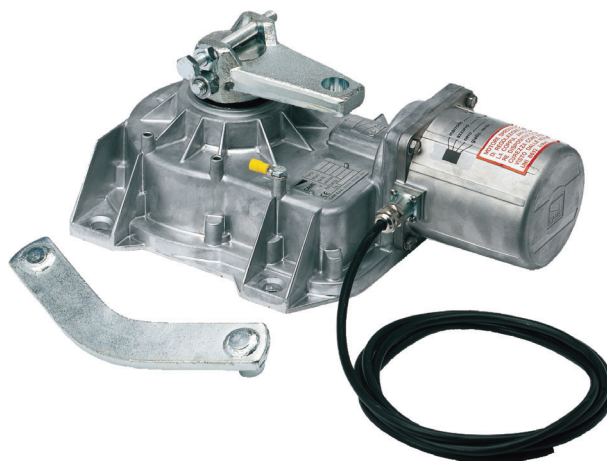


# Swing-gate operator FROG

FA01569-EN



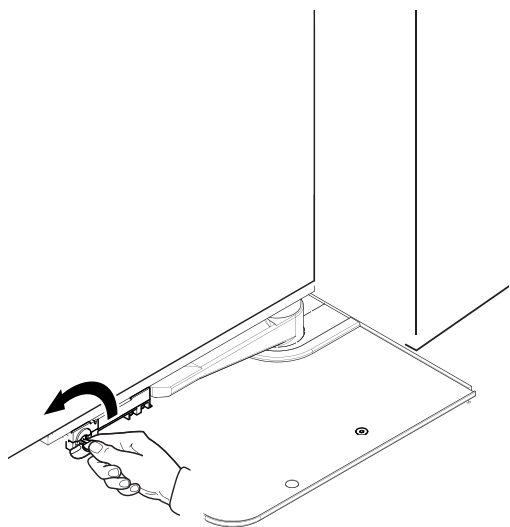
**FROG-A24**

**FROG-A24E**

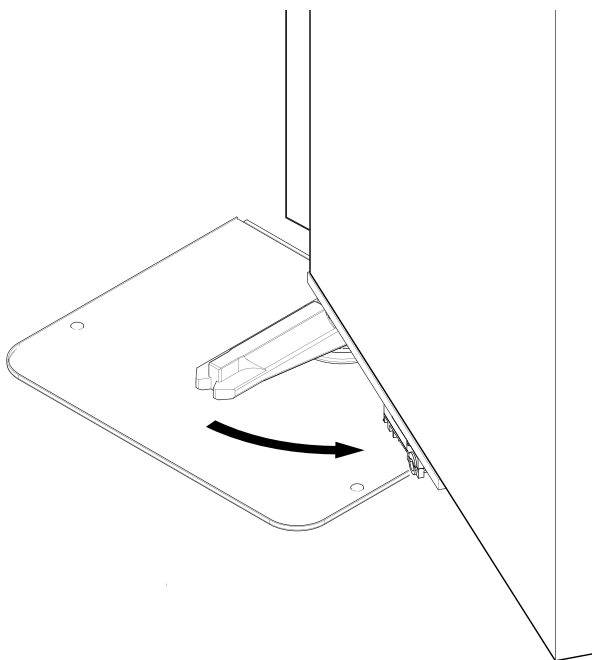
**INSTALLATION MANUAL**



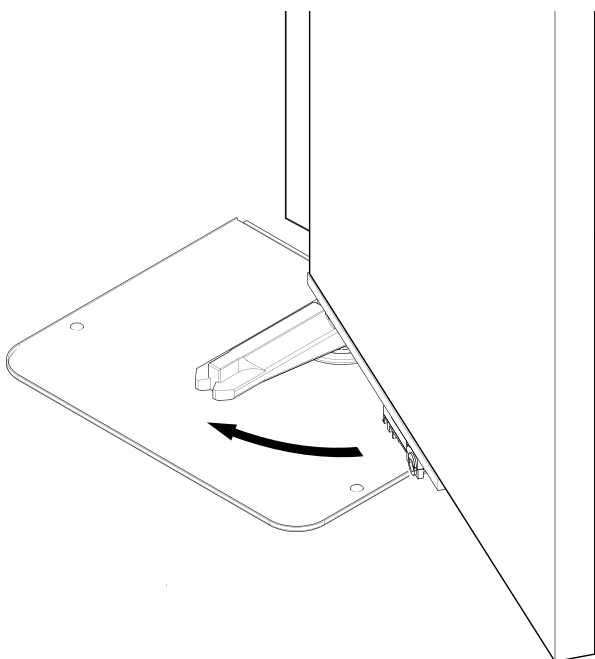
1



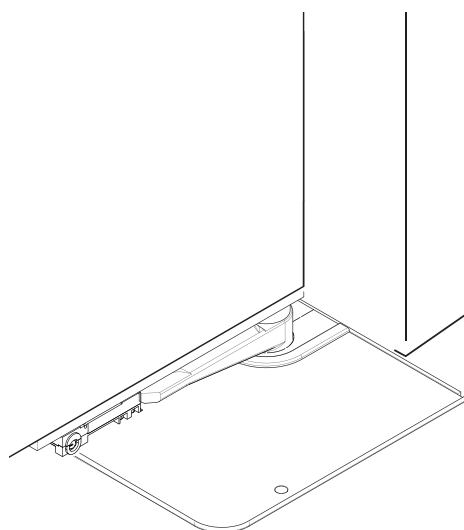
2



1



2



**⚠ Important safety instructions.**

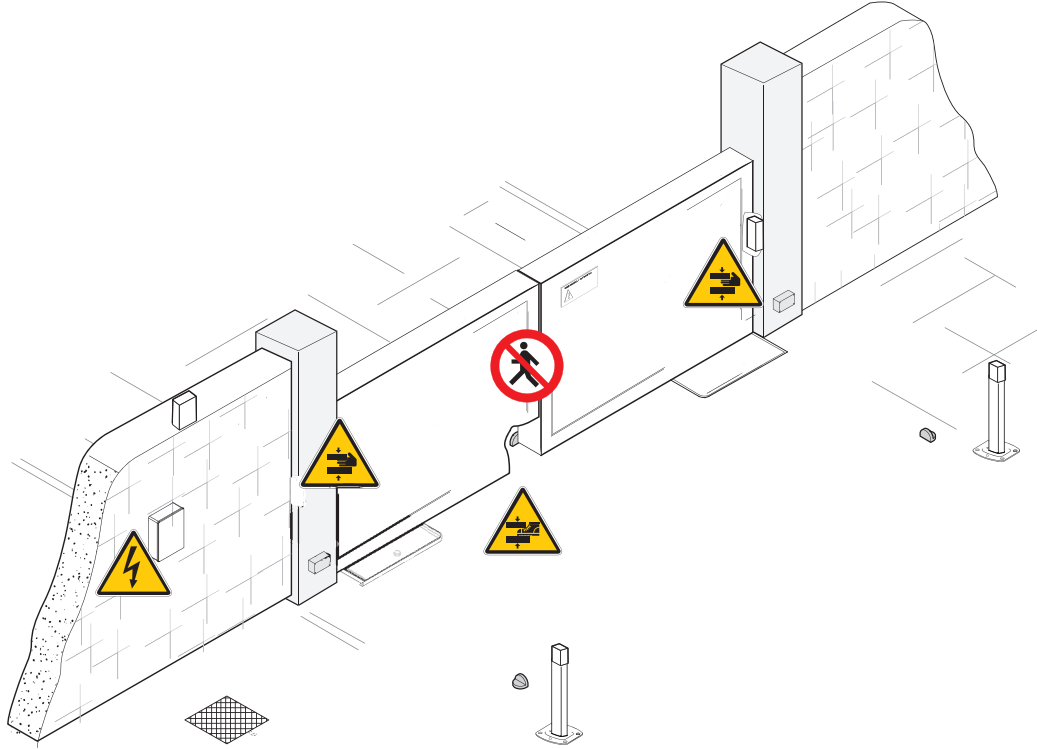
**⚠ Please follow all of these instructions. Improper installation may cause serious bodily harm.**

**⚠ 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. • When excavating to lay the foundation box, ensure there is sufficient drainage to prevent water from stagnating inside it. • Make sure that no jets of water can wet the foundation box where it is installed, either directly (sprinklers, pressure washers, etc.) or indirectly (taps, trench drains). • 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. • Make sure that the moving mechanical parts are suitably far away from the wiring. • 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. • If not already present, apply a permanent tag that describes 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.
- If the power supply cable is damaged, it must be immediately replaced by the manufacturer or by an authorised technical assistance centre, or in any case, by qualified staff, to prevent any risk.
- Keep this manual inside the technical folder along with the manuals of all the other devices used for your automation system.
- Make sure to hand over to the end user all the operating manuals of the products that make up the final machinery.


### Main points of danger for people







 No transiting while the barrier is moving.

 Risk of entrapment.

 Risk of trapping hands.

 Risk of trapping feet.

**Key**

-  This symbol shows which parts to read carefully.
-  This symbol shows which parts describe safety issues.
-  This symbol shows what to tell users.
-  The measurements, unless otherwise stated, are in millimetres.

**Description**

**FROG-A24**


Underground irreversible 24 V gearmotor with adjustable leaf-stop during closing, for swing gates with leaves up to 3.5 m in length and 400 kg in weight.

**FROG-A24E**

Underground irreversible 24 V gearmotor with encoder and adjustable leaf-stop during closing, for swing gates with leaves up to 3.5 m in length and 400 kg in weight.

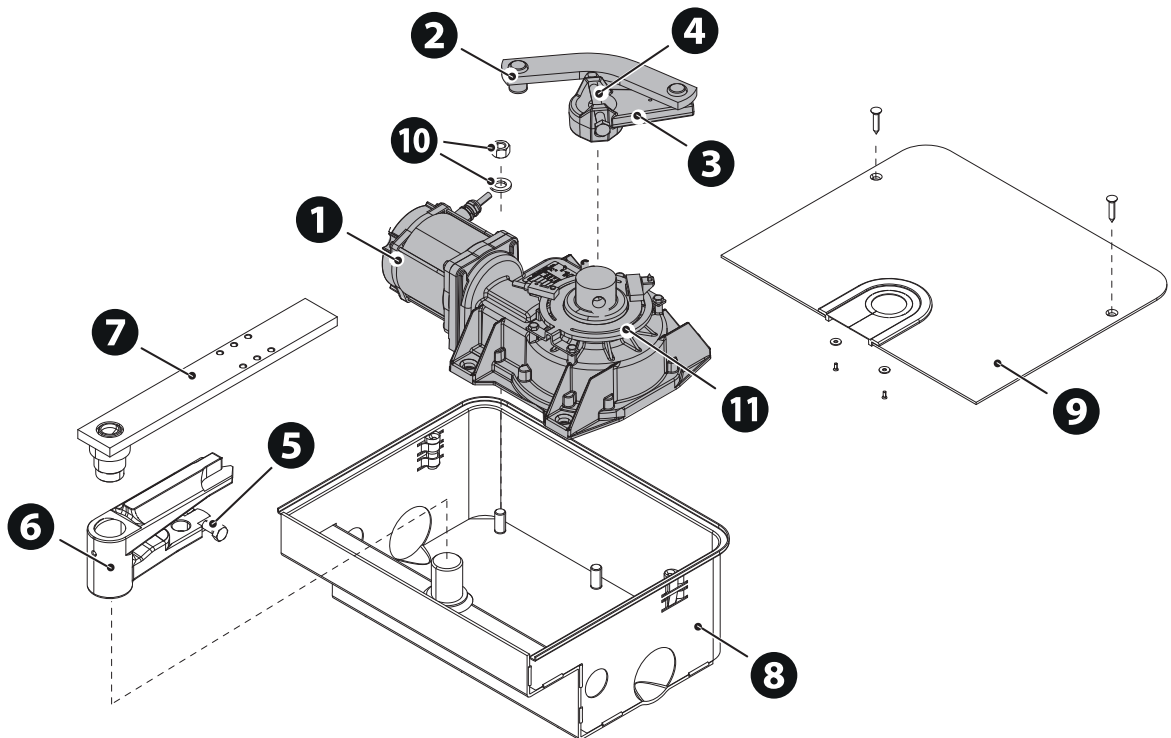
**Intended use**

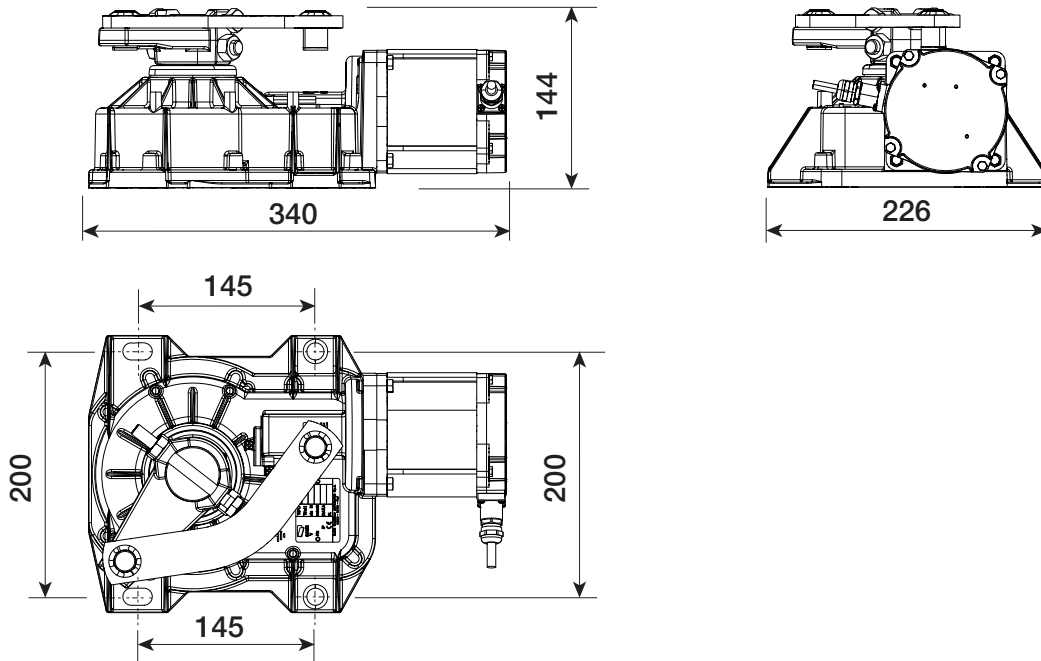
Concealed solution for use in residential and apartment block settings

 Any installation and/or use other than that specified in this manual is forbidden.

**Description of parts**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><b>1</b> Gearmotor</li> <li><b>2</b> Movement transmission lever</li> <li><b>3</b> Gearmotor arm</li> <li><b>4</b> Screw for adjusting the closing limit-switch point</li> <li><b>5</b> Screw for adjusting the opening limit-switch point</li> <li><b>6</b> Lever for hooking the release unit</li> </ul> | <ul style="list-style-type: none"> <li><b>7</b> Gate bracket</li> <li><b>8</b> Foundation box</li> <li><b>9</b> Cover</li> <li><b>10</b> Fixtures and fittings</li> <li><b>11</b> Slow-down magnetic limit switch</li> </ul> |
|---|--|





**Usage limitations**

⚠ You must install an electric lock to ensure the gate closes efficiently.

MODELS	FROG-A24				FROG-A24E			
Gate-leaf length (m)	3,5	2,5	2	-	3,5	2,5	2	-
Gate-leaf weight (Kg)	400	600	800	-	400	600	800	-

**Technical data**

MODELS	FROG-A24	FROG-A24E
Motor power supply (V)	24 DC	24 DC
Power (W)	180	180
Current draw (mA)	15 Max.	15 Max.
Operating temperature (°C)	-20 ÷ +55	-20 ÷ +55
Torque (Nm)	320	320
Opening time at 90° (s)	ADJUSTABLE	ADJUSTABLE
Duty cycle (%)	HEAVY-DUTY SERVICE	HEAVY-DUTY SERVICE
Protection rating (IP)	67	67
Insulation class	I	I

**Cable types and minimum thicknesses**

Cable length (m)	up to 20	from 20 to 30
Motor power supply 24 V DC	2G x 1.5 mm <sup>2</sup>	2G x 2.5 mm <sup>2</sup>
Micro limit switches	* no. x 0.5 mm <sup>2</sup>	* no. x 0.5 mm <sup>2</sup>

\* no. = see product assembly instructions - Warning: the cable cross-section is indicative and varies according to the motor power and cable length.


📖 When operating at 230 V and outdoors, use H05RN-F cables compliant with 60245 IEC 57 (IEC); when operating indoors, use H05VV-F cables compliant with 60227 IEC 53 (IEC). For power supplies up to 48 V, you can use FROR 20-22 II cables compliant with EN 50267-2-1 (CEI).

📖 If the cable lengths differ from those specified in the table, define the cable cross-sections according to the actual power draw of the connected devices and in line with 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 information on connecting products not covered in this manual, please see the documentation accompanying the products themselves.


📖 To connect the encoder, use a FRORPU 3 x 0.5 mm<sup>2</sup> cable or a cable supplied by CAME on request (item code 801XA-0020).

## INSTALLATION

 The following illustrations are examples only. The space available for fitting the operator and accessories varies depending on the area where it is installed. It is up to the installer to find the most suitable solution.

 The drawings refer to the right-side gearmotor.

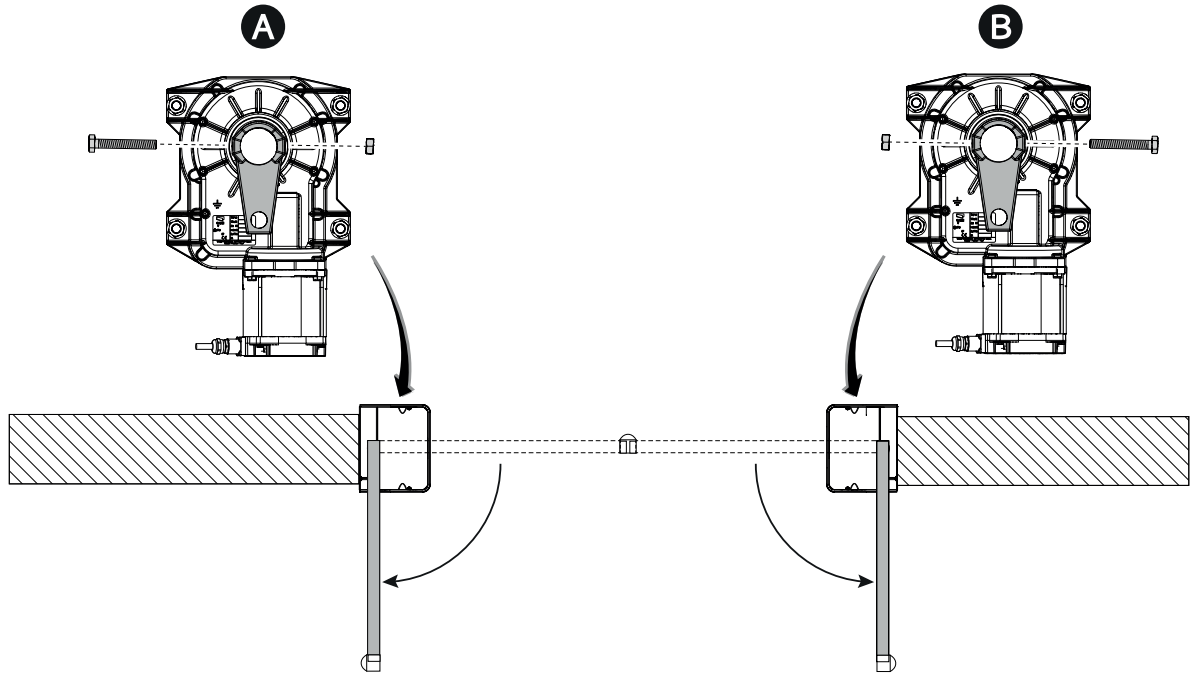
### Preliminary operations

 The preliminary operations for installation concern the foundation box installation and the release devices fastening. Refer to the installation manuals for these products.

### Setting up the gearmotor

Insert the closing limit-switch point adjustment screw into the gearmotor arm.

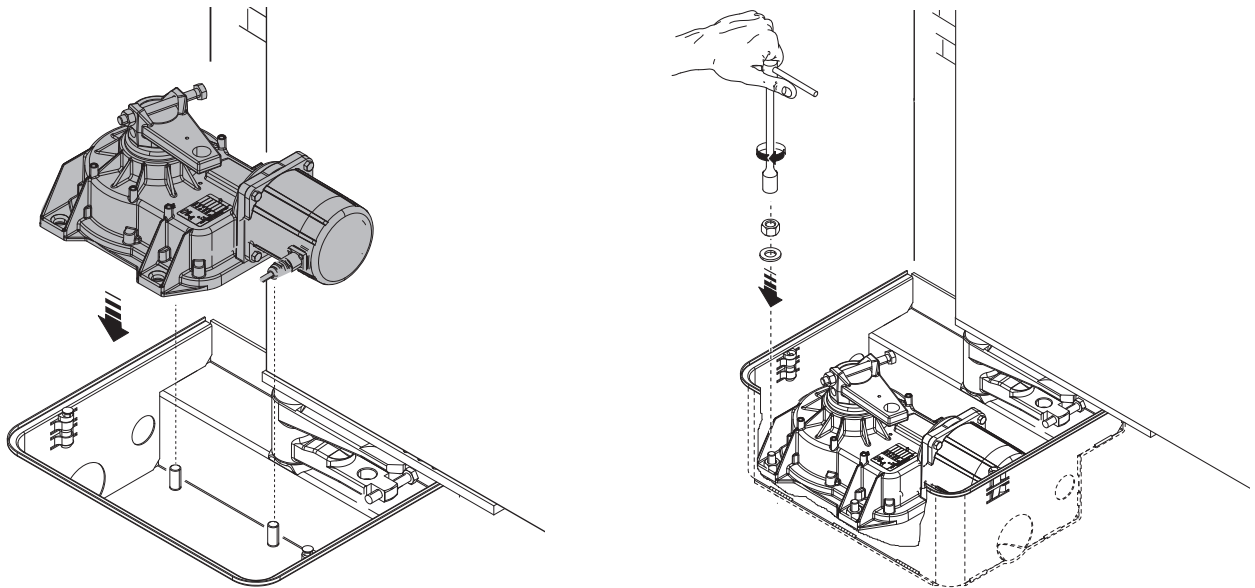
- A** Gearmotor installed on the left
- B** Gearmotor installed on the right



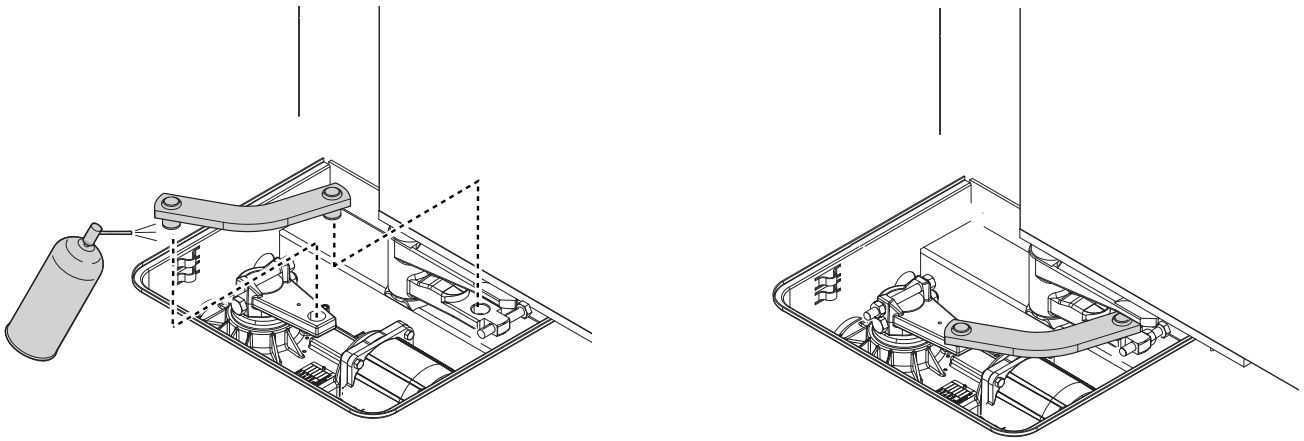
### Fastening the gearmotor

Manually open the leaf.

Position the gearmotor over the threaded pins of the casing and fasten it.



Lubricate the transmission lever.  
Fit the transmission lever as shown in the drawings.



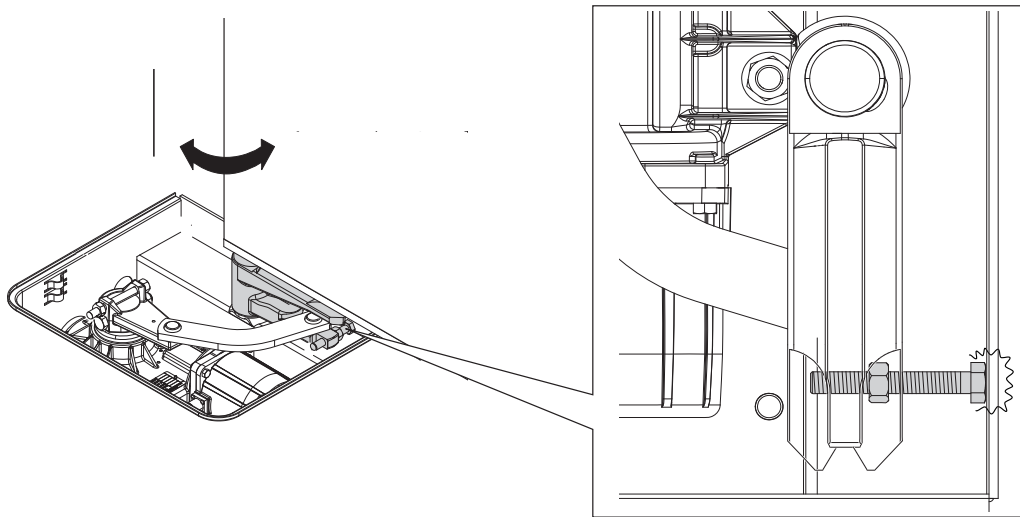
## Determining the travel end points with mechanical limit switches

Manually open the leaf to the desired point.

 The leaf maximum opening is 110°.

Unscrew the opening limit-switch point adjustment screw until it touches the foundation box.

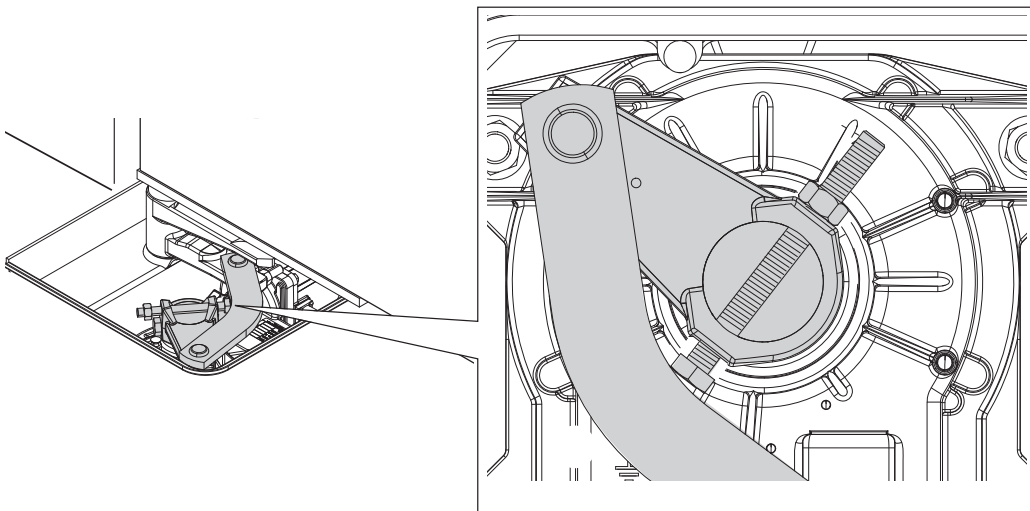
Tighten the nut to lock the screw into position.



Close the gate manually.

Loosen the adjusting screw of the closing limit-switch point until it touches the transmission lever.

Tighten the nut to lock the screw into position.





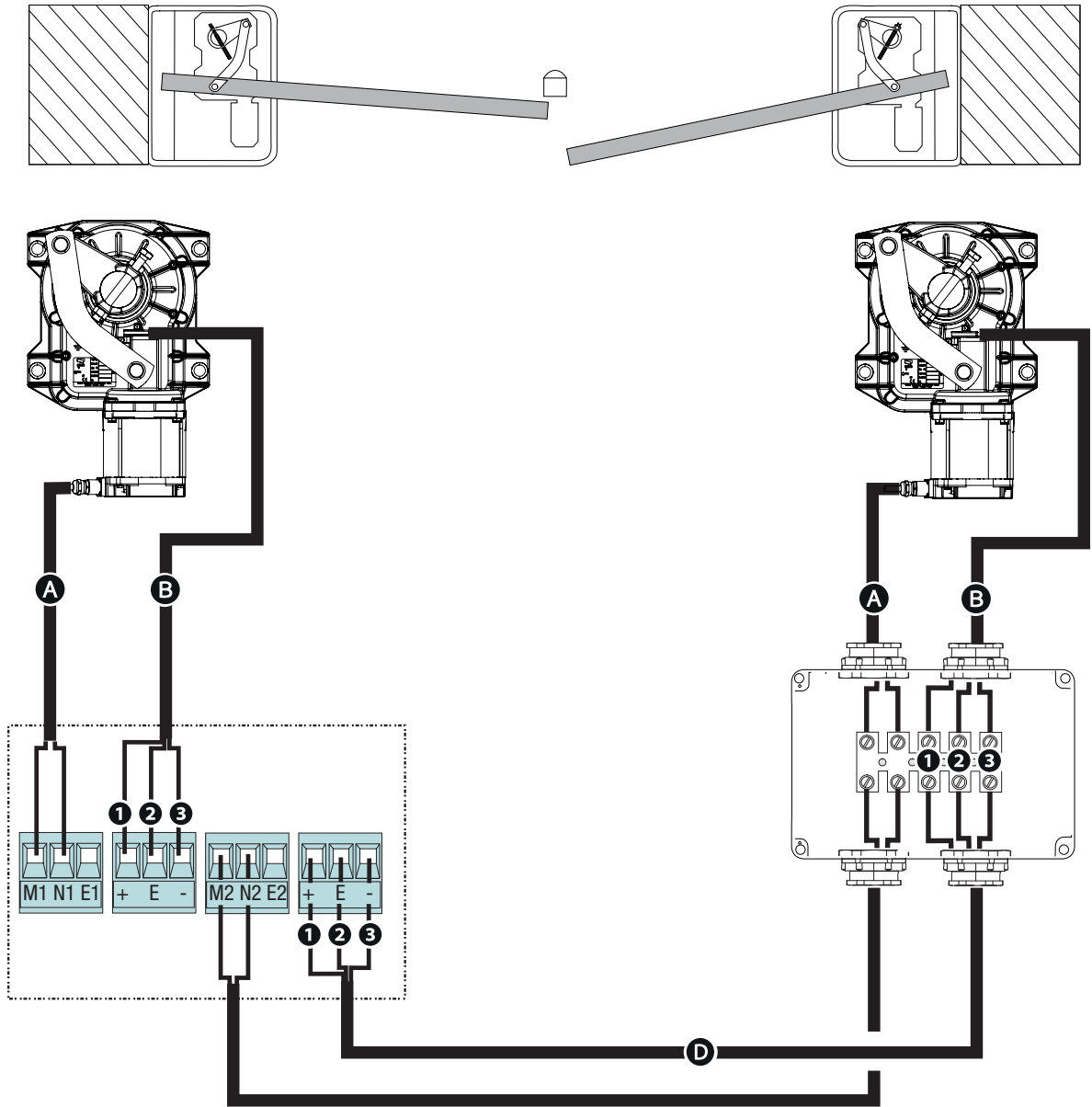
## ELECTRICAL CONNECTIONS

⚠ Before working on the control panel, disconnect the mains power supply and remove the batteries, if any.

### Gear motor with encoder

- ① White cable
- ② Brown cable
- ③ Green cable

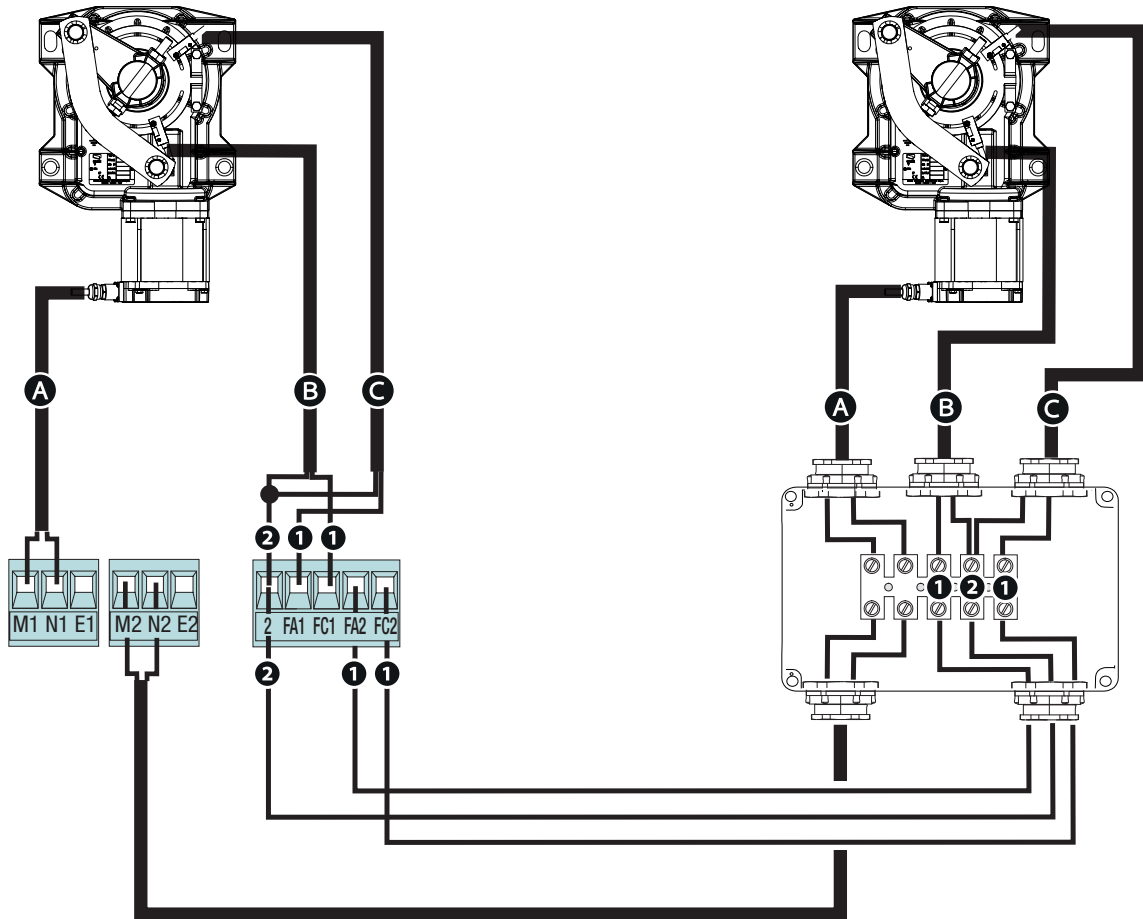
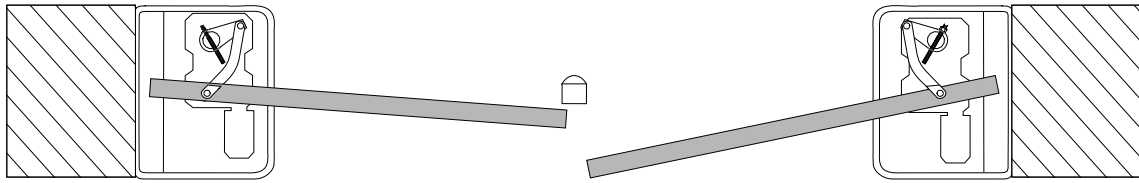
- A Power supply cable
- B Encoder cable
- D 801XA-0020 cable

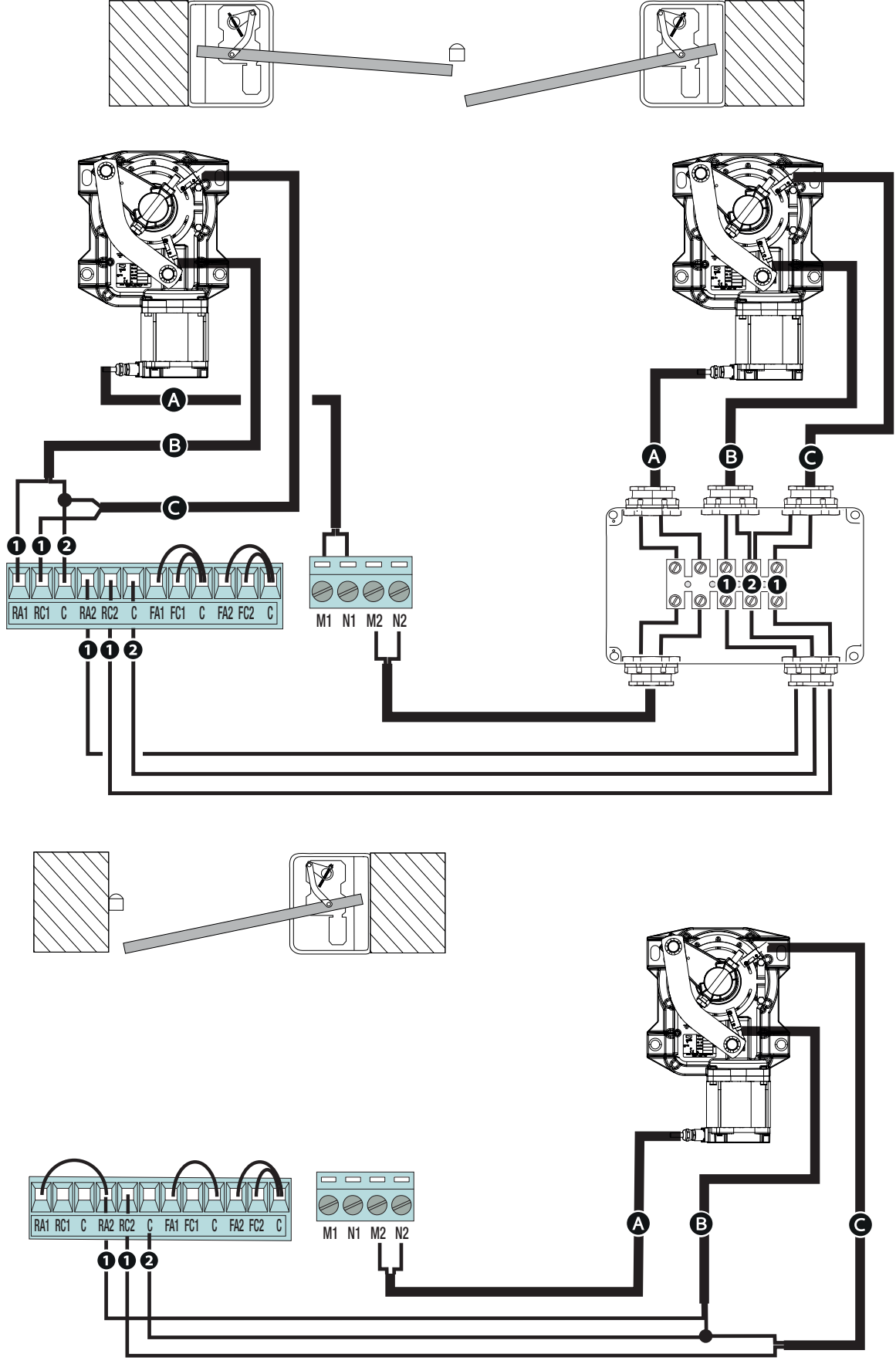


## Gearmotor without Encoder

- ① Brown cable
- ② Blue cable

- A Power supply cable
- B Cable for slowing down during opening
- C Cable for slowing down during closing

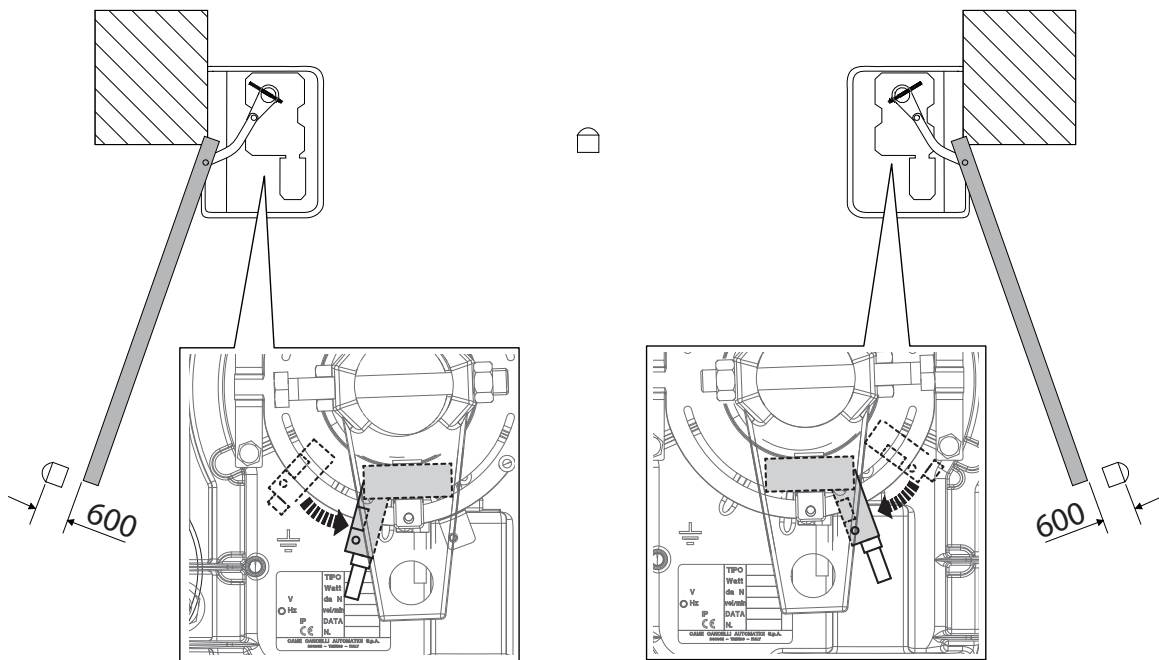




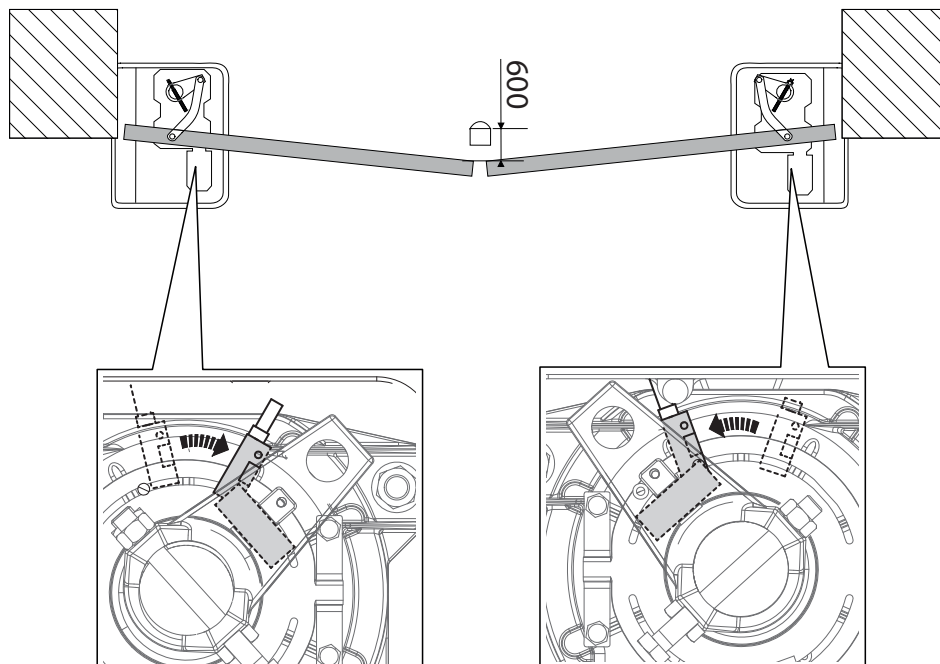
## Establishing the slow-down points\*

### Only for the FROG-A24

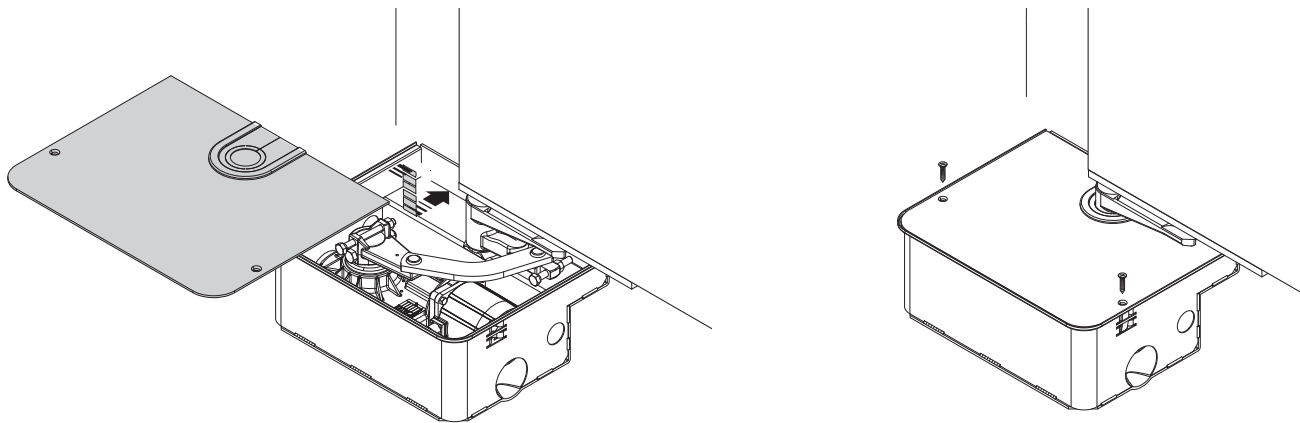
Give an opening command and stop the leaves at about 600 mm from the strike plate.  
Position the magnetic microswitches as shown in the images.



Give an closing command and stop the leaves at about 600 mm from the strike plate.  
Position the magnetic microswitches as shown in the images.



## FINAL OPERATIONS



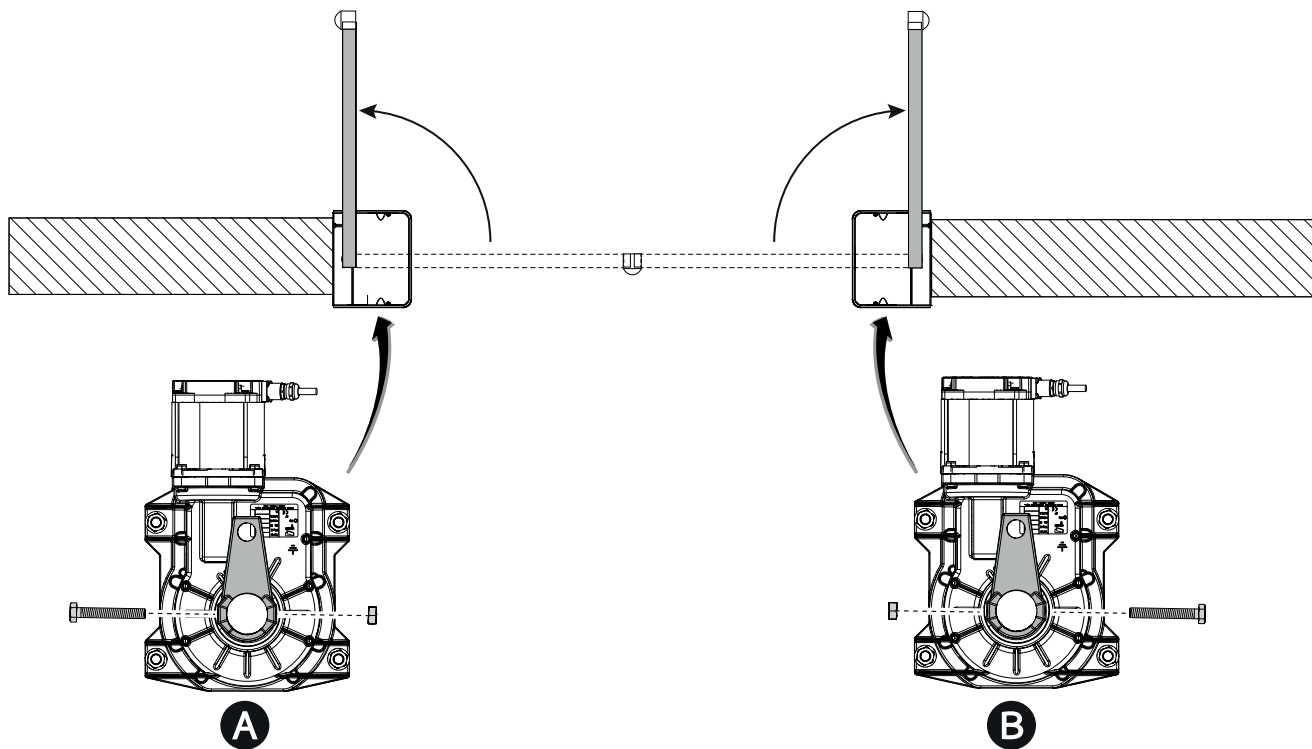
## OUTWARDS OPENING

 The operations other than the standard installation are described below.

### Setting up the gearmotor

Insert the closing limit-switch point adjustment screw into the gearmotor arm.

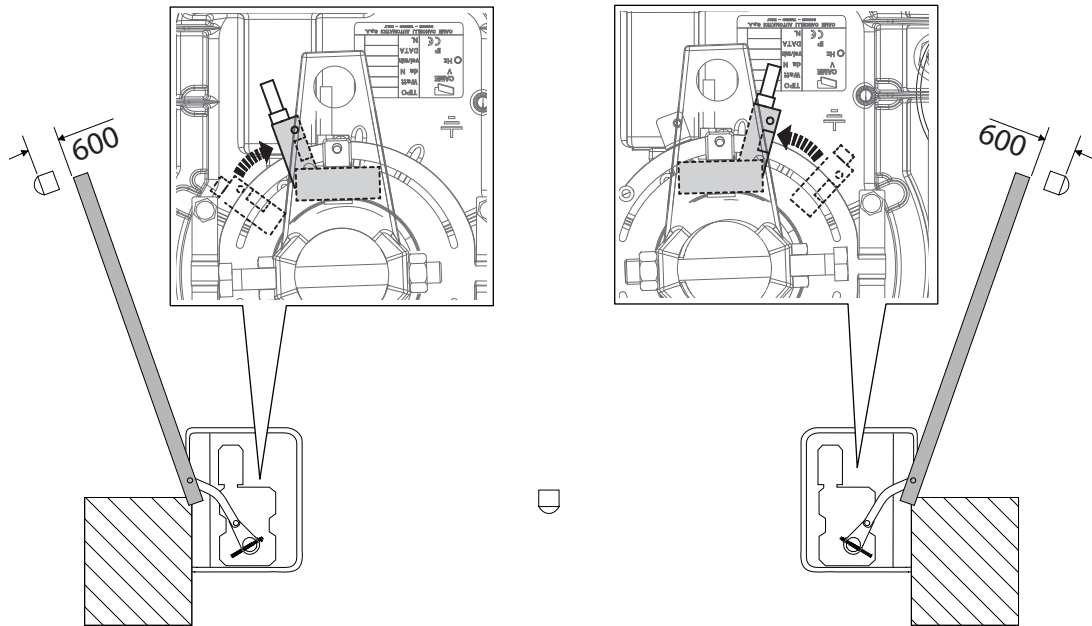
- A** Gearmotor installed on the left
- B** Gearmotor installed on the right



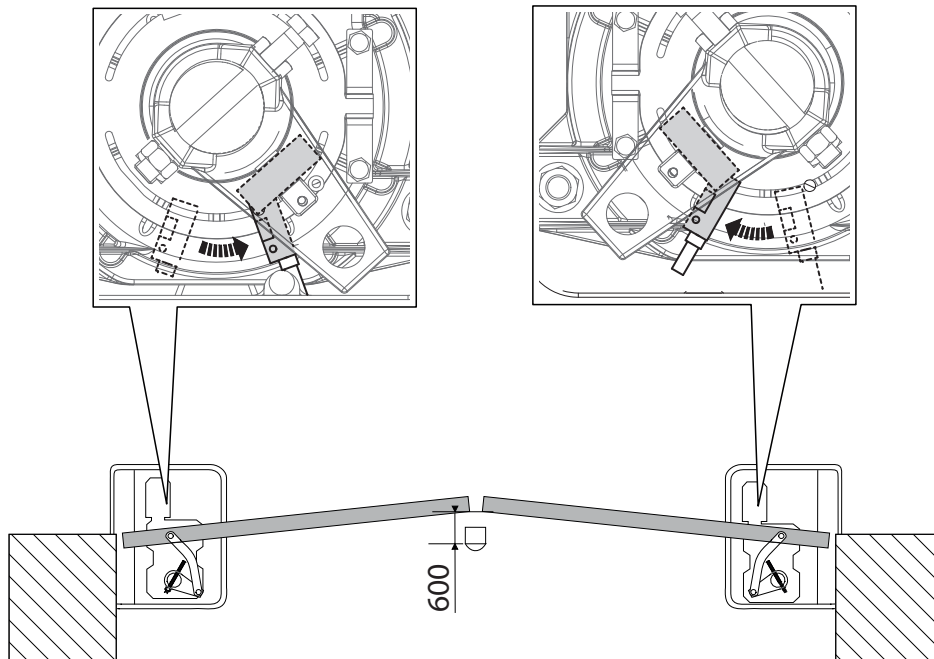
## Establishing the slow-down points\*

Only for the FROG-A24

Give an opening command and stop the leaves at about 600 mm from the strike plate.  
Position the magnetic microswitches as shown in the images.



Give an closing command and stop the leaves at about 600 mm from the strike plate.  
Position the magnetic microswitches as shown in the images.





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/ Wytwórca / Fabrikant

## Came S.p.a.

Indirizzo / address / adresse / addressa / dirección / endereço / adres / adres  
Via Martiri della Libertà 15 - 31030 Dosson di Casier, Treviso - Italy



DICHIARA CHE IL MOTORIDUTTORE PER CANCELLI A BATTENTE / DECLARES THAT THE GEARMOTOR FOR SWING GATE / ERKLÄRT DASS DIE TORÖFFNER FÜR FLÜGELTORE / DECLARE QUE LE MOTOREDUCTEUR POUR PORTAILS A BATTANTS / DECLARA QUE LAS MOTORREDUCTOR PARA PUERTAS BATIENTES / DECLARA QUE AS MOTORREDUTOR PARA PORTOES A BATENTE / OSWADCZA ZE SŁOWNNIK DO BRAM SKRZYDLOWYCH / VERKLAART DAT DE MOTOR VOOR DRAAIHEKKEN

FROG-A24-ELTRON  
FROG-A24E  
FROG-A24CSI  
FROG-A24  
FROG-A24ECSI

E' CONFORME ALLE DISPOSIZIONI DELLE SEGUENTI DIRETTIVE / IT COMPLIES WITH THE PROVISIONS OF THE FOLLOWING DIRECTIVES / DEN VORGABEN DER FOLGENDEN RICHTLINIEN ENTSPRECHEN / IL EST CONFORMES AUX DISPOSITIONS DES DIRECTIVES SUIVANTES / CUMPLEN CON LAS DISPOSICIONES DE LAS SIGUIENTES DIRECTIVAS / ESTÃO DE ACORDO COM AS DISPOSIÇÕES DAS SEGUINTE DIRECTIVAS / SA ZGODNE Z POSTANOWIENIAMI NASTĘPUJĄCYCH DYREKTYWY EUROPEJSKICH / VOLDÖEN AAN DE VOORSCHRIFTEN VAN DE VOLGENDE RICHTLIJNEN:

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EN 61000-6-2:2005  
EN 61000-6-3:2007+A1:2011  
EN 62233:2008  
EN 60335-1:2012+A11:2014  
EN 60335-2-103:2015

RISPETTA I REQUISITI ESSENZIALI APPLICATI / MEET THE APPLICABLE ESSENTIAL REQUIREMENTS / DEN WESENTLIJCHEN AANGEWANDTEN ANFORDERUNGEN ENTSPRECHEN / RESPECTENT LES CONDITIONS REQUISES NECESSAIRES APPLIQUEES / CUMPLEN CON LOS REQUISITOS ESSENCIALES APLICADOS / RESPETAM O REQUISITOS ESSENCIAIS APLICADOS / SPÉLNIAJA PODSTAWOWE WYMAGANIA WYRUKNIKI / VOLDÖEN AAN DE TOEPASBARE MINIMUM EISEN:

1.1.3; 1.1.5; 1.2.1; 1.2.2; 1.3.2; 1.3.7; 1.3.8.1; 1.4.1; 1.4.2; 1.5.1; 1.5.6; 1.5.8; 1.5.9; 1.5.11; 1.5.13; 1.6.1; 1.6.3; 1.6.4; 1.7.1; 1.7.2; 1.7.4

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la messa in servizio finché la macchina finale in cui deve essere incorporata non è stata dichiarata conforme, se del caso alla 2006/42/CE / commissioning of the above mentioned until such moment when the final machine into which they must be incorporated, has been declared compliant, if pertinent, to 2006/42/CE / die Inbetriebnahme bevor die „Endmaschine“ in die die unvollständige Maschine eingebaut wird, als konform erklärt wurde, gegebenenfalls gemäß der Richtlinie 2006/42/EU. / la mise en service tant que la machine finale dans laquelle elle doit être incorporée n'a pas été déclarée conforme, le cas échéant, à la norme 2006/42/CE. / la puesta en servicio hasta que la máquina final en la que será incorporada no haya sido declarada de conformidad de acuerdo a la 2006/42/CE / a colocação em funcionamento, até que a máquina final, onde devem ser incorporadas, não for declarada em conformidade, se de acordo com a 2006/42/CE. / Uruchomienia urządzenia do czasu, kiedy maszyna, do której ma być wbudowany, nie zostanie oceniona jako zgodna z wymogami dyrektywy 2006/42/WE, jeśli taka procedura była konieczna. / de ze in werking te stellen zolang de eindmachine waarin de niet voltooidde machine moet worden ingebouwd in overeenstemming is verklaard, indien toepasselijk met de richtlijn 2006/42/EG.

Dosson di Casier (TV)  
28 Giugno / June / Juni / Juin / Junio  
/ Junho / Czerwcu / Juni 2017

Administratore Delegato / Managing Director /  
General Direktor / Directeur Général / Director General /  
Administrador Delegado / Dyrektor Zarządzający /  
Algemeen Directeur

Andrea Menazzo

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