



**ENTRE//MATIC**



**CUBIC6**

IP1812EN- rev. 2012-07-10



**Installation and  
maintenance manual for  
swing gates.**

(Original instructions)



**DITEC S.p.A.**

Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY

Tel. +39 02 963911 - Fax +39 02 9650314

[www.ditec.it](http://www.ditec.it) - [ditec@ditecva.com](mailto:ditec@ditecva.com)

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## CAPTION



This symbol indicates instructions or notes regarding safety issues which require particular attention.



This symbol indicates informations which are useful for correct product function.

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All data and specifications have been drawn up and checked with the greatest care. The manufacturer cannot however take any responsibility for eventual errors, omissions or incomplete data due to technical or illustrative purposes.

## 1. GENERAL SAFETY PRECAUTIONS



This installation manual is intended for professionally competent personnel only.

Installation, electrical connections and adjustments must be performed in accordance with Good Working Methods and in compliance with applicable regulations.

Before installing the product, carefully read the instructions.

Bad installation could be hazardous.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as these are a potential source of hazard.

Before installing the product, make sure it is in perfect condition.

Do not install the product in an explosive environment and atmosphere: gas or inflammable fumes are a serious hazard risk.

Before installing the motors, make all structural changes relating to safety clearances and protection or segregation of all areas where there is risk of being crushed, cut or dragged, and danger areas in general.

Make sure the existing structure is up to standard in terms of strength and stability.

The motor manufacturer is not responsible for failure to use Good Working Methods in building the frames to be motorized or for any deformation occurring during use.

The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorized gate.

The safety devices must protect any areas where the risk exists of being crushed, cut or dragged, or where there are any other risks generated by the motorized gate.

Apply hazard area notices required by applicable regulations.

Each installation must clearly show the identification details of the motorized gate.



Before making power connections, make sure the plate details correspond to those of the power mains.

Fit an omnipolar disconnection switch with a contact opening gap of at least 3 mm.

Make sure an adequate residual current circuit breaker and overcurrent cutout are fitted upstream of the electrical system.

When necessary, connect the motorized gate to a reliable earth system made in accordance with applicable safety regulations.

During installation, maintenance and repair, interrupt the power supply before opening the lid to access the electrical parts.



To handle electronic parts, wear earthed antistatic conductive bracelets.

The motor manufacturer declines all responsibility in the event of component parts being fitted that are not compatible with the safe and correct operation.

For repairs or replacements of products only original spare parts must be used.

The installer shall provide all information relating to automatic, manual and emergency operation of the motorized gate, and provide the user with operating instructions.

## 2. DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

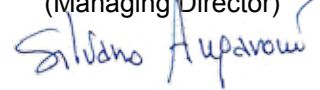
(Directive 2006/42/EC, Annex II-B)

The manufacturer DITEC S.p.A. with headquarters in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY declares that the automation system for CUBIC swing gates:

- has been constructed to be installed on a manual door to construct a machine pursuant to the Directive 2006/42/EC. The manufacturer of the motorized door shall declare conformity pursuant to the Directive 2006/42/EC (annex II-A), prior to the machine being put into service;
- conforms to applicable essential safety requirements indicated in annex I, chapter 1 of the Directive 2006/42/EC;
- conforms to the Low Voltage Directive 2006/95/EC;
- conforms to the Electromagnetic Compatibility Directive 2004/108/EC;
- technical documentation conforms to Annex VII-B to the Directive 2006/42/EC;
- technical documentation is managed by Renato Calza with offices in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY;
- a copy of technical documentation will be provided to national competent authorities, following a suitably justified request.

Caronno Pertusella,  
29-12-2009

Silvano Angaroni  
(Managing Director)



### 2.1 Machinery Directive

Pursuant to Machinery Directive (2006/42/EC) the installer who motorizes a door or gate has the same obligations as the manufacturer of machinery and as such must:

- prepare the technical file which must contain the documents indicated in Annex V of the Machinery Directive; (The technical file must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorized door);
- draw up the EC Declaration of Conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the EC marking on the motorized door in accordance with point 1.7.3 of Annex I of the Machinery Directive.

### 3. TECHNICAL DATA

	CUBIC6	CUBI6H	CUBIC6HV
<b>Power supply</b>	230 V~ 50 Hz	24 V $\overline{=}$	24 V $\overline{=}$
<b>Absorption</b>	1,5 A	12 A	12 A
<b>Couple</b>	340 Nm	340 Nm	220 Nm
<b>Capacitor</b>	10 $\mu$ F	-	-
<b>Opening time</b>	18 s/90°	12÷25 s/90°	6÷13 s/90°
<b>Max opening</b>	110°-180° (see page 7)	110°-180° (see page 7)	110°-180° (see page 7)
<b>Service class</b>	3 - FREQUENT	4 - INTENSIVE	4 - INTENSIVE
<b>Intermittence</b>	S2 = 15 min S3 = 25%	S2 = 30 min S3 = 50%	S2 = 30 min S3 = 50%
<b>Temperature</b>	min -20° C max +55° C min -35° C max +55° C (with NIO enabled)	min -20° C max +55° C min -35° C max +55° C (with NIO enabled)	min -20° C max +55° C min -35° C max +55° C with NIO enabled
<b>Degree of protection</b>	IP67	IP67	IP67
<b>Control panel</b>	E2 - LOGICM	VIVAH	VIVAH
<b>Applications</b> m = leaf width kg = leaf weight	<p>[CUBIC6C*]      [CUBIC6CG**]</p>		

#### 3.1 Operating instructions

**Service class: 3** (minimum 30 cycles a day for 10 years or 60 cycles a day for 5 years).

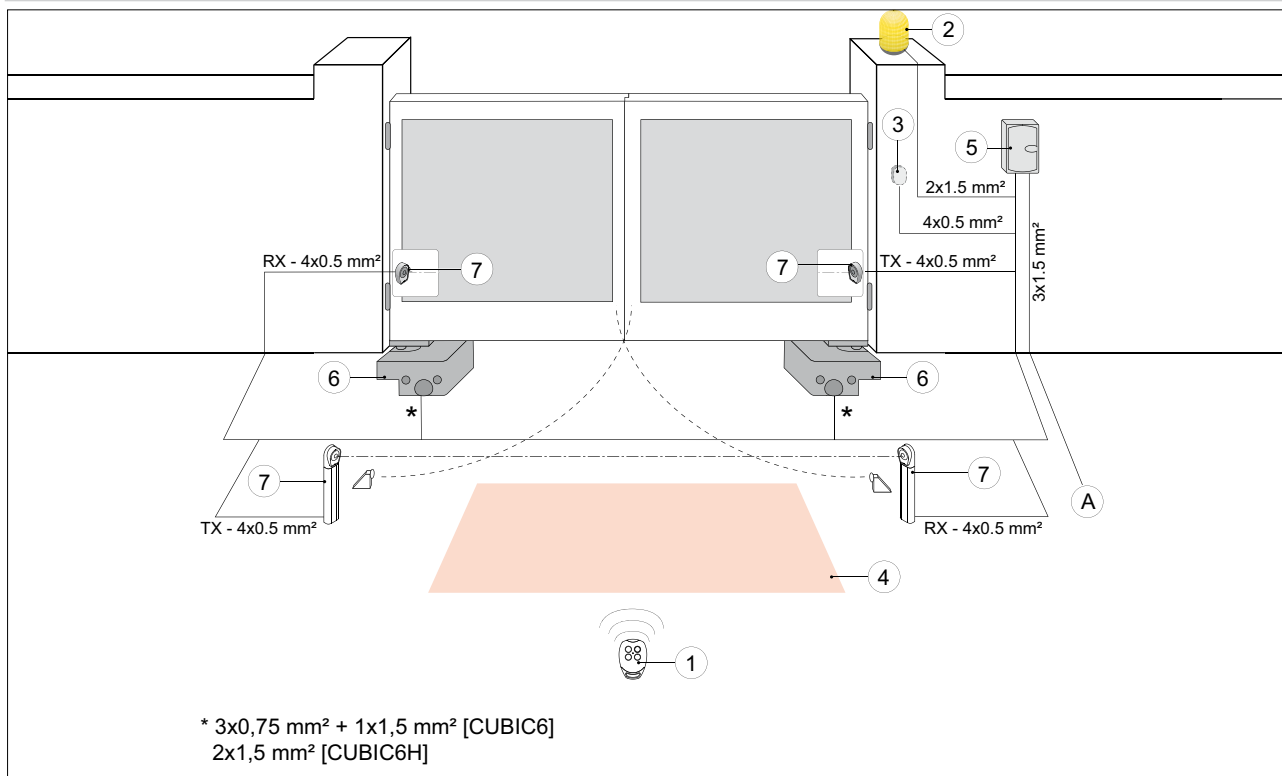
**Use: FREQUENT** (For vehicle or pedestrian accesses to town houses or small condominiums with frequent use).

**Service class: 4** (minimum 100 cycles a day for 10 years or 200 cycles a day for 5 years)

**Use: INTENSIVE** (For vehicle or pedestrian accesses to large condominiums, industrial or commercial complexes and parking lots with very frequent use).

- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). When used with the maximum permissible weight a reduction in the above mentioned performance can be expected.
- Service class, running times, and the number of consecutive cycles are to be taken as merely indicative Having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specific conditions of use.
- Each automatic entrance has variable elements such as: friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic entrance or curtail its working life or parts thereof (including the automatic devices themselves). The installer should adopt suitable safety conditions for each particular installation.

## 4. STANDARD INSTALLATION



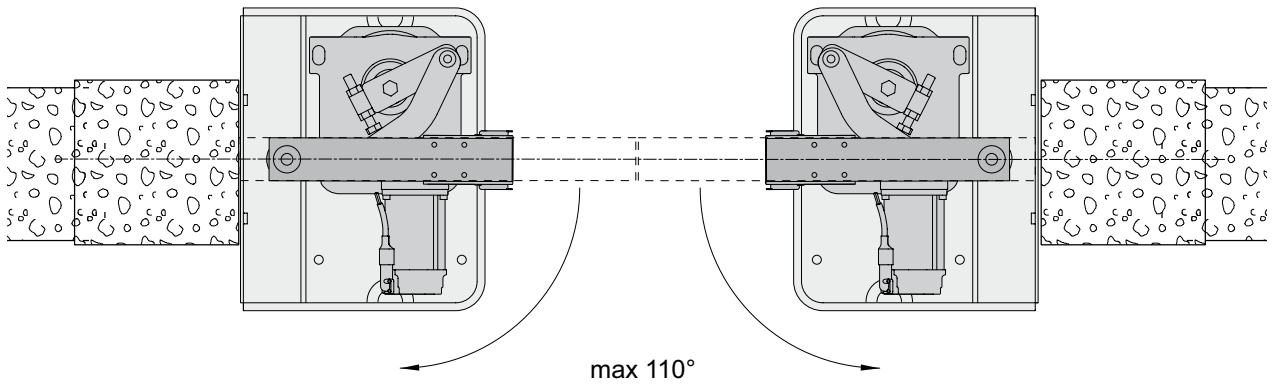
Ref.	Code	Description
1	GOL4	Transmitter
2	LAMPH LAMP	Flashing light 24 V= Flashing light 230 V~
3	XEL5 GOL4M	Key selector Codified via radio control keyboard
4	LAB9	Magnetic loop detection device for traffic monitoring
5	E2 LOGICM VIVAH	Control panel
6	CUBIC6 CUBIC6H CUBIC6C CUBIC6CG CUBIC6CY CUBIC6L CUBIC6LG CUBIC6TC CUBIC6TIG CUBIC6SBL CUBIC6SBD CUBIC6FM CUBIC6FMTI	Geared motor 230 V~ Geared motor 24 V= Foundation casing Oversize foundation casing Stainless steel foundation casing Lever mechanism kit Oversize lever mechanism kit Chain-operated lever mechanism kit Oversize gear-operated lever mechanism kit Lever-operated release kit Key-operated release kit Magnetic limit switch kit Magnetic limit switch kit for lever mechanism
7	XEL2 LAB4	Photocells Photocells IP55
A		Connect the power supply to an approved omnipolar switch with an opening distance of the contacts of at least 3mm (not supplied). The connection to the mains must be made via an independent channel, separated from the connections to command and safety devices.



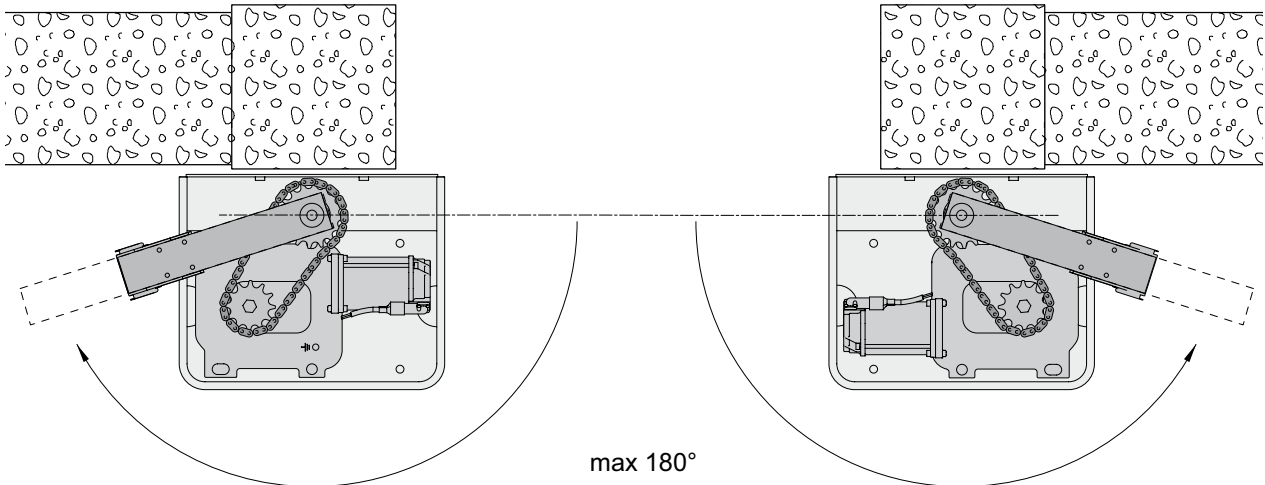
**NOTE:** the given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

## 5. Examples applications

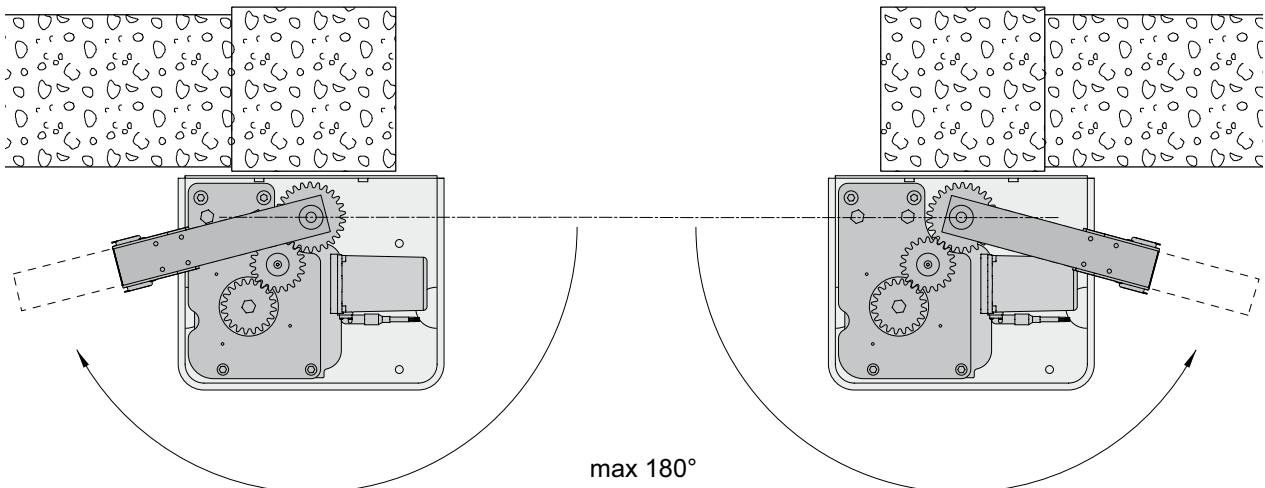
### CUBIC6L - CUBIC6LG



### CUBIC6TC



### CUBIC6TIG



## 6. INSTALLATION

Unless otherwise specified, all measurements are expressed in millimetres (mm).

### 6.1 Preliminary checks

Check that the structure is sufficiently sturdy and that the hinge pivots are properly lubricated. Provide an opening and closing stop.

*Note: if the gate wing is more than 2.5 m wide, an electric lock should be installed.*

### 6.2 Foundation case installation

Install the foundation case as indicated in the relevant manual.

### 6.3 Lever mechanisms installation

Choose and install the lever mechanisms as indicated in the relevant manual.

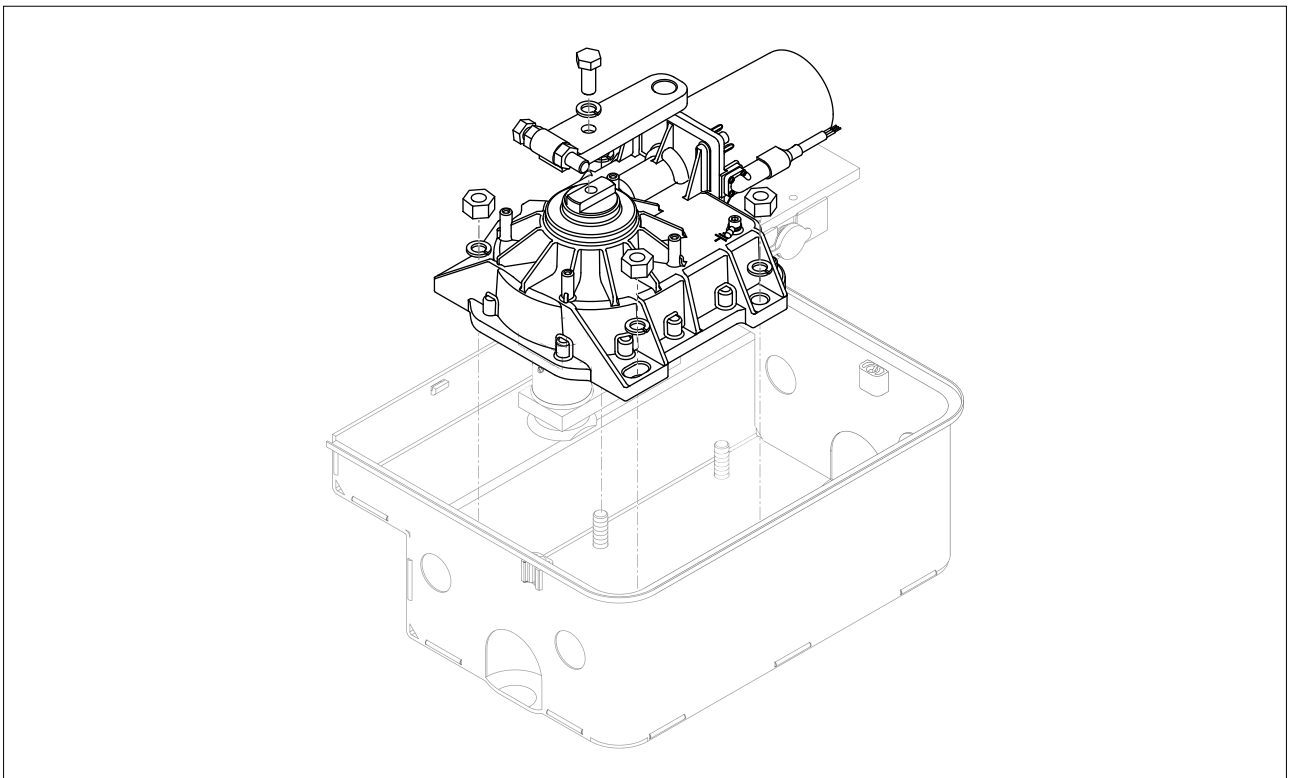
### 6.4 Wing release installation

Choose and install the door release mechanisms as indicated in the relevant manual.

**WARNING:** *to install the releases more easily, we advise you to position the gate at the centre of the foundation casing and remove the lid, in such a way as to have enough space for fixing the screws.*

### 6.5 Geared motor installation

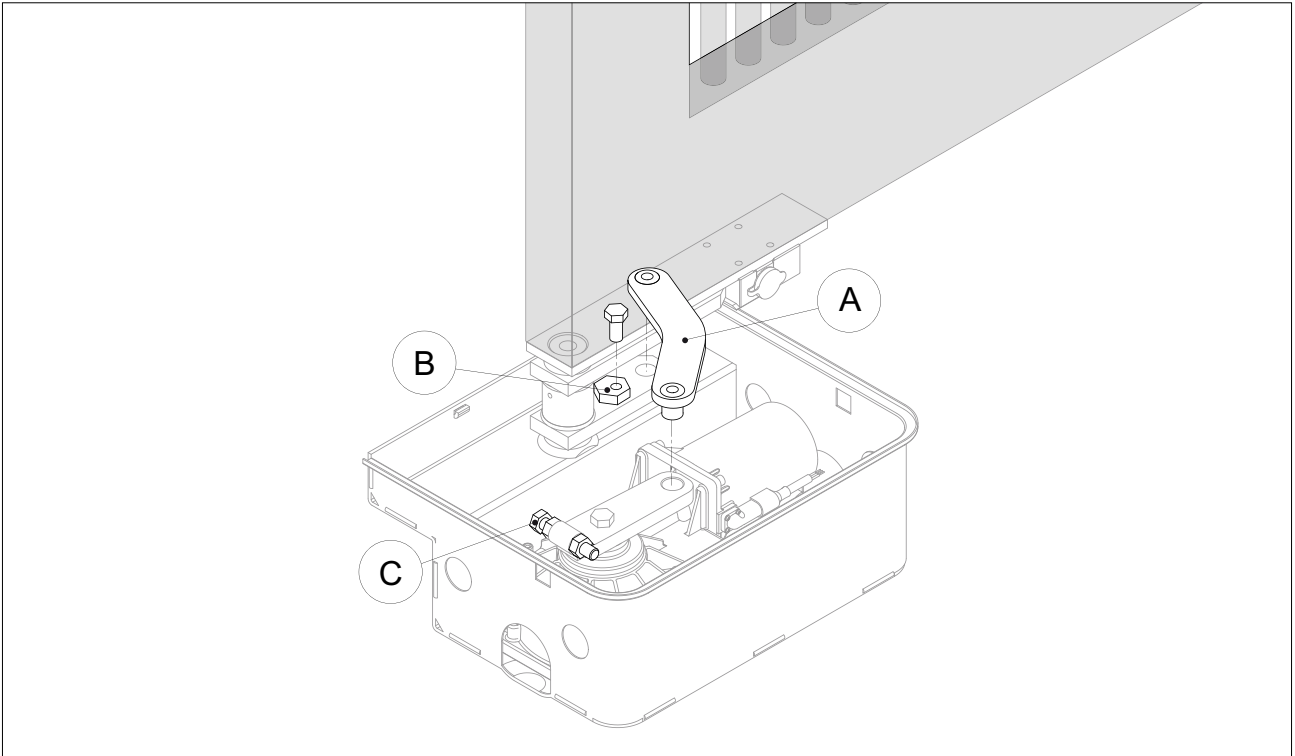
After installing the foundation casing, the respective lever and release mechanisms go before the installation of the gear motor as shown in the figure. **NOTE:** *the figure shows the motor installed on the right door wing. Carefully clean the bottom of the foundation casing from dirt or cement to guarantee an even laying of the gearmotor.*





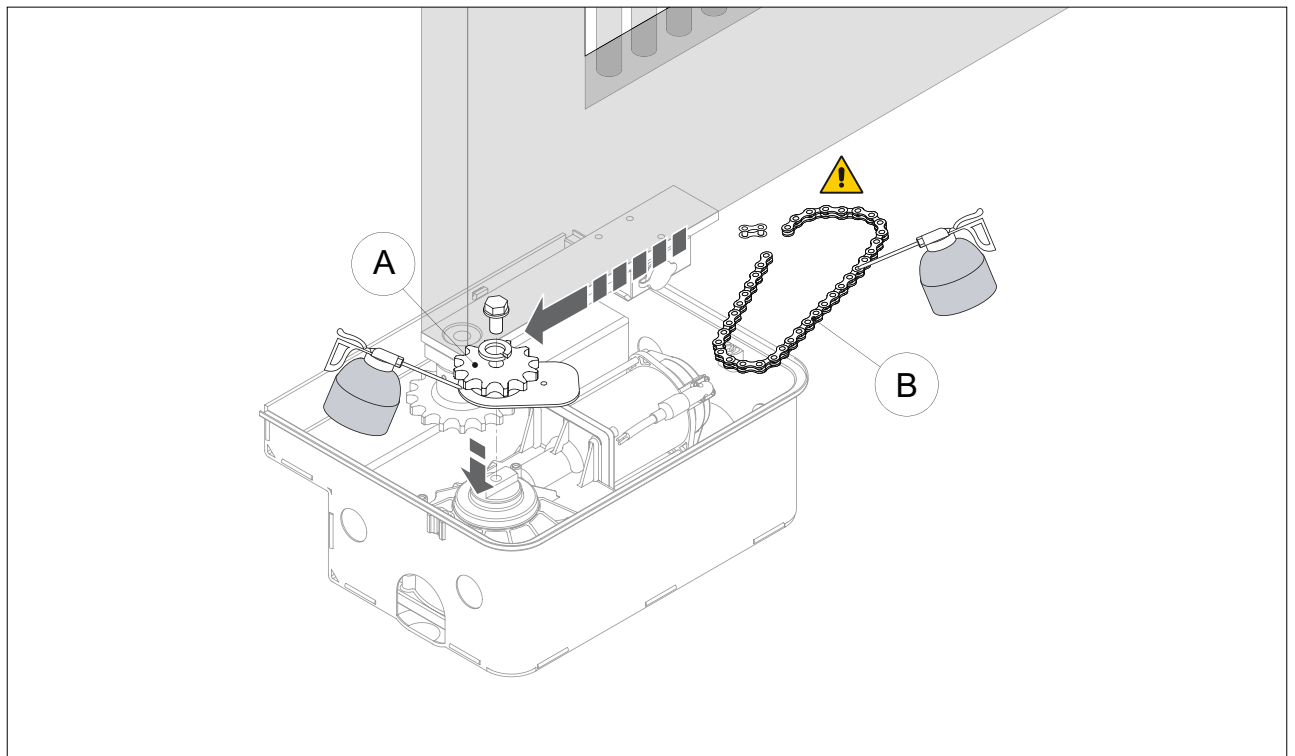
## 6.6 Installation with CUBIC6L-CUBIC6LG

Insert lever [A] on the gearmotor and position the mechanical stop [B] and [C] and adjust it, as shown in the figure.  
*NOTE: the figure shows the motor installed on the right door wing.*



## 6.7 Installation with CUBIC6TC

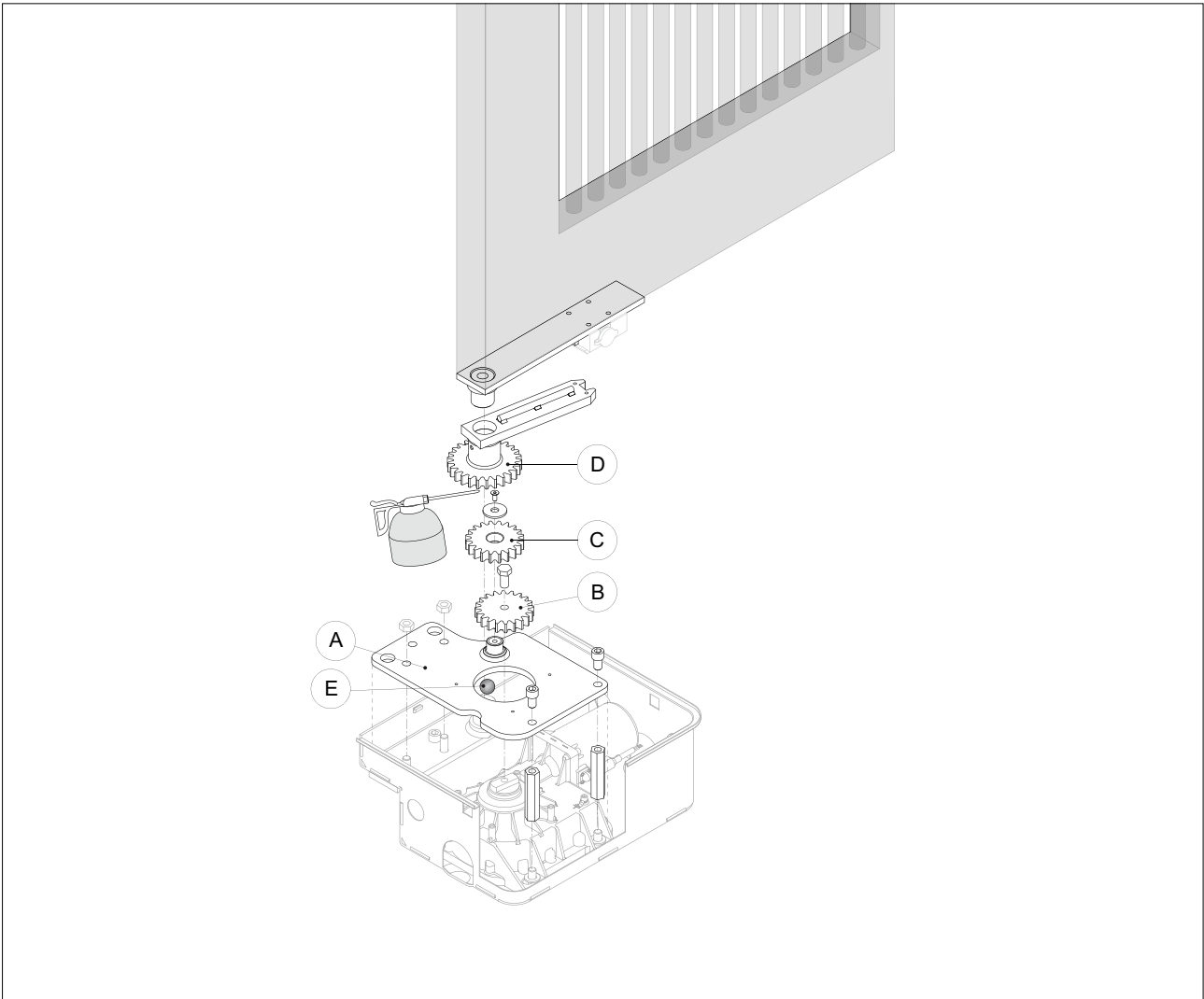
Insert pinion [A] and join the two pinions by means of the chain [B], as shown in the figure.  
Lubricate the chain and the lever mechanism as indicated in the figure.



**!** **WARNING:** fasten the motor to the foundation case after connecting the chain.

## 6.8 Installation with CUBIC6TIG

Fix the plate [A], then insert, fix and lubricate the gears [B], [C] and [D]. Position the sphere [E] as shown in the figure.



## 6.9 CUBIC6FM-CUBIC6FMTI installation

It is possible to limit the travel of the wing by means of magnetic limit switches.  
Choose and install the magnetic limit switches as indicated in the relative manual.  
Make the electrical connections as shown in the control panel.  
**WARNING:** *the magnetic limit switches cannot interrupt the power supply to the motor.*

## 7. ELECTRICAL CONNECTIONS

Before connecting the power supply, make sure the plate data correspond to that of the mains power supply. An omnipolar disconnection switch with minimum contact gaps of 3 mm must be included in the mains supply. Check that upstream of the electrical installation there is an adequate residual current circuit breaker and a suitable overcurrent cutout.

*WARNING: the electrical connections for the extension of the motor cables must be made on the outside of the foundation casing in an appropriate junction box (not supplied).*

*In the CUBIC6 gearmotors, the blue wire corresponds to the common contact of the motor phases, and must be connected to the W or Z terminals of the control panel.*

The CUBIC6 gearmotor can be connected to the E2 and LOGICM control panels.

The CUBIC6H and CUBIC6VH gearmotors can be connected to the VIVAH control panel.

The electrical connections and the start-up of the gearmotors are shown in the installation manuals of the E2, LOGICM and VIVAH control panels.

## 8. ROUTINE MAINTENANCE PLAN

Perform the following operations and checks every 6 months according to intensity of use of the automation.

Without 230 V~ power supply and batteries if present:

- Lubricate the levers of the gearmotor.
- Lubricate the rotation pivot of the gate leaf.
- Lubricate the gate leaf hinges.
- Check the good conditions of the electric connection.
- Check that the fixing screws of the gearmotor are firmly tightened.
- Clean the inside of the cases and check that drain is not clogged.
- Check the value of the capacity of the motor condenser.

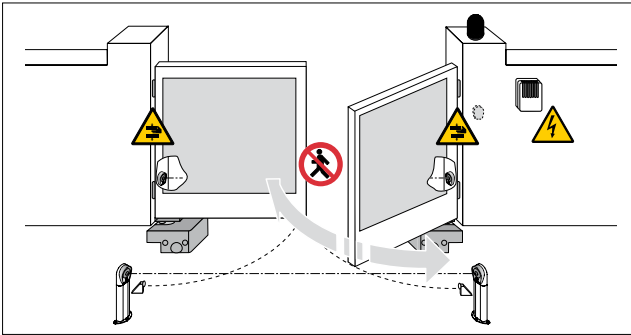
Reconnect the 230 V~ power supply and batteries if present:

- Check the power adjustment.
- Check the good operation of all command and safety functions (photocells).
- Check the good operation of the release system.



*NOTE: For spare parts, see the spares price list.*





### 9.1 General safety precautions

The following precautions are an integral and essential part of the product and must be supplied to the user. Read them carefully since they contain important information on safe installation, use and maintenance.

These instructions must be kept and forwarded to all possible future users of the system.

This product must only be used for the specific purpose for which it was designed.

Any other use is to be considered improper and therefore dangerous.

The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable use.

Avoid operating in the proximity of the hinges or moving mechanical parts.

Do not enter within the operating range of the motorized door while it is moving.

Do not block the movement of the motorized door since this may be dangerous.

Do not allow children to play or stay within the operating range of the motorized door.

Keep remote controls and/or any other control devices out of the reach of children in order to avoid possible involuntary activation of the motorized door.

In the event of fault or malfunctioning of the product, turn off the power supply switch, do not attempt to repair or intervene directly and contact only professionally competent personnel.


Failure to comply with the above may cause a dangerous situation.

All cleaning, maintenance or repair work must be carried out by professionally competent personnel.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and routine maintenance of the motorized door must be performed by professionally competent personnel.

In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

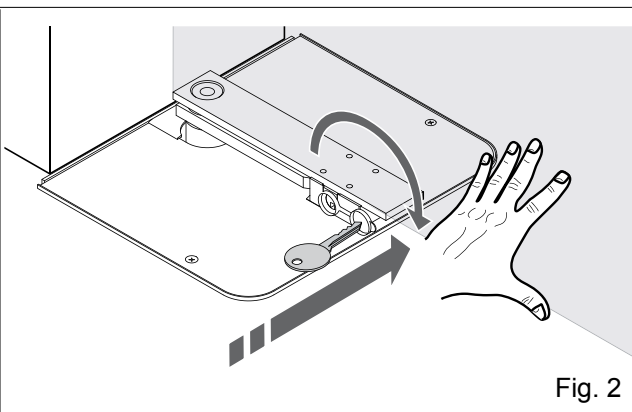
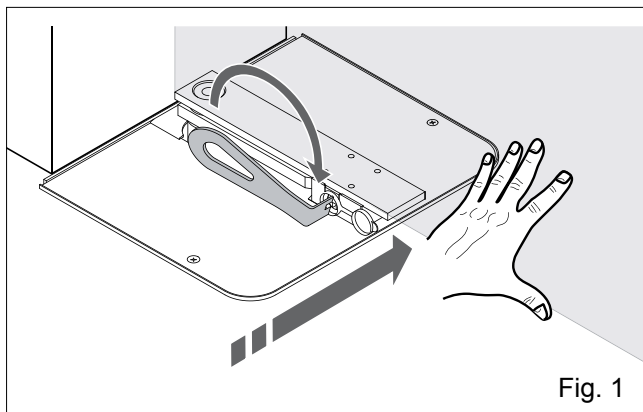
All installation, maintenance and repair work must be documented and made available to the user.

 For the correct disposal of electric and electronic equipment, waste batteries and accumulators, the user must take such products to the designated municipal collection facilities.



DETACH AND DELIVER TO THE CUSTOMER

## 9.2 Manual release instructions



In the event of failure or if there is no voltage:

CUBIC6SBL: insert the lock release lever and rotate by 180° (fig.1). Release any electric lock. Manually open the gate.

CUBIC6SBD: insert the lock release key in the lock and rotate by 180° (fig.2). Release any electric lock. Manually open the gate.

To block the door wings again: rotate the lock release lever or key by 180°. Move the door wing manually until it is completely reattached.



**WARNING:** the door wing block and release operations must be performed with the motor idle.



**DITEC S.p.A.**  
 Via Mons. Banfi, 3  
 21042 Caronno Pertusella (VA) - ITALY  
 Tel. +39 02 963911 - Fax +39 02 9650314  
 www.ditec.it - ditec@ditecva.com

Installer:





**DITEC S.p.A.** Via Mons. Banfi, 3 21042 Caronno P.la (VA) Italy Tel. +39 02 963911 Fax +39 02 9650314  
www.ditec.it ditec@ditecva.com

**DITEC BELGIUM** LOKEREN Tel. +32 9 3560051 Fax +32 9 3560052 www.ditecbelgium.be **DITEC DEUTSCHLAND** OBERURSEL  
Tel. +49 6171 914150 Fax +49 6171 9141555 www.ditec-germany.de **DITEC ESPAÑA** ARENYS DE MAR Tel. +34 937958399  
Fax +34 937959026 www.ditecespana.com **DITEC FRANCE** MASSY Tel. +33 1 64532860 Fax +33 1 64532861 www.ditecfrance.com  
**DITEC GOLD PORTA** ERMESINDE-PORTUGAL Tel. +351 229773520 Fax +351 229773528/38 www.goldporta.com **DITEC SWITZERLAND**  
BALERNA Tel. +41 848 558855 Fax +41 91 6466127 www.ditecswiss.ch **DITEC ENTREMATIC NORDIC** LANDSKRONA-SWEDEN  
Tel. +46 418 514 50 Fax +46 418 511 63 www.ditecentrematicnordic.com **DITEC TURCHIA** ISTANBUL Tel. +90 21 28757850  
Fax +90 21 28757798 www.ditec.com.tr **DITEC AMERICA** ORLANDO-FLORIDA-USA Tel. +1 407 8880699 Fax +1 407 8882237  
www.ditecamerica.com **DITEC CHINA** SHANGHAI Tel. +86 21 62363861/2 Fax +86 21 62363863 www.ditec.cn