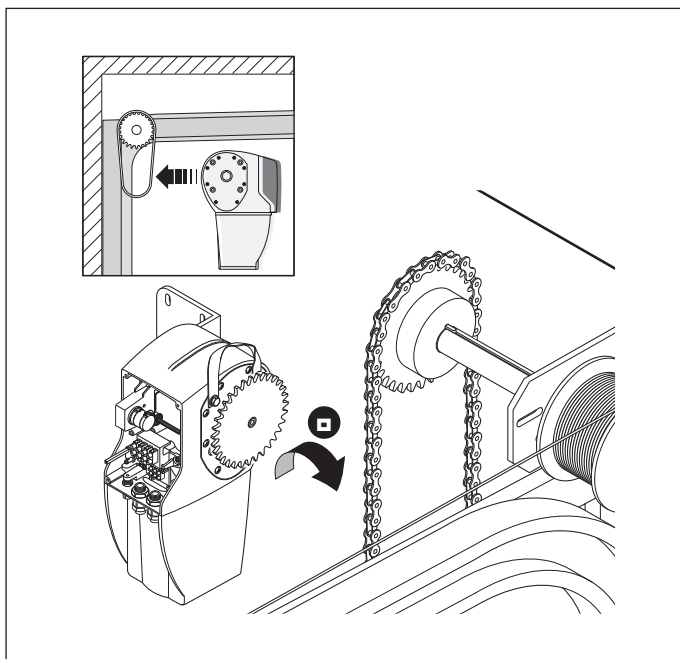


4) Join the ends of the chain using the joint and lay it onto the cog wheel, leaving it hanging.

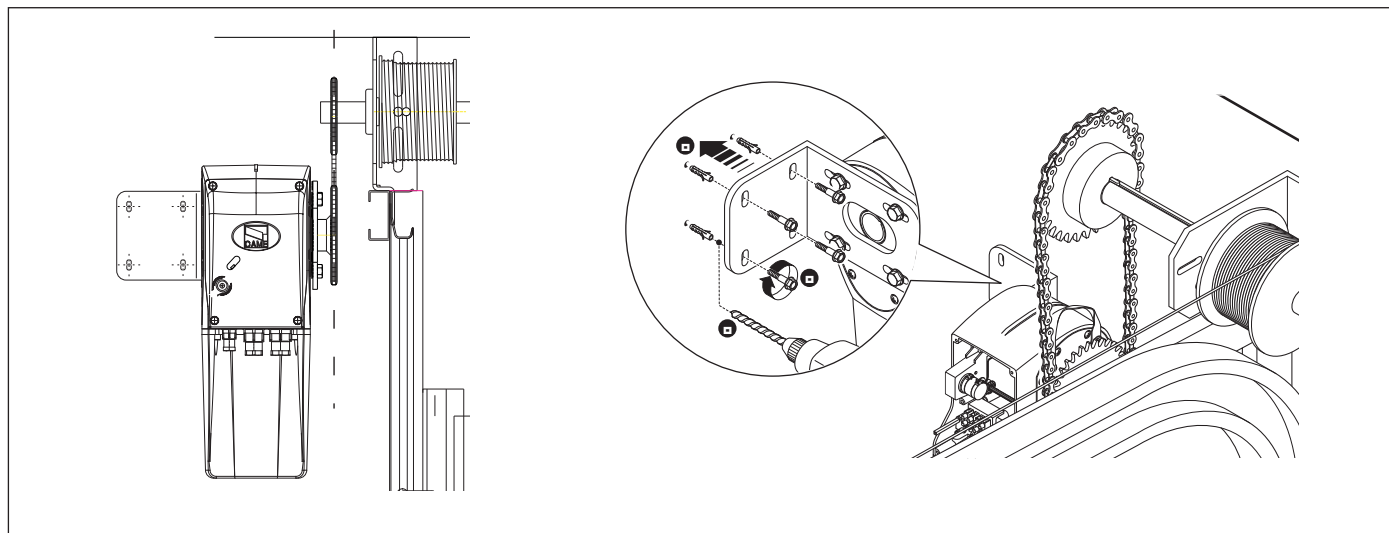


5) Anchor the gearmotor's pinion shaft to the hanging chain.

6) Manually release the gearmotor by turning the rod clockwise.



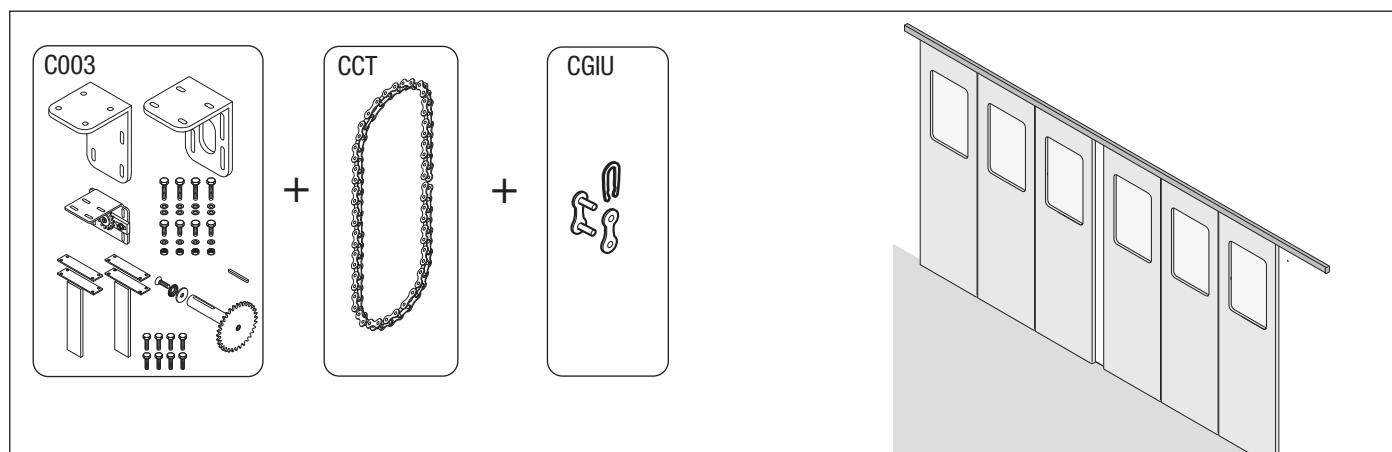
7) Secure the gearmotor's elbow bracket, making sure that the two cog wheels are perpendicularly in line.



## Installing the operator on large and regular, sliding doors

### LARGE, ONE OR TWO-LEAFED DOORS

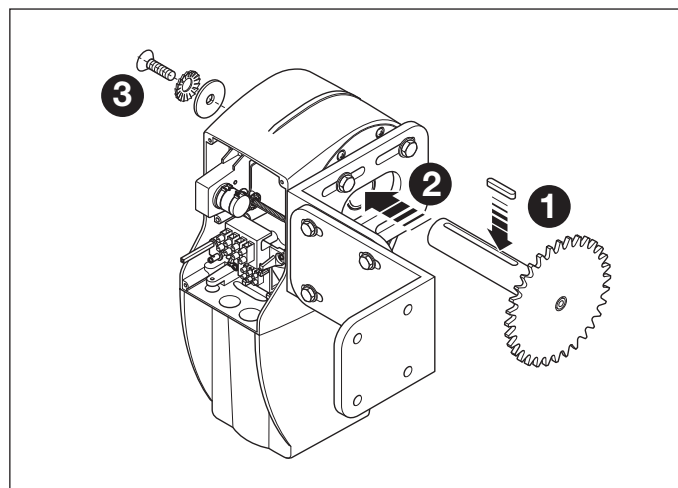
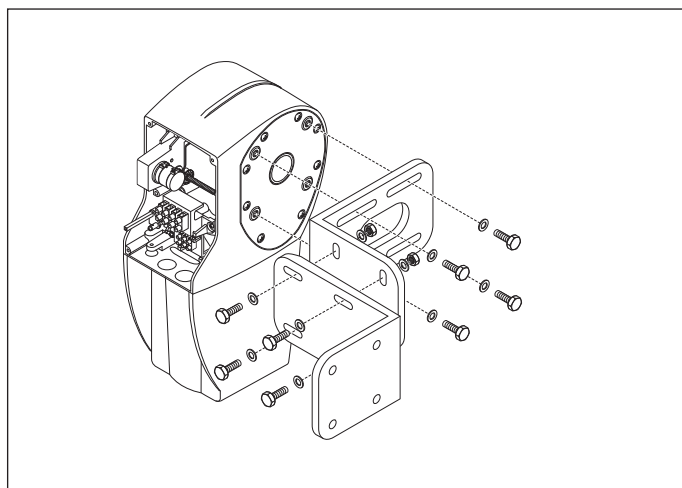
When installing on large one or two-leaved doors, you must use the C003 accessory (reset system for sliding doors).



**!** For the following gearmotors only: CBXE, CBXEK, C-BXET and C-BXE24, before securing the chain to the motor, move the door halfway along its run.

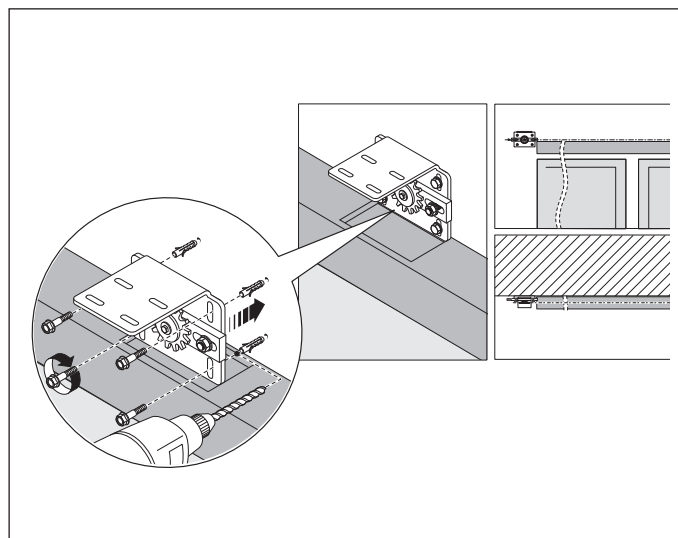
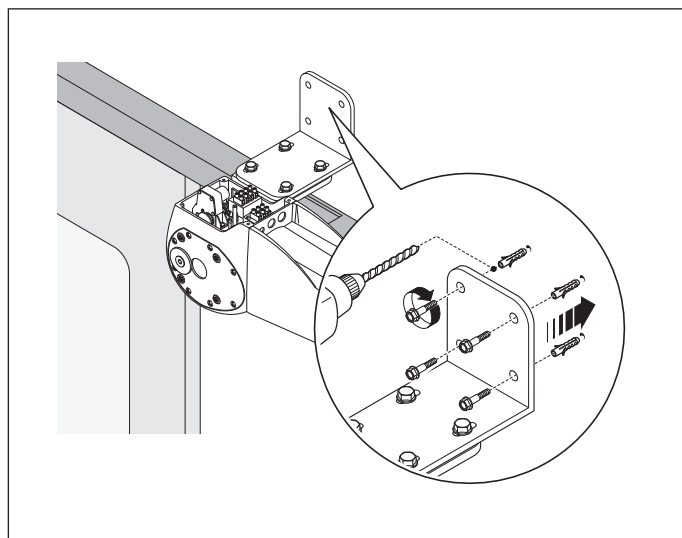
1) Assemble the two elbow brackets and secure them to the gearmotor (see drawing).

2) Insert the tab into the cavity of the Z26 cogged pinion shaft, insert the pinion into the gearmotor hollow shaft and secure it using the UNI 5933 M6x16 screw and the two washers on the opposite side.



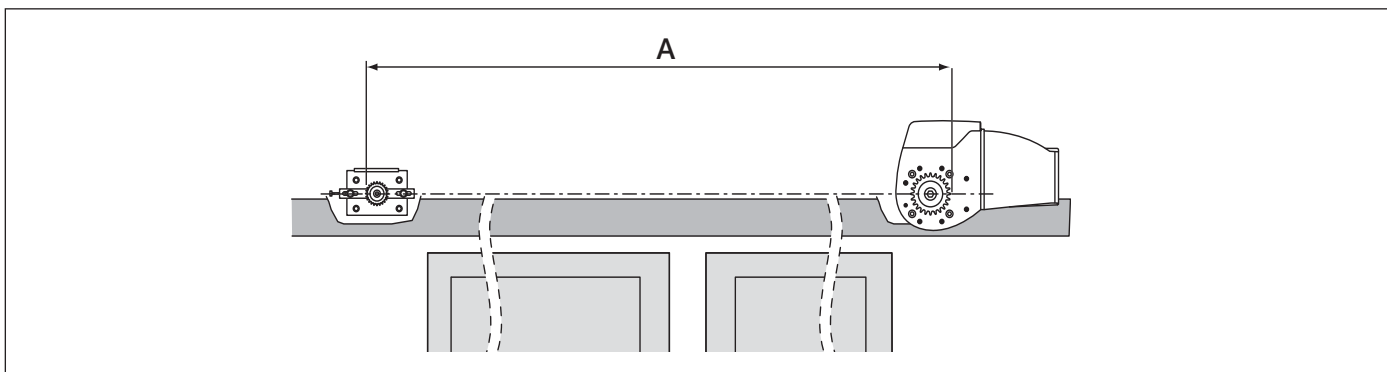
3) Secure the whole assembly either at the top right or left of the door using proper screws and bolts..

4) Secure the chain tension reset opposite the gearmotor and in line with the pinion.

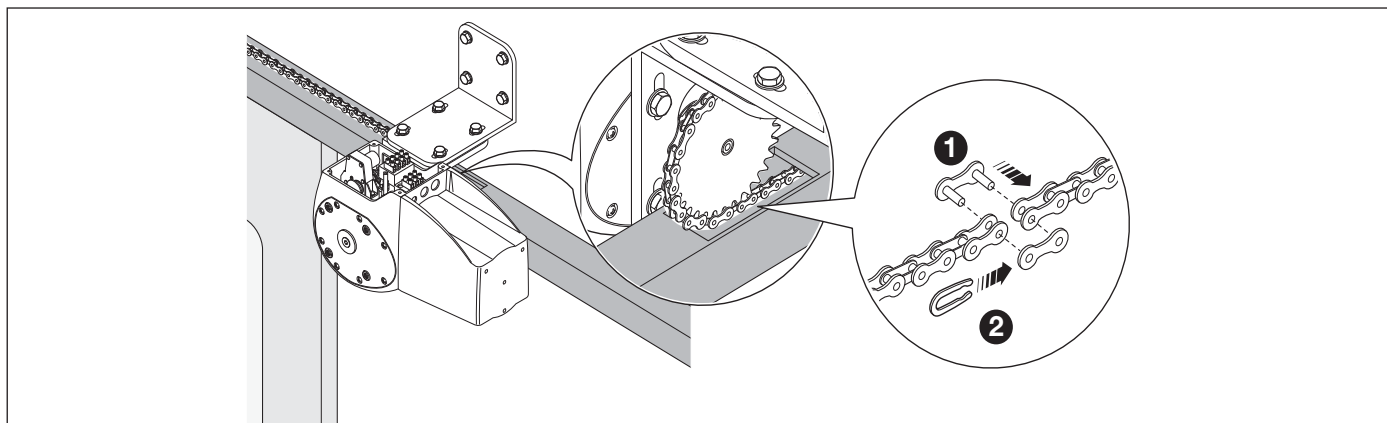




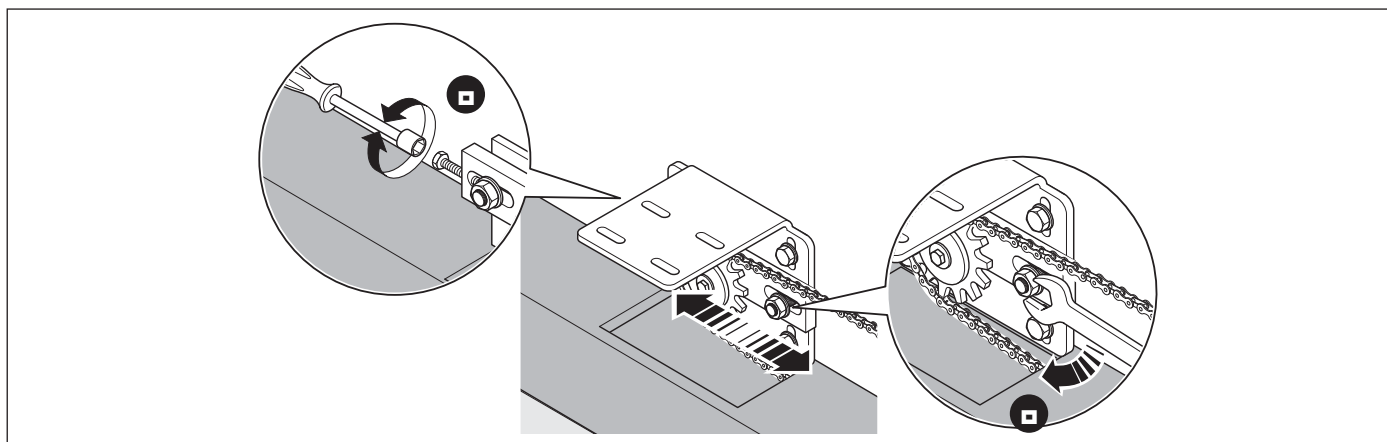
5) Place the ½ inch (CCT) chain between the gearmotor and the reset. The length of the chain must be equal to twice distance A.



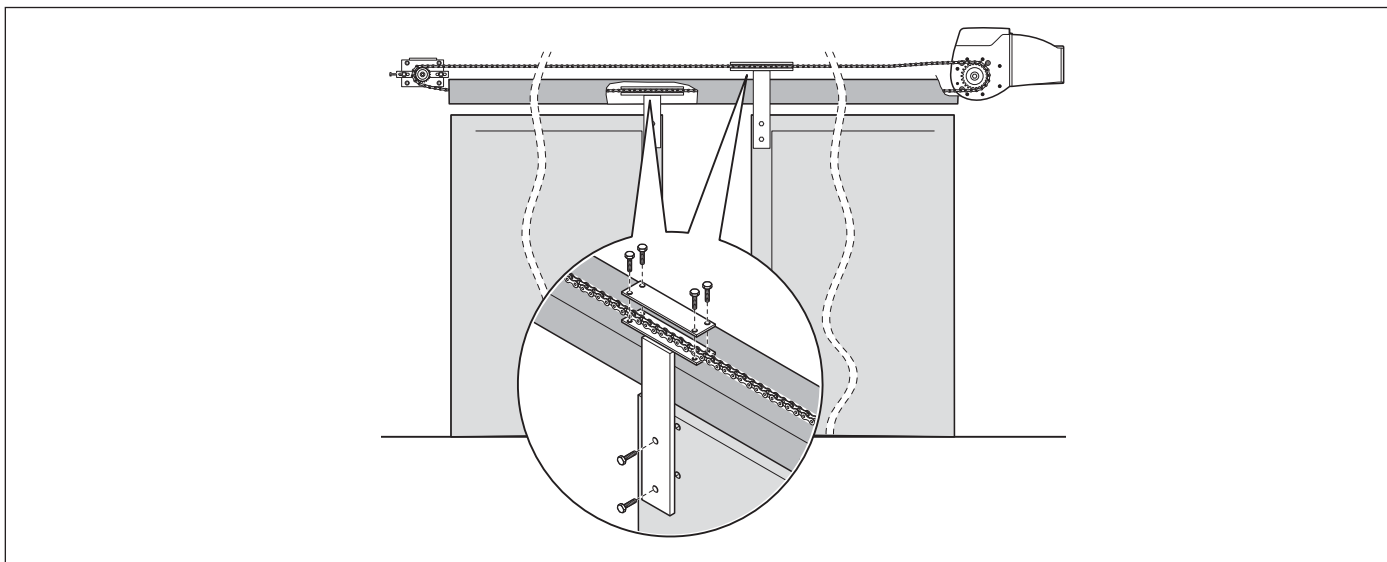
6) Join the two ends of the chain using the (CGIU) joint).



7) Adjust the chain tension using the reset screw and then lock the nuts.

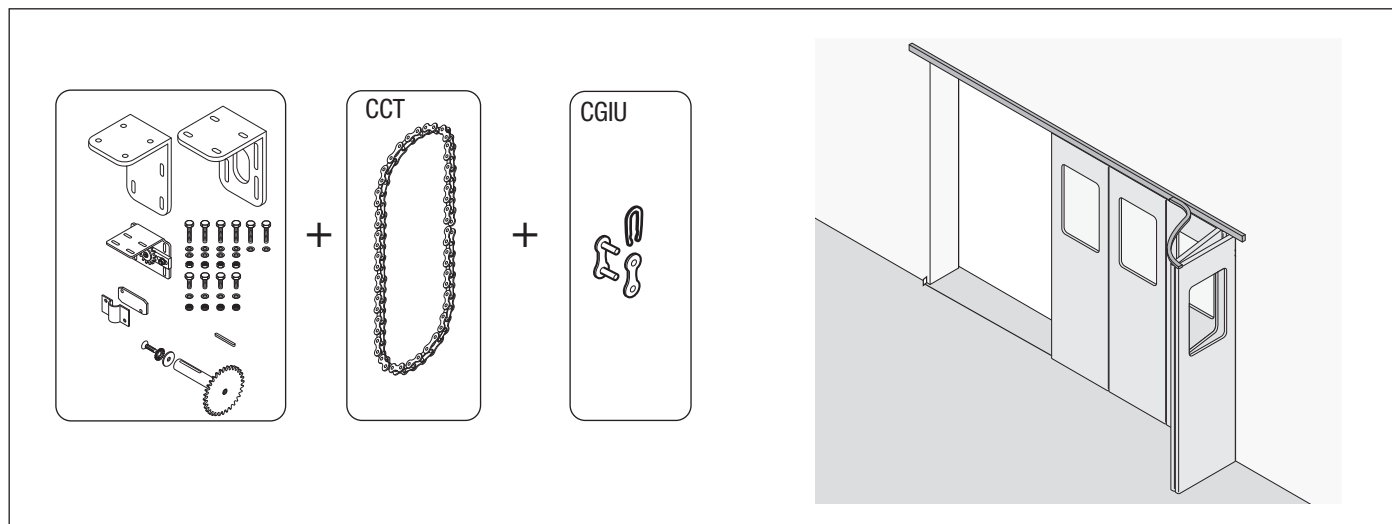


8) First secure the brackets and the plates to the chain, and then to the door leaves.



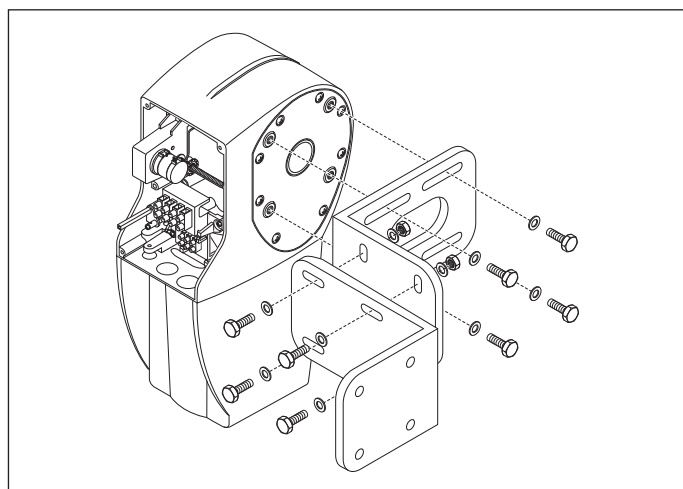
## LARGE FOLDING DOORS

When installing large folding doors with anti derailment-flaps, you must use the C004 accessory (reset system for large, folding doors).

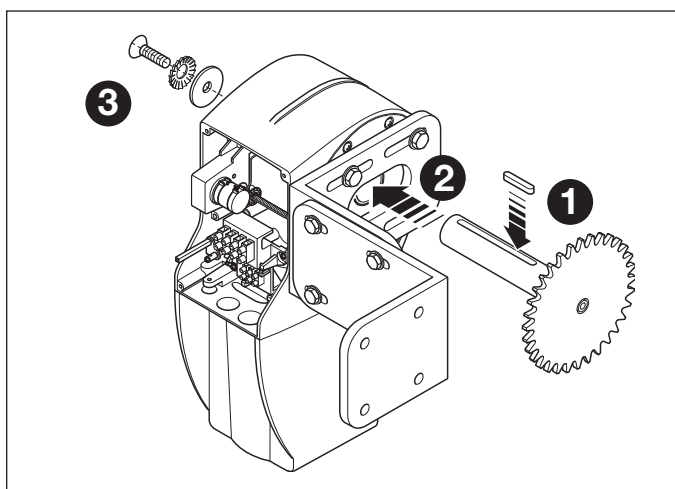


**!** For the following gearmotors only: CBXE, CBXEK, C-BXET and C-BXE24, before securing the chain to the motor, move the door halfway along its run.

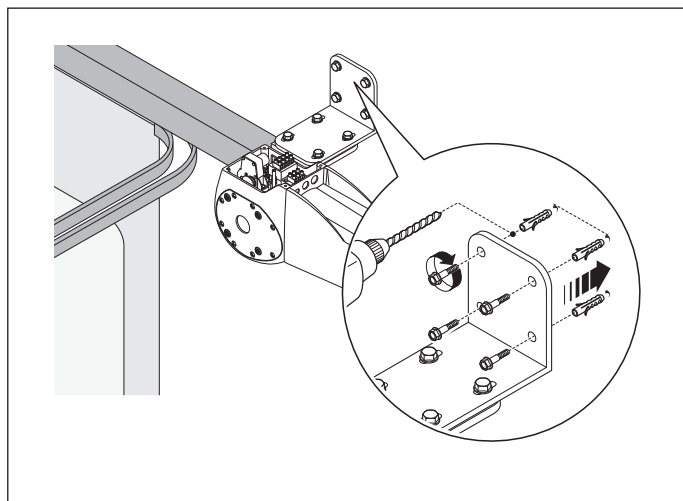
1) Assemble the two elbow brackets and secure them to the gearmotor (see drawing).



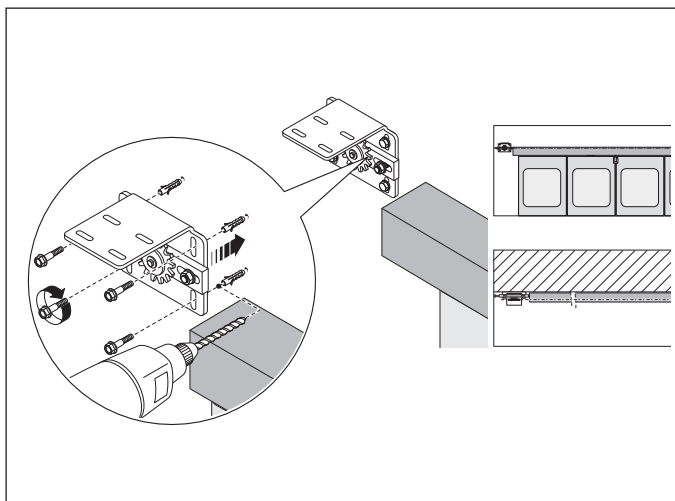
2) Insert the A tab into the cavity of the Z26 cogged pinion shaft, insert the pinion into the gearmotor hallow shaft and secure it using UNI 5933 M6x16 screw and the two washers on the opposite side.



3) Secure the whole assembly either at the top right or left of the door using proper screws and bolts.

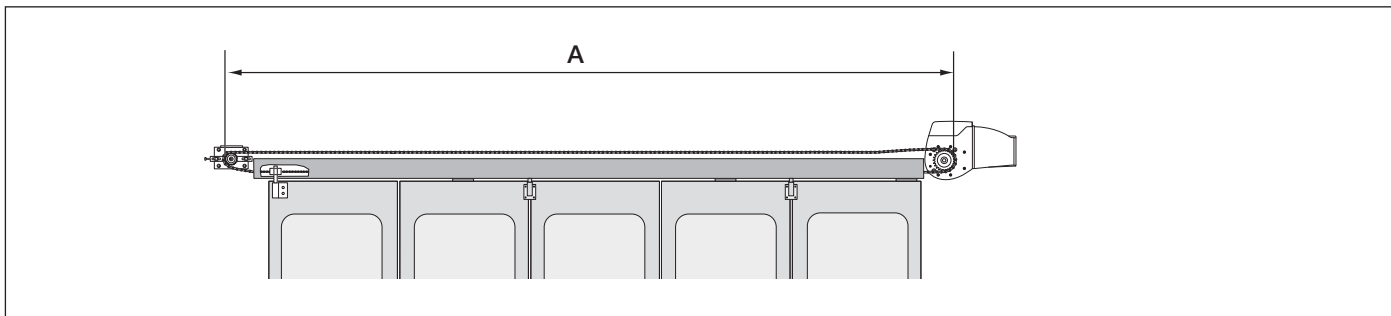


4) Secure the chain tension reset opposite the gearmotor an in line with the pinion.

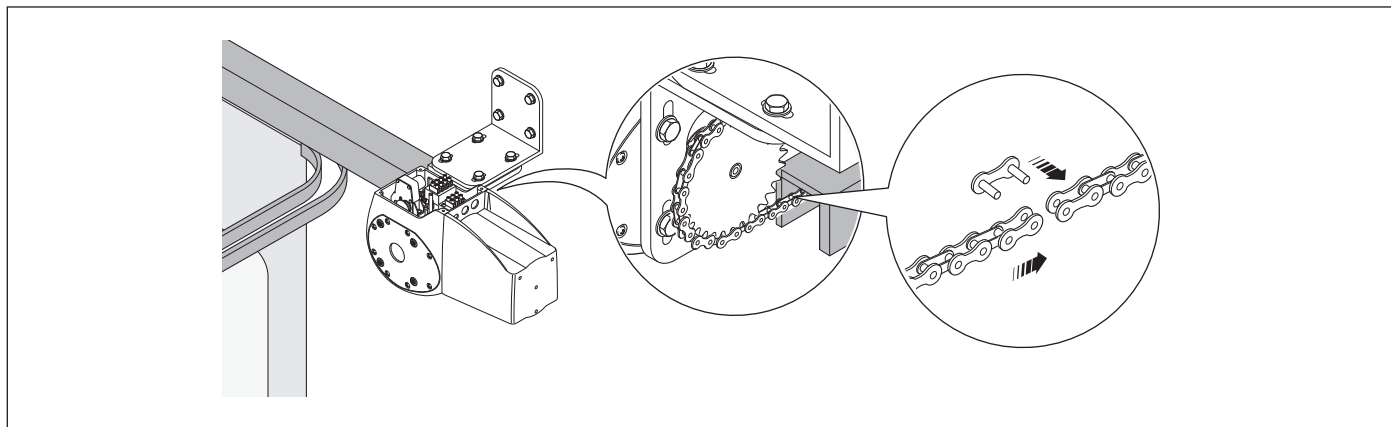




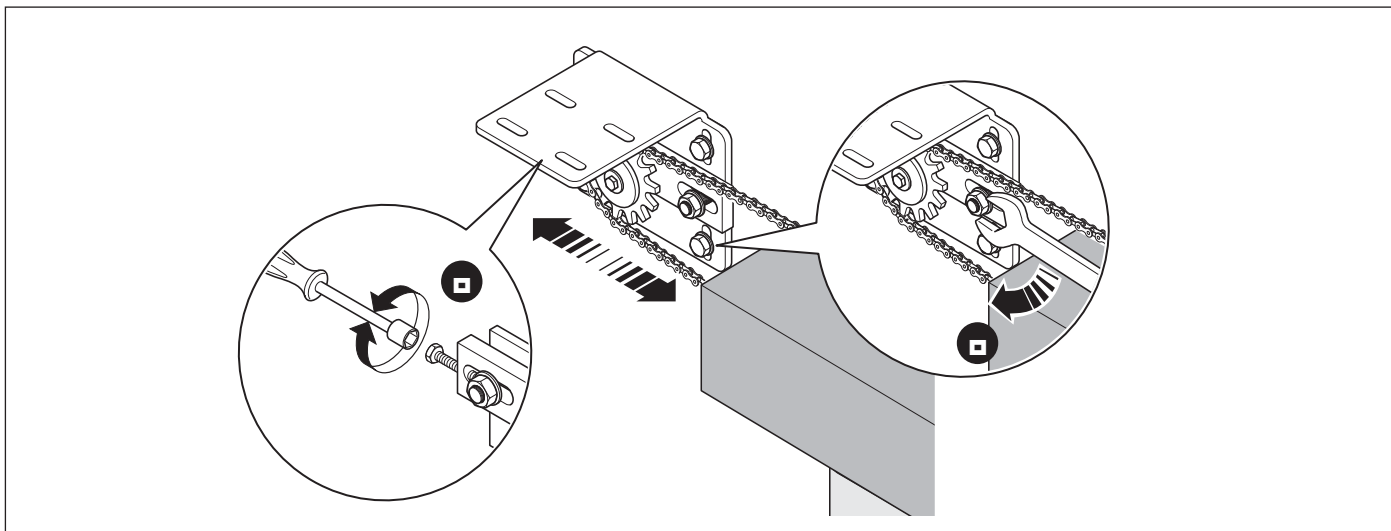
5) Place the ½ inch (CCT) chain between the gearmotor and the reset. The length of the chain must be equal to twice distance A.



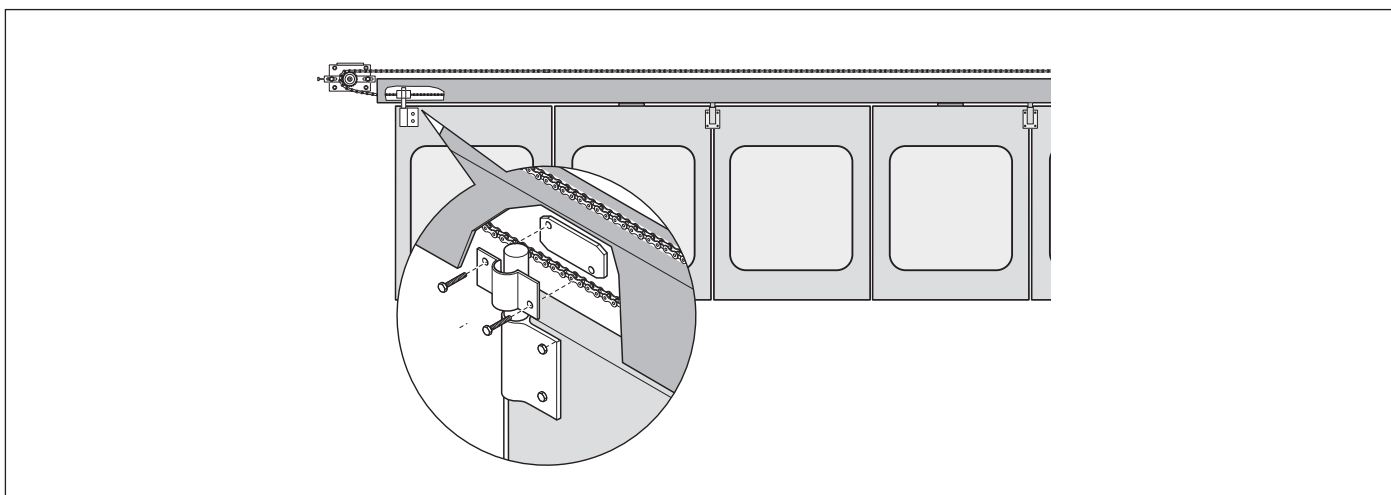
6) Join the two ends of the chain using the (CGIU) joint.



7) Adjust the chain tension using the reset screw and then lock the nuts.

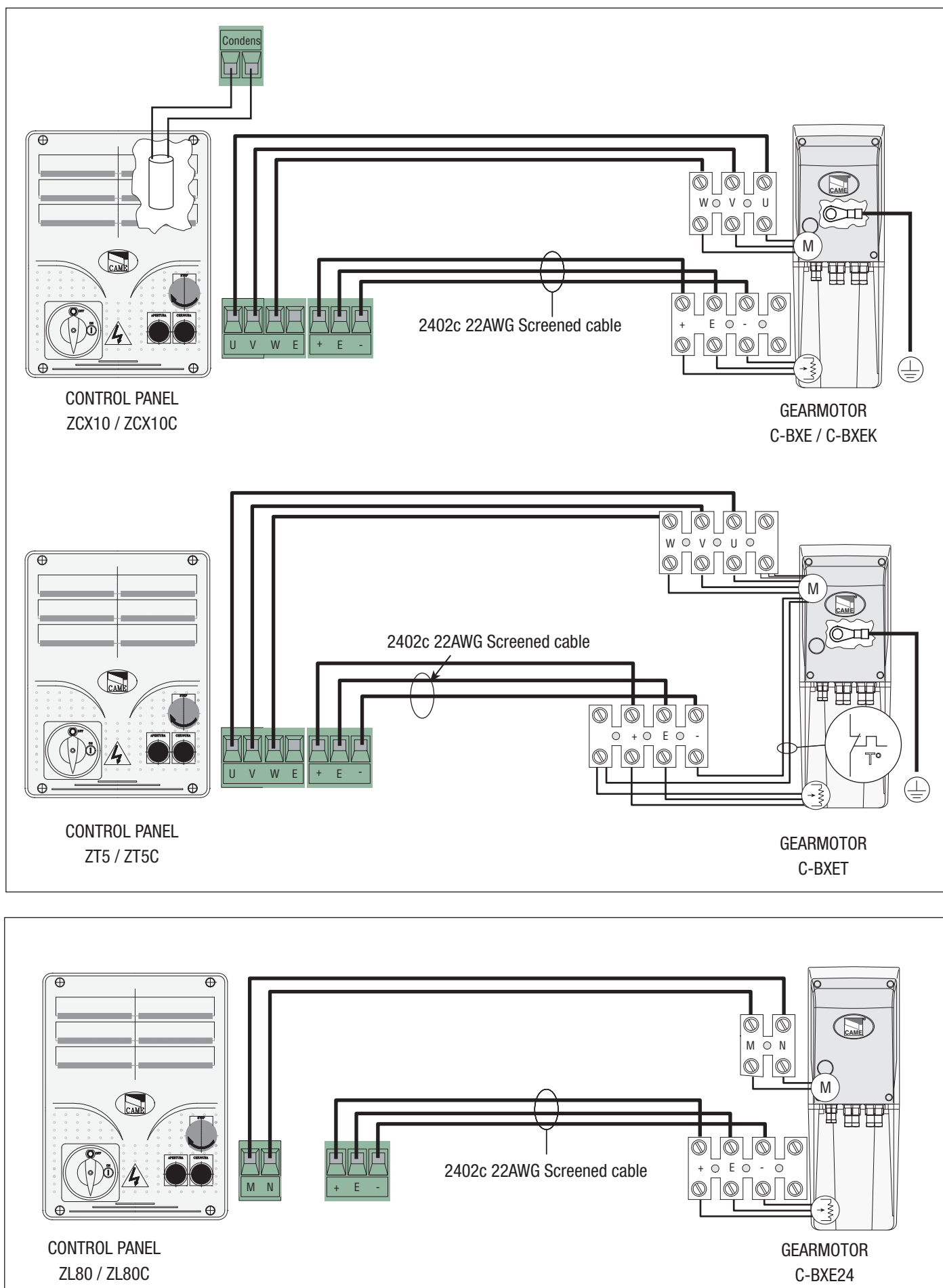


8) Secure the chain to the pin of the first door-leaf using the chain bracket and UNI 931 M8X30 screws.



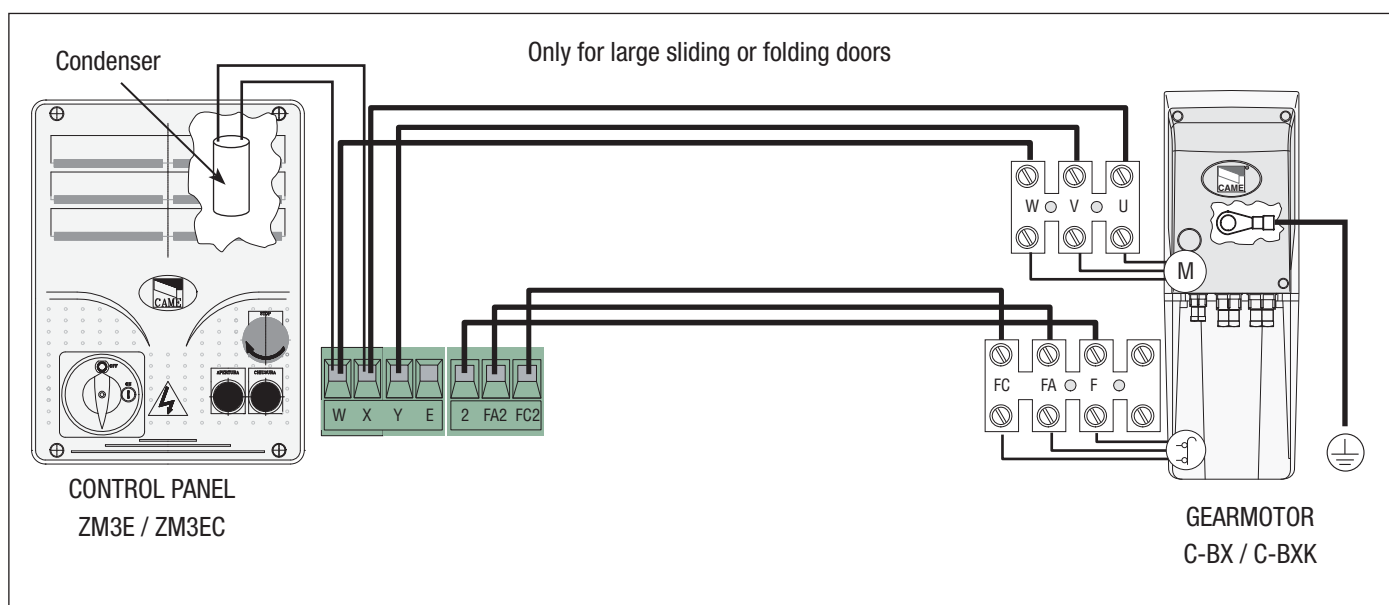
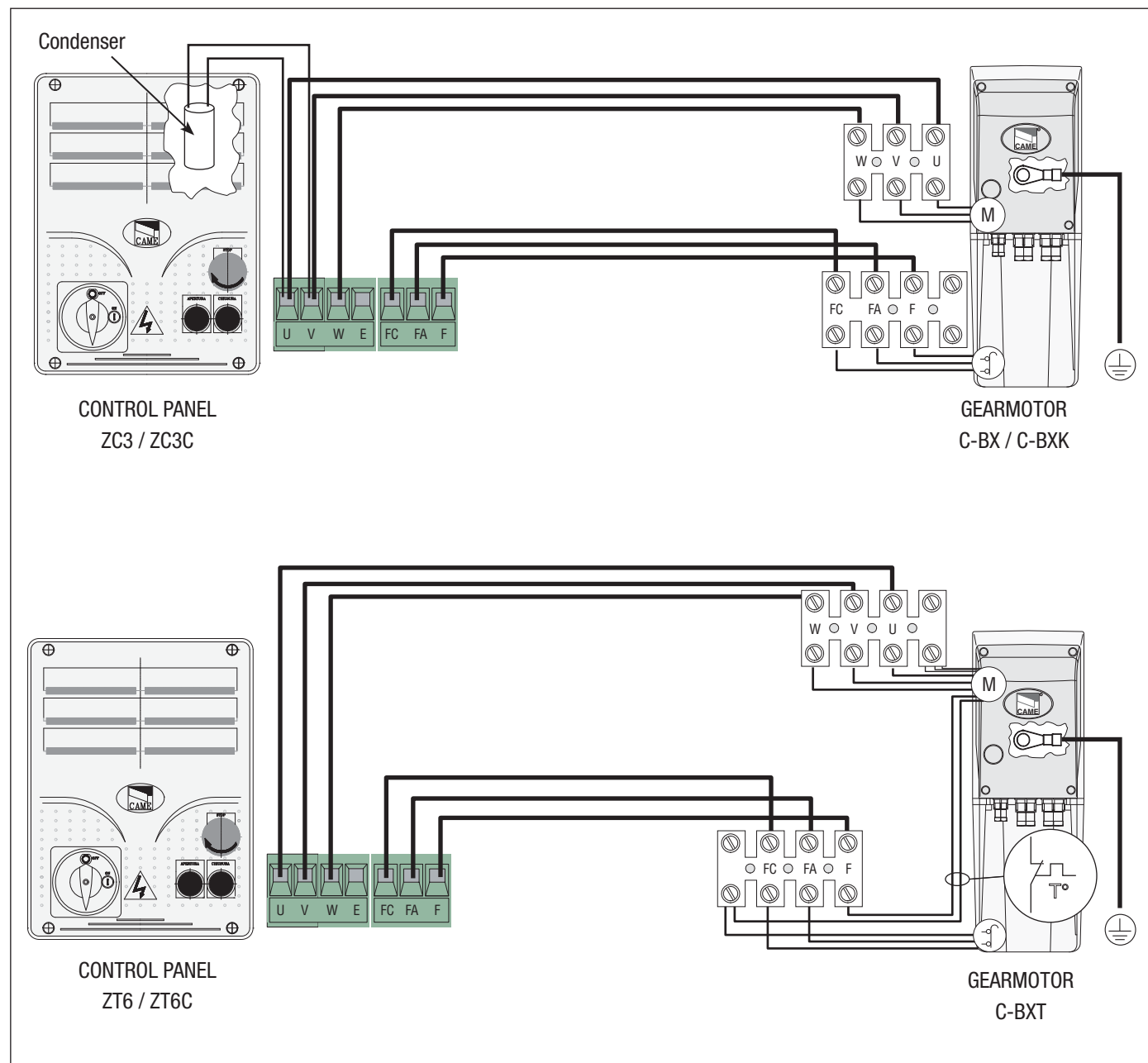
## Electrical connection to the control panel for encoder based gearmotors encoder

For the electrical connection, use proper cable sheaths and glands so as to guarantee the stated protection rating.  
To set the encoder, check the technical literature for the control panel.

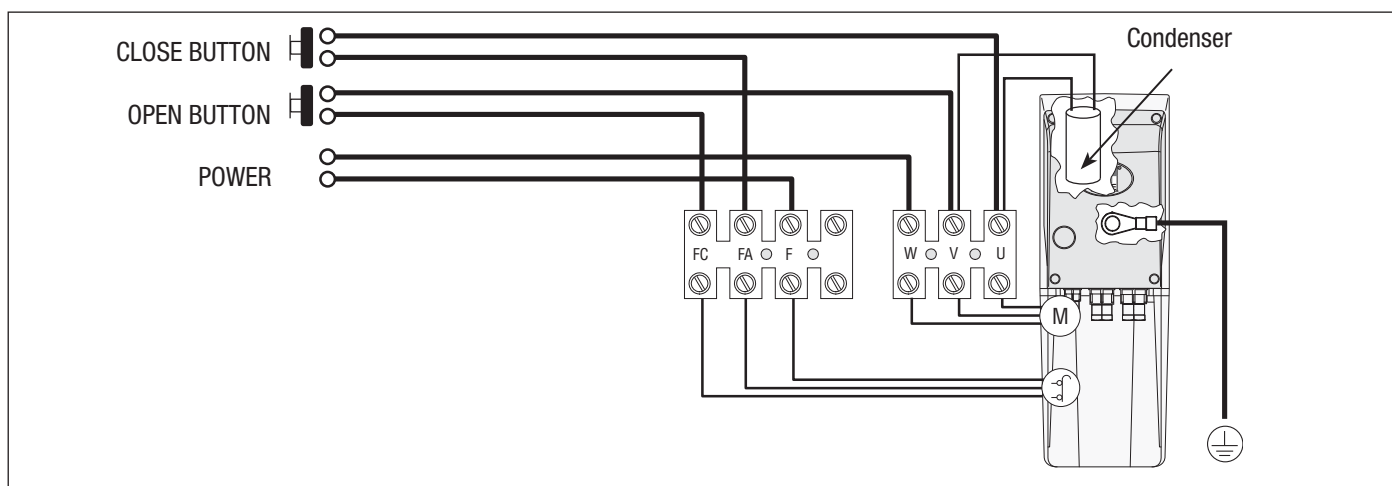


## Electrical connection to the control panel for gearmotors with mechanical endstops

For the electrical connection, use proper cable sheaths and glands so as to guarantee the stated protection rating.  
To set the encoder, check the technical literature for the control panel.




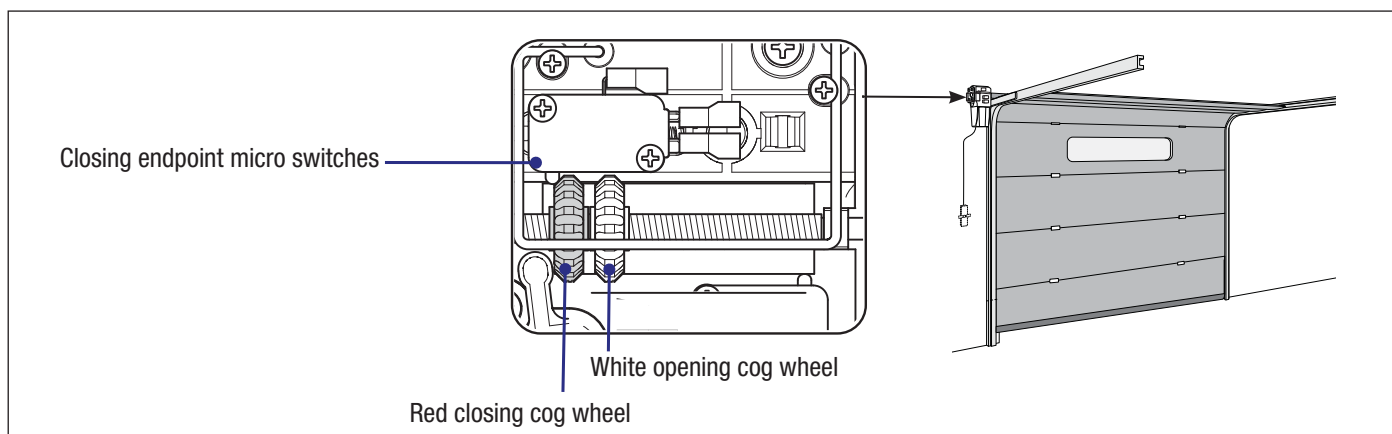
## Direct electrical connection via inter-blocked buttons only for the C-BX / C-BXK gearmotor



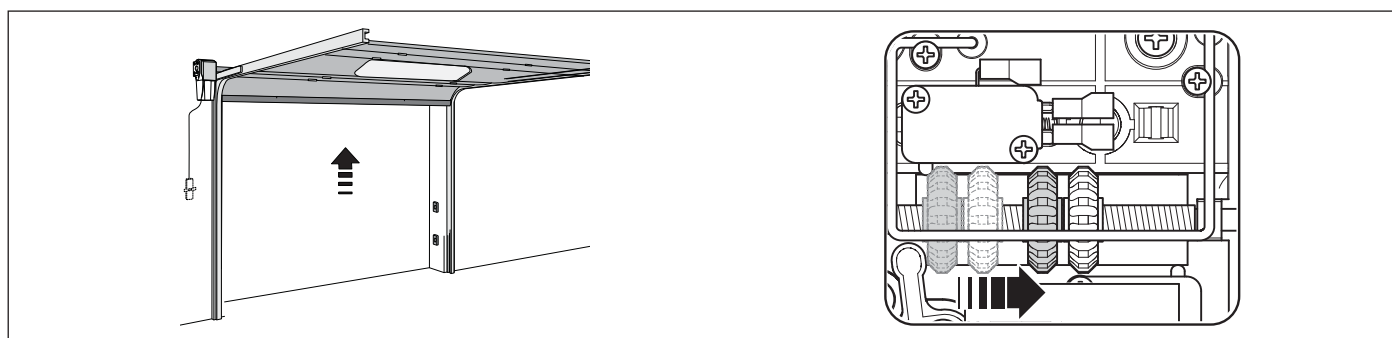
## Adjusting the endstops (only for models with mechanical endstops)

Make sure the door is closed and that the two cog wheels of the gearmotor assembly are both positioned on the left.

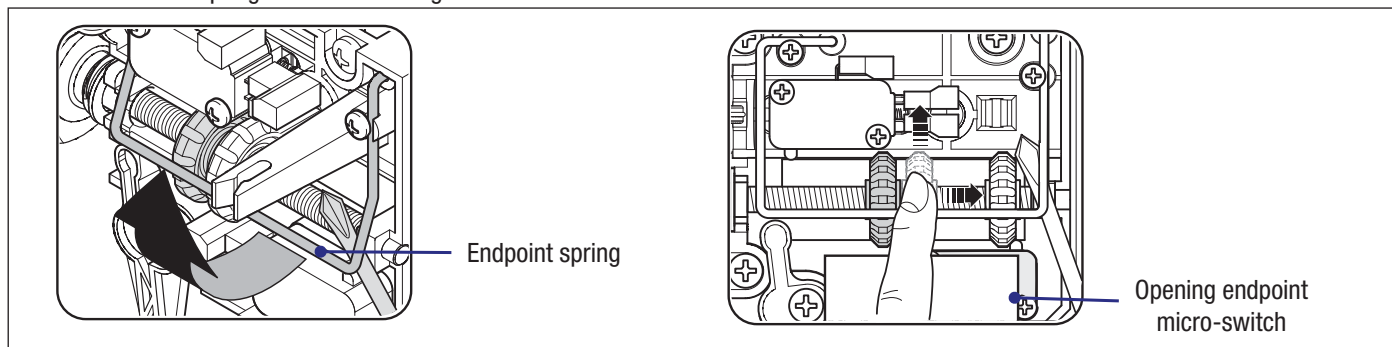
 the gearmotor is already set to the closing position, that is, the closing endpoint microswitch is activated.



Fully open the gate, either manually or using the button on the control panel. The two cog wheels will move to the right

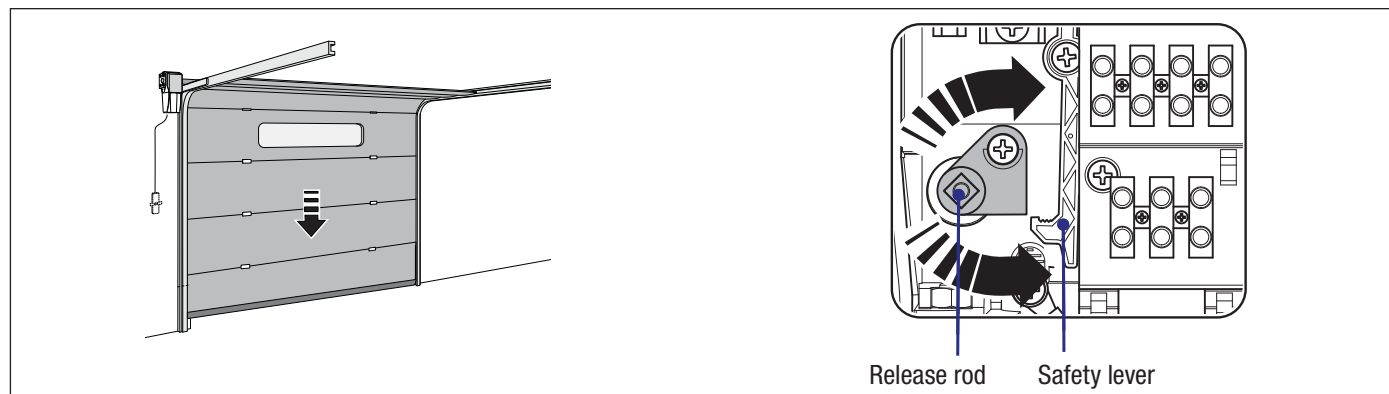



Using a screwdriver, raise the endpoint spring from the cog wheels, manually turn the white cog wheel until it reaches the opening microswitch and then lower the spring back onto the cog wheels.



Fully close the door and make sure that the release rod is free of the safety lever.

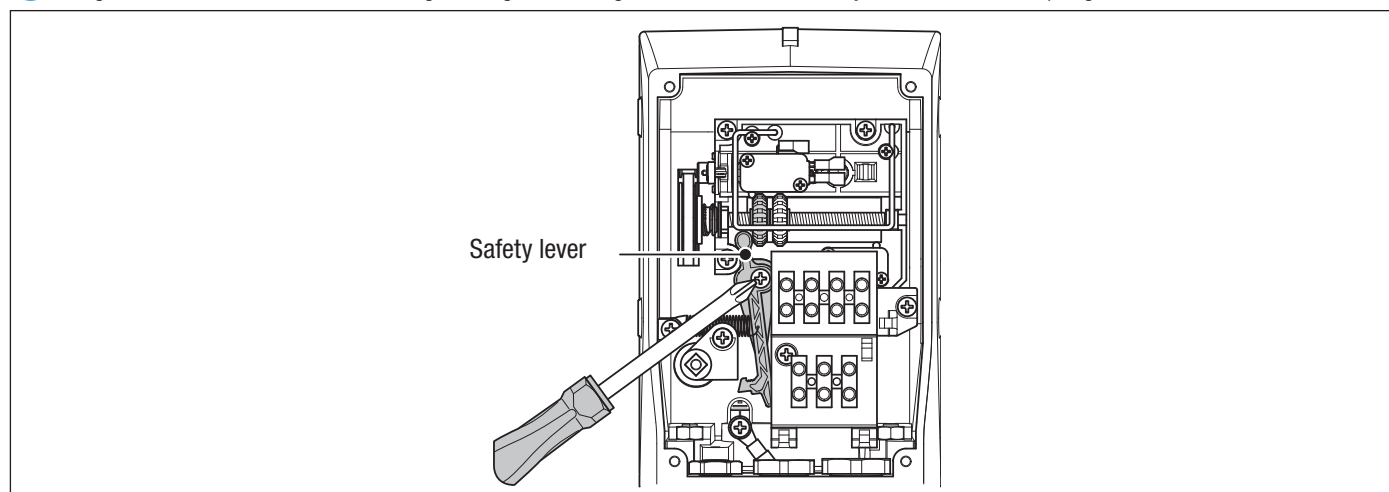
 the safety lever lets you activate the (CMS or C002) emergency release only when the door is closed.



 For large, sectional doors, after making the adjustments, there may be an empty space between the lower part of the door and the ground. To correct this, shift the micrometric lever up or down one notch to lower or raise the door by about one centimetre.



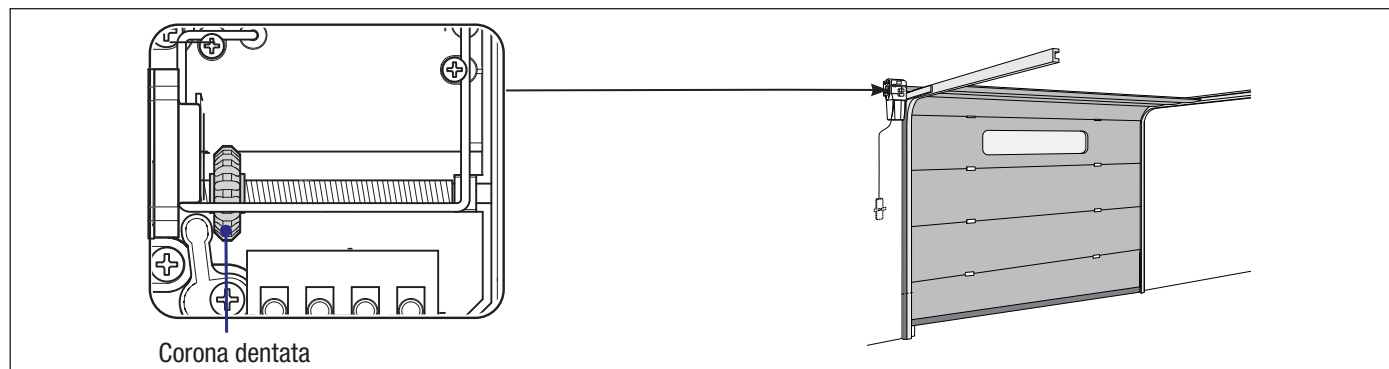
 For gearmotors that are installed on large sliding and folding doors, remove the safety lever and relative spring.




### Setting the endpoint lever (only for encoder-based models)

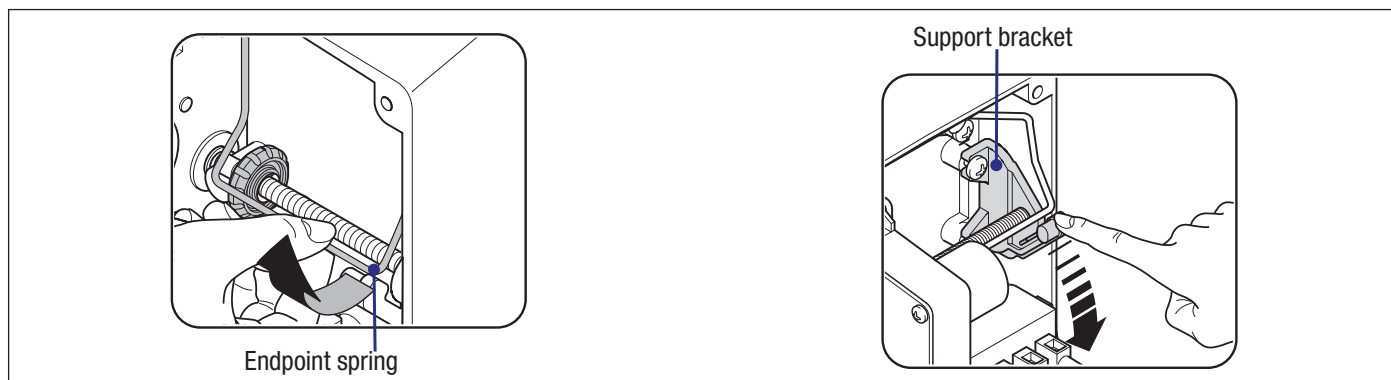
Before making any adjustments, perform the door-run calibration procedure, as described in the control panel's technical literature. Once this is complete, make sure the door is fully- closed and that the gearmotor's cog wheel is positioned on the left.

Sollevare la molla di finecorsa sganciandola dalla staffa di sostegno e abbassarla sopra la corona dentata.




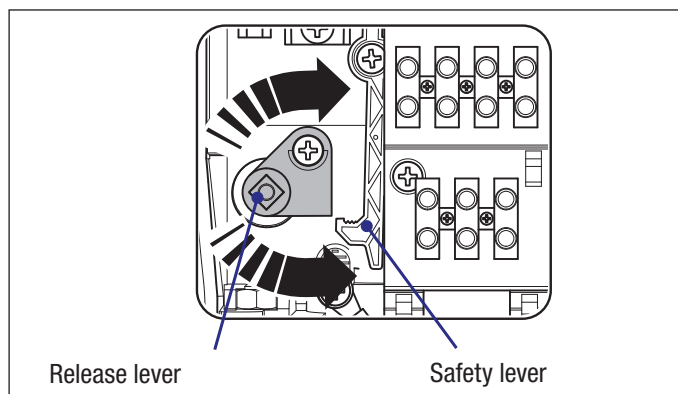
Raise the endpoint spring, detach it from the support bracket and lower it onto the cog wheel.

 Do not detach the endpoint spring from the support bracket, if the gearmotor is installed on to large, sliding or folding doors.



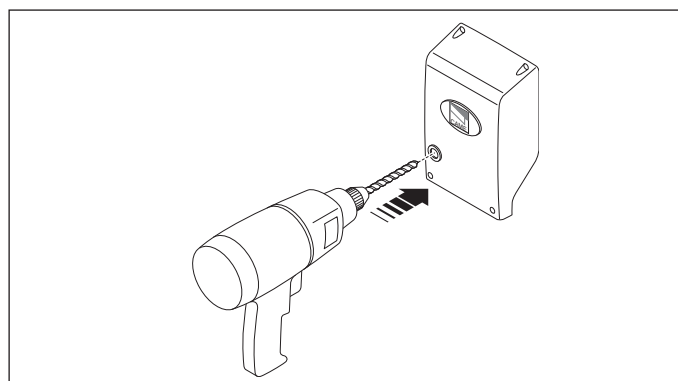
Make sure the release rod is free of the safety lever.

 the safety lever lets you activate the (CMS or C002) emergency release only with the door closed.

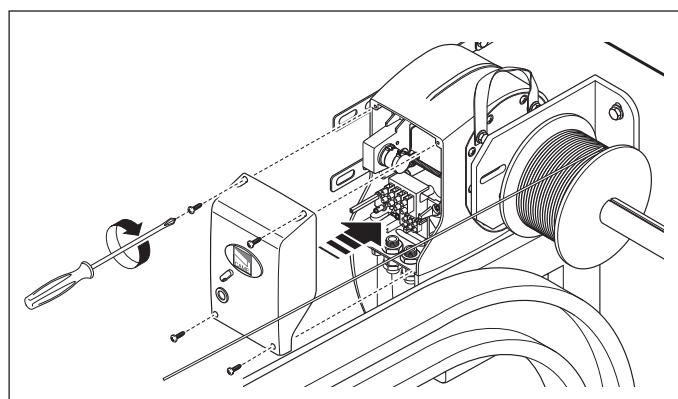


## Mounting the cover

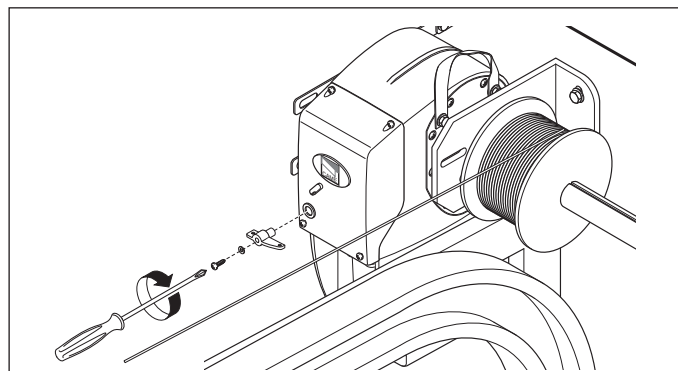
1) Once you have finished all installation operations and electrical connections, drill a hole in the cover, where shown, using a 13,5 Ø bit.



2) Secure the cover using the four issued screws.

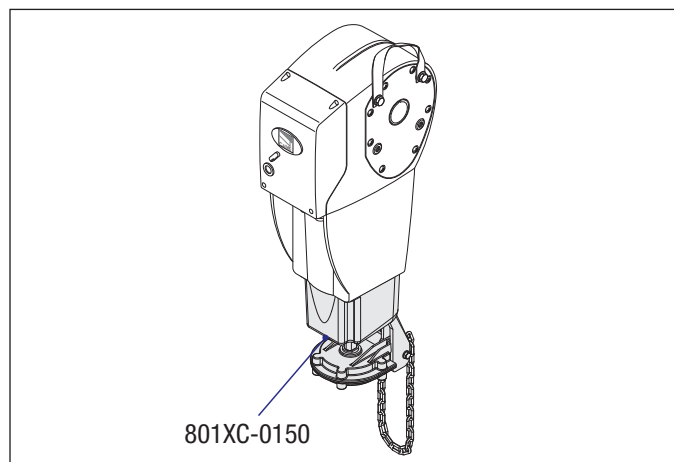


3) Insert the release lever into the hole and secure it using the screw and nut.



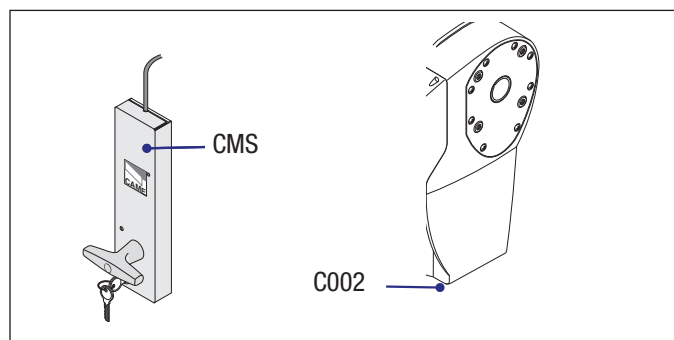
## Manual activation device

The optional, manual winch for large sectional doors is a device to open and close the door using a ball bearing chain. It can function both in the horizontal and vertical automation modes.



## Emergency release

Optional, gearmotor-release devices may be used (only when door is closed) using a customised (CMS) key or a (C002) hanging reset-chord handle.

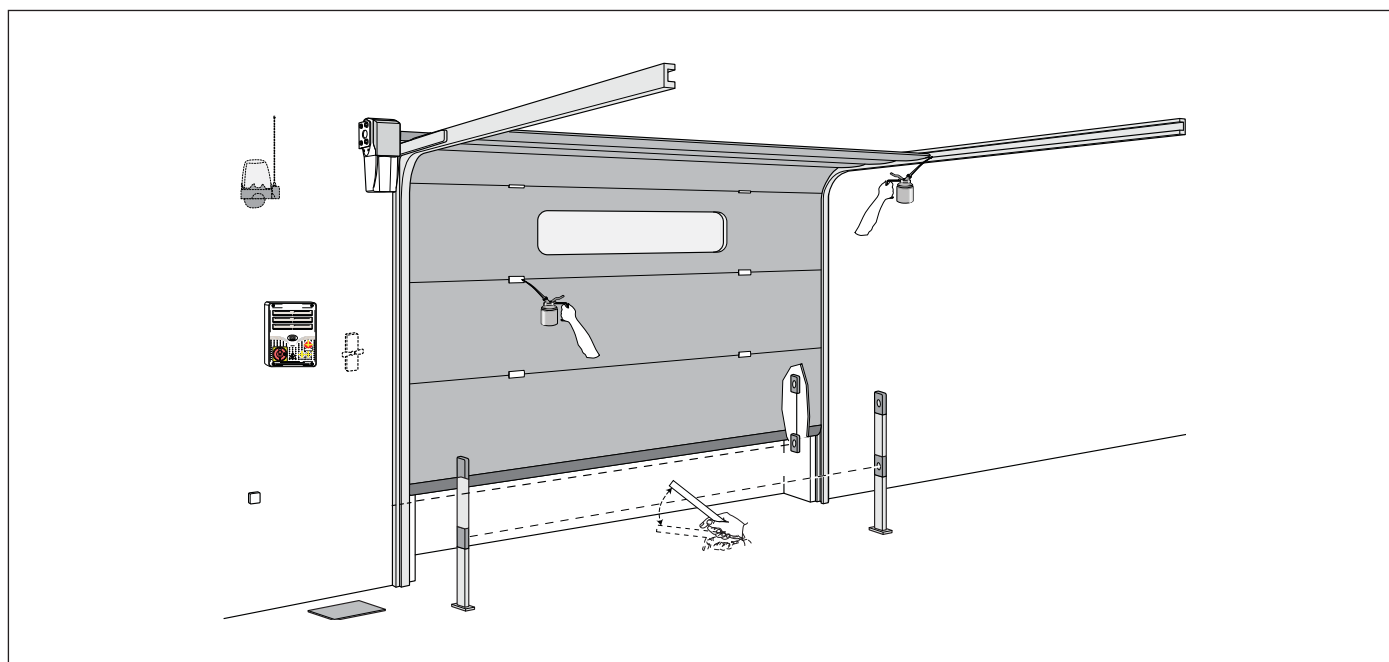


# MAINTENANCE

## Periodic maintenance

 User-performed periodic interventions consist of cleaning the photocells' glass and checking the proper functioning of the safety devices and that there are no impediments that prevent the operator from working properly.

- 1 We also suggest to periodically check the lubrication and tightness of the screws on the operator.
- 2 To check the efficiency of the safety devices, pass an object in front of the photocells while the door is closing. If the door's movement is inverted or blocked, then the photocells are working properly. This is the only maintenance procedure that can be carried out while still connected to the power.
- 3 Before carrying out any operation we suggest cutting off the power supply, to prevent any hazardous situations due to accidental movement of the gate.
- 4 To clean the photocells use a water moistened rag. Do not use solvents or other chemical products that may ruin the devices.
- 5 Lubricate any joints using grease, whenever there are anomalous vibrations or squeaks, as shown below.
- 6 Check that there is no vegetation within the operating range of the photocells, and that there are no obstacles within the operating range of the gate.







## Troubleshooting

PROBLEMS	POSSIBLE CAUSES	CHECKS AND REMEDIES
The operator neither opens nor closes	There is no power supply The gearmotor is released The transmitter's battery is run down The transmitter is broken The stop button is stuck or broken The open/close button or key selector is stuck	Check the power supply Call the assistance service Replace the batteries Call the assistance service Call the assistance service Call the assistance service
The operator opens but won't close	The photocells are engaged The sensitive edge is engaged	Check the cleanliness and proper working state of the photocells
The operator closes but won't open	The sensitive edge is engaged	Call the assistance service
The flashing light doesn't work	The light bulb is burned out	Call the assistance service

Periodic maintenance log to be used by the user (every 6 months)

Date	Notes	Signature

## Extraordinary maintenance

 The following table is for logging extraordinary maintenance, repair and improvement actions performed by specialised, external firms.  
 Extraordinary maintenance actions must be carried out by skilled technicians.

Extraordinary maintenance log

Installer's stamp	Operator's name
	Date of intervention
	Technician's signature
	Requesting party's signature
Job done _____	
_____	
_____	

Installer's stamp	Operator's name
	Date of intervention
	Technician's signature
	Requesting party's signature
Job done _____ _____ _____	

Installer's stamp	Operator's name
	Date of intervention
	Technician's signature
	Requesting party's signature
Job done _____ _____ _____	

## REFERENCE REGULATIONS

The product complies to the reference regulations in effect.

**Disposal** – Dispose of the packaging material responsibly, in compliance with the laws in force in the country in which the product is used. At the end of the product's life cycle, make sure it is disposed of responsibly. The equipment must be disposed of in compliance with current laws, and its components recycled where possible. The components that should be recycled are marked with the material's ID marker.

**CAME** 

**CAME.COM**

**CAME S.P.A.**

Via Martiri Della Libertà, 15  
31030 Dosson di Casier - Treviso - Italy  
tel. (+39) 0422 4940 - fax. (+39) 0422 4941  
info@came.com - www.came.com