

JET

IT

**Motoriduttore elettromeccanico
per l'automazione di cancelli
battenti**

**Istruzioni ed avvertenze per
l'installazione e l'uso**

DE

**Elektromechanischer Getriebemotor
für Automatisierungen von
angeschlagenen Toren.**

**Installations- und
Bedienungsanleitung**

EN

**Electromechanical gearmotor for
the automation of swing gates**

Installation and use instructions

ES

**Motorreductor electromecánico
para automatizar portón abatible**

**Instrucciones y advertencias para
la instalación y el uso**

FR

**Opérateur électromécanique pour
l'automatiser les portails battant.**

**Consignes pour l'installation et
l'utilisation**

PT

**Motoredutor eletromecânico para
automação de portões de batente**

**Instruções e avisos para instalação
e uso**



1. General safety warnings

1.1 - Safety warnings

⚠ CAUTION! This manual contains important instructions and warnings for personal safety. Wrong installation can cause serious injuries.

Before starting work read all the manual carefully. If in doubt, stop installation and ask the King-Gates Assistance Department for clarifications.

⚠ According to the most recent European legislation, the implementation of an automation must comply with the harmonized standards provided for by the current Machinery Directive, which allow the alleged conformity of the automation to be declared.

In consideration of this, all the operations of connection to the electrical network, testing, commissioning and maintenance of the product must be carried out exclusively by a qualified and competent technician!

⚠ CAUTION! Important instructions: keep this manual for any possible future requirement for maintenance and disposal of the product.

1.2 - Warnings for installation

- Before installing check if this product is suited to automating your gate or door (see chapter 3 and "Technical features of the product"). If unsuitable, DO NOT proceed with the installation.
- Include a disconnection device in the power supply system with an opening distance between the contacts to permit full disconnection in the conditions dictated by the category of surcharge III.
- All the installation and maintenance operations must occur with the automation disconnected from the electrical power supply. If the disconnection device of the power supply is not visible from the area where the automatism is located, before starting the work it is necessary to attach a sign with the text "CAUTION! MAINTENANCE IN PROGRESS" on the disconnection device.
- During installation handle the automatism with care avoiding crushing, knocks, falls or contact with liquids of any kind. Do not place the product near sources of heat, or expose it to naked flames. All these activities can damage and cause malfunctions or dangerous situations. If this occurs, stop the installation immediately and contact the King-Gates Assistance Department.
- Do not make alterations to any part of the product. Operations which are not permitted will cause only malfunctions. The manufacturer declines any liability for damage caused by arbitrary alterations to the product.
- If the gate or the door to be automated is fitted with a pedestrian door it is necessary to include a control system in the installation to prevent the operation of the motor when the pedestrian door is open.
- Check there are no trapping points towards fixed parts when the leaf of the gate is in the maximum Open position, if necessary protect these parts.

- The push button control on the wall must be positioned in sight of the automation, away from the moving parts, at a minimum height of 1.5 m from the ground and it must not be accessible to the public.
- The product packaging material must be disposed of respecting the local regulations in force.

1.3 - Warnings

- The product should not be used by people (including children) with physical, sensory or mental disabilities, or lacking the necessary experience or knowledge, unless they are supervised by someone responsible for their safety, or have been fully trained on its use.
- Children playing nearby the automation system should be kept under constant supervision to prevent them from tampering with it.
- Do not let children play with the fixed controls. Keep remote control devices away from the reach of children.
- When cleaning the surface of the product only use a soft damp cloth. Only use water, without detergents or solvents.

1.4 - Preliminary checks

Before installation, always check that there are no broken product components, that the model selected is appropriate for the intended use and that the installation environment is suitable for the product.

⚠ IMPORTANT – The gearmotor must only be used for the automation of manual gates with an efficient and safe mechanical structure. It cannot correct defects due to bad installation or poor maintenance of the gate.

- Check that the mechanical structure of the gate is suitable for the installation of an automation system and in compliance with current local regulations (if necessary, check the data found on the label of the gate).
- Manually close and open the gate leaf, to make sure that there is an appropriate level of constant friction during the whole opening or closing movement (no points requiring increased effort).
- Check that when moved to any position between fully open and fully closed, the gate leaf keeps its balance, without movements.
- Make sure that around the gearmotor there is enough room to easily and safely release the gate leaves by hands.
- Make sure that the product is installed on a solid surface, so that it can be securely fastened.
- Make sure that the installation position is compatible with the overall size of the product.

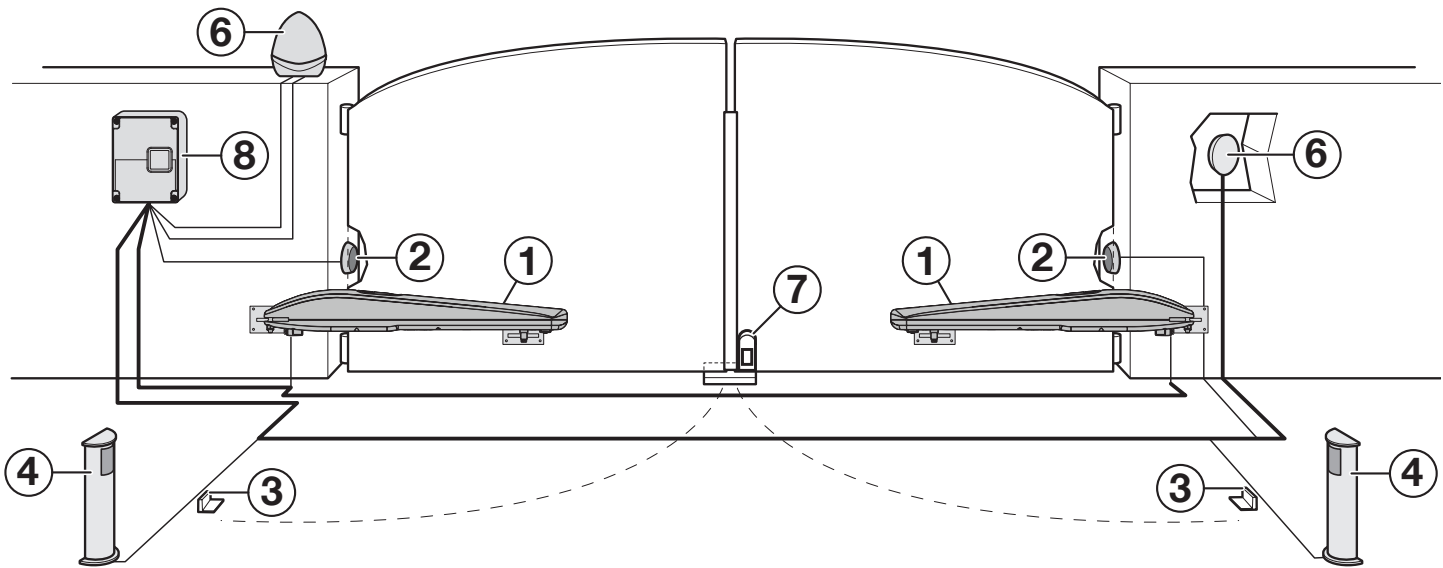
King Gates declines all responsibility for damage to persons or things that occurred due to causes not directly attributable to the characteristics of the product and failure to comply with the installation procedures in accordance with current regulations.

2. Installation preparation works

In the picture there is an example of an automation system using King-Gates components. These components are positioned following a typical and standard setup.
Define the approximate installation position of each system component and the most appropriate connection setup.

Useful components for a complete system:

- 1 - Electromechanical gearmotors
- 2 - Pair of photocells
- 3 - Pair of stops (open position)
- 4 - Photocell columns
- 5 - Flashing warning device with built-in antenna
- 6 - Key selector or digital keypad
- 7 - Vertical solenoid latch
- 8 - Control unit



LENGTH OF THE CABLE	< 10 metres	from 10 to 20 metres	from 20 to 30 metres
Power supply 230V	3G x 1,5 mm ²	3G x 1,5 mm ²	3G x 2,5 mm ²
Motor power supply 24V	2G x 1,5 mm ²	2G x 1,5 mm ²	2G x 2,5 mm ²
Photocells (TX)	2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Photocells (RX)	4 x 0,5 mm ²	4 x 0,5 mm ²	4 x 0,5 mm ²
Key switch	2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Safety ribbon	2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Flashing light	2 x 1,5 mm ²	2 x 1,5 mm ²	2 x 1,5 mm ²
Antenna (integrated into the flashing light)	RG58	RG58	RG58

3. Brackets installation scheme

1. Measure "E" and draw a horizontal line in the scheme at the corresponding value.
2. Choose a point on the drawn line, considering the desired opening angle. Draw a vertical line from that point and determinate the A value.
3. Verify that the A value allows the fixing of the rear bracket before continuing the installation, otherwise choose another point on the scheme.
4. Finally, bring the piston to the limit position (FIG. 2) but avoiding that the sliding pin touches the aluminum body.

CAUTION: If the installation measures are not properly followed, the automation may not work correctly. For example:

- Cyclical trends, and sudden accelerations
- Noise of the motor
- Limited opening degree or absent opening (in case of motor counter-lever configuration)

EN

FIG.1

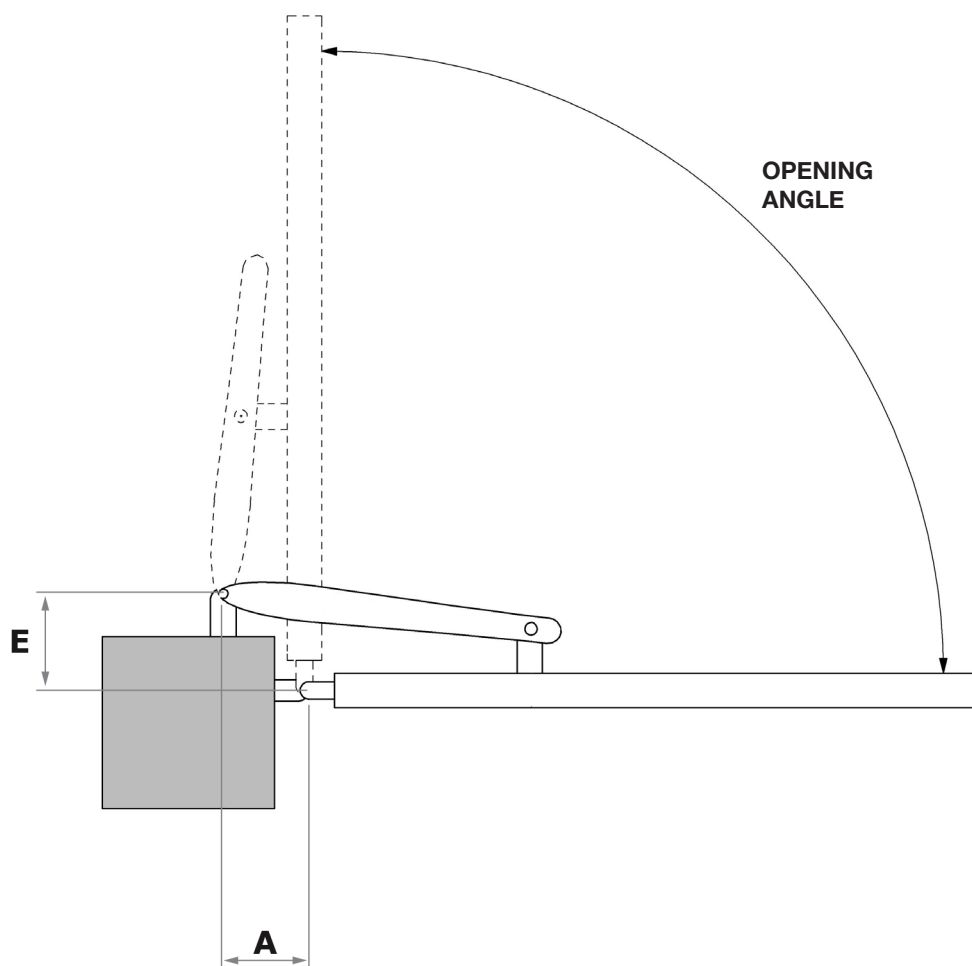
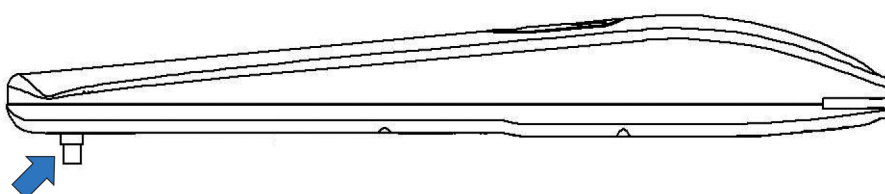


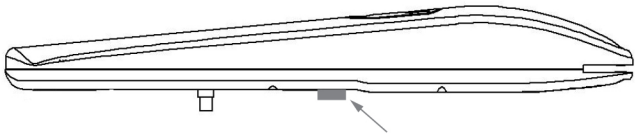
FIG.2



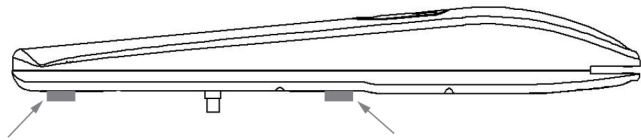
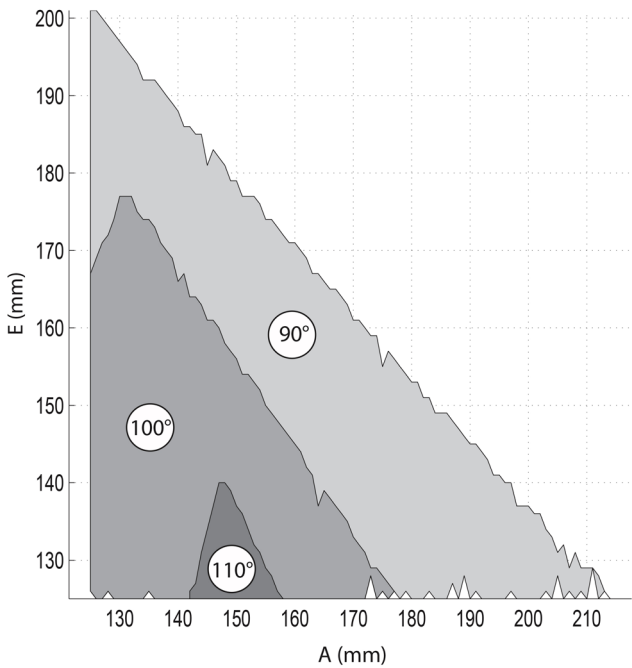
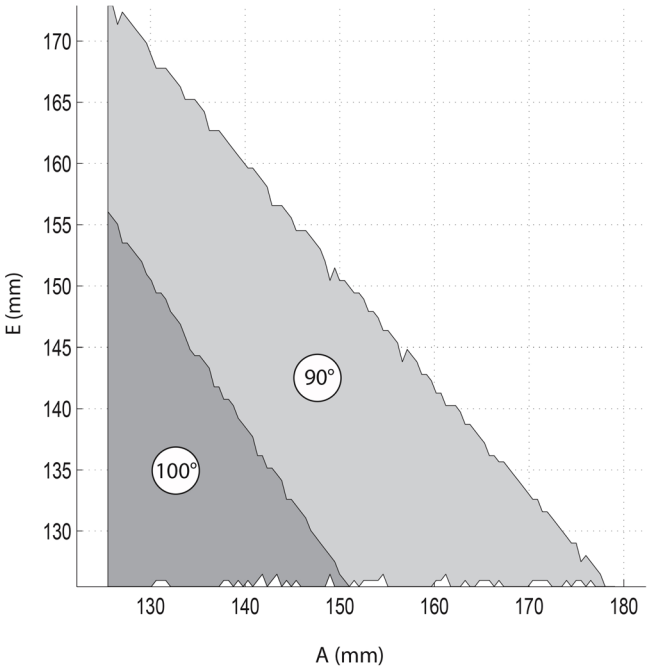
4. Installation scheme

EN

MECHANICAL LIMIT SWITCH IN OPENING



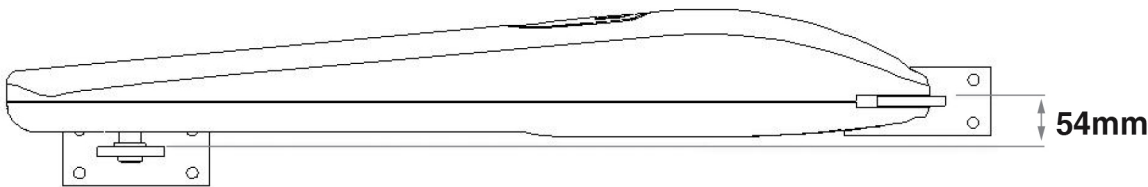
TWO MECHANICAL STOPS (OPENING AND CLOSING)



5. Brackets height

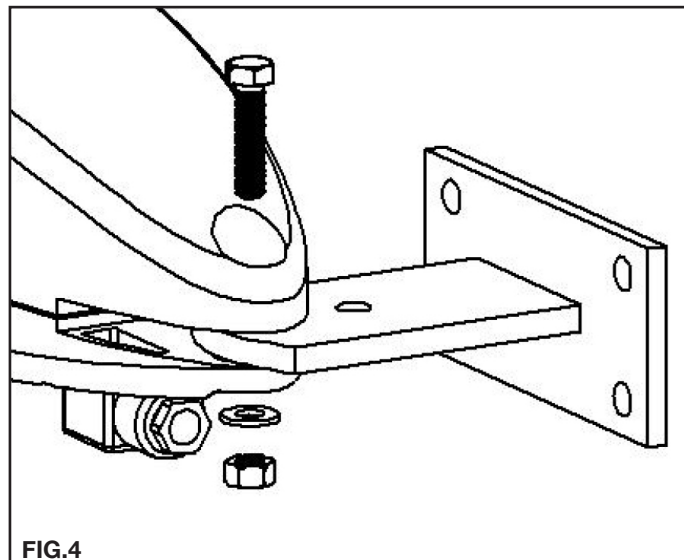
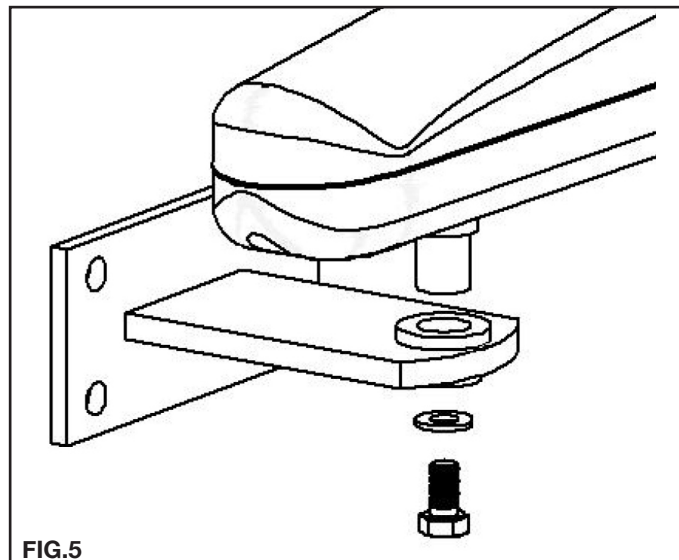
Fix the brackets keeping 54 mm between the surfaces in order to fix the gear-motor horizontally. (FIG.3).

FIG.3



6. Fixing the gear-motor to the brackets

Fixing the gear-motor to the rear brackets. (FIG. 4).
Fixing the gear-motor to the front brackets (FIG. 5).



7. Manual override

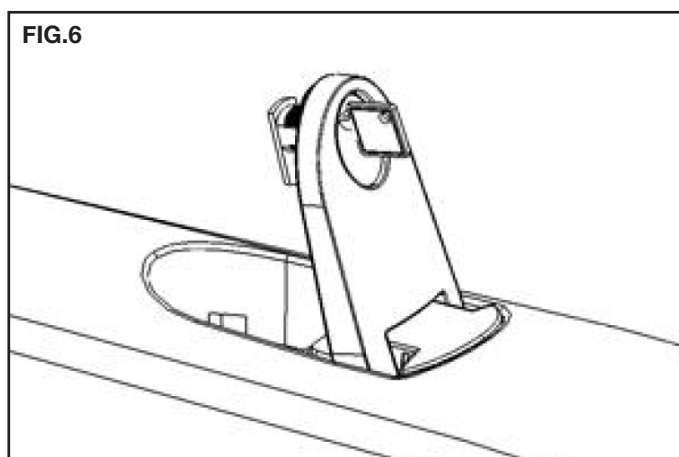
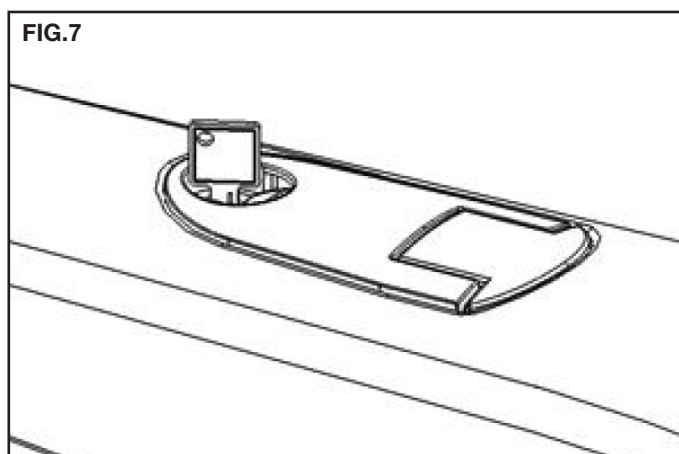
Before operating the manual override disconnect the power.

Manual override has been thought for manual opening of the gate in case of power-cut or motor breakdown.

- Insert the key in the cylinder lock and turn it of 90° clockwise direction.
- Pull the lever till it is perpendicular to the gear-motor

RESTORE

- Bring back the lever in the original position.
- Insert the key in the cylinder lock and turn it of 90° anticlockwise direction.



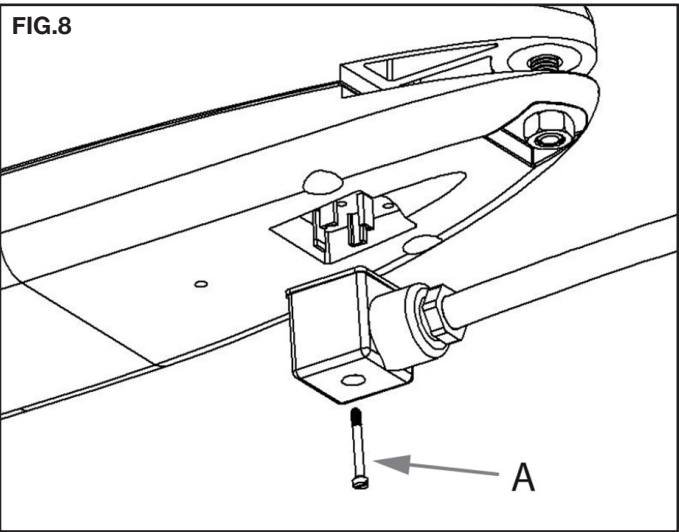
Electrical connection

⚠ CAUTION

- A wrong connection can cause faults or danger; therefore follow scrupulously the connections set out.
- Perform the connection operations when the electricity is off.

The actuator is provided with the assembled connector.

Disassemble the connector by unscrewing the screw “A”, then connect the wires according to the diagram below.



JET-24V	
	1 - MOTOR (+)
	2 - MOTOR (-)
	3 - NOT USED
	⏏ - GROUND

JET-230V	
	1 - PHASE 1
	2 - PHASE 2
	3 - COMMON
	⏏ - GROUND

To check the connections, direction of rotation of the motor, phase shift in the movement of the leaves and setting the limit switch, refer to the instructions manual of the control unit.

Stop adjustment

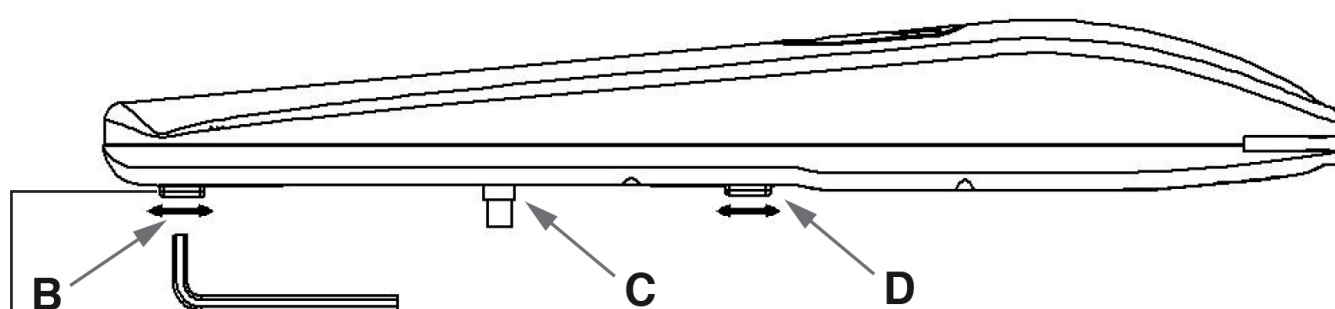
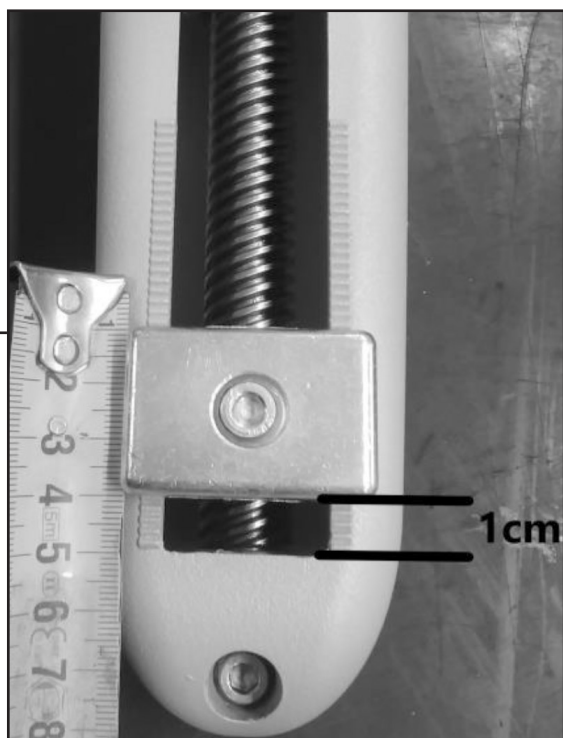
The mechanical-stop enables to stop the gate at a required position, avoiding the door to hit the stop devices.

- Set the gear-motor on manual override (FIG. 6).
- Twist off the screw of the mechanical-stop (B or D).
- Move the door to the desired opening/closing position.
- Place the mechanical-stop next to the sliding pin (C).
- Turn the screw tightly.
- Set the gear-motor on automatic functioning (FIG. 7).



WARNING: The gear-motors are normally provided with mechanical stop in open position. In case of lack of external mechanical stop in closing position, it is possible to buy the optional mechanical stop.

FIG.9



ATTENTION: the front mechanical stop must not be in contact with the engine cover. Keep a minimum distance of 1 cm

10. Testing the automation

In order to guarantee maximum safety, this is the most important phase in the realization of the automation. The test can also be used as a periodic check of the devices that make up the automatism.

The testing of the entire system must be performed by expert and qualified personnel who must take responsibility for the required tests, according to the present risk and verify compliance with the provisions of laws, regulations and standards, and in particular with all the requirements of the EN12445 standard which sets out the test methods to verify gate automatisms.

Testing

Every individual component of the automatism, for example safety edges, photocells, emergency stop, etc. requires a specific testing phase; for these devices, the procedures indicated in the respective instruction manuals must be carried out. To test the gear motor, carry out the following operations:

1. Check that all the provisions of this manual and in particular chapter 1 have been strictly adhered to;
2. Release the gear motor;
3. Verify that it is possible to manually move the opening and closing leaf with a force not exceeding 390 N (about 40kg);
4. Lock the gear motor and connect the power supply;
5. Using the control or stop devices provided (key selector, control buttons or radio transmitters), carry out tests to open, close and stop the gate and verify that its behaviour corresponds to what was expected;
6. Check one by one that all the safety devices present in the system (photocells, safety edges, emergency stop, etc.) work correctly; and that the gate's behaviour corresponds to what is expected;
7. Order a closing manoeuvre and check the force of the impact of the leaf against the stop of the mechanical limit switch. If necessary, try to relieve the pressure by finding an adjustment that gives better results;
8. If the dangerous situations caused by the movement of the leaf have been safeguarded by limiting the impact force, this force must be measured according to the provisions of the EN 12445 standard;

Note – The gear motor has no torque adjustment devices, therefore, this adjustment is entrusted to the control unit.

Commissioning

Commissioning can only take place after all the testing phases of the gear motor and the other devices have been successfully completed. For commissioning, refer to the instruction manual of the control unit.

! IMPORTANT – Partial or “temporary” commissioning is prohibited.

11. Maintenance

Regular maintenance is required to maintain a constant level of safety and to guarantee the maximum life of the entire automation.

Maintenance must be carried out in full compliance with the safety requirements of this manual and in accordance with the applicable laws and regulations. For the gear motor, scheduled maintenance is required within a maximum of 6 months.

Maintenance operations:

1. Disconnect all power sources.
2. Check the state of deterioration of all the materials that make up the automation with particular attention to the erosion or oxidation of the structural parts; replace the parts that do not give sufficient guarantees.
3. Check that screw connections are tightened properly.
4. Check the moving parts for wear and replace worn parts as required.
5. Reconnect the power supply sources and carry out all the tests and checks provided for in chapter 7.

For other devices in the system, refer to their instruction manuals.

12. Disposal

This product is an integral part of the automation, and therefore must be disposed of together with it.

As for the installation operations, even at the end of the product life, dismantling operations must be carried out by qualified personnel.

This product consists of various types of materials: some can be recycled, others must be disposed of. Ask about the recycling or disposal systems required by the regulations in force in your area, for this category of product.

! Warning! - some parts of the product may contain polluting or dangerous substances which, if dispersed in the environment, might cause harmful effects on both the environment and human health.

As indicated by the side symbol, it is forbidden to dispose of this product with household waste. Have it disposed of separately, according to the methods set out by the regulations in force in your country, or return the product to the seller when buying a new equivalent product.

! Warning! - local regulations may provide for heavy penalties for the illegal disposal of this product.



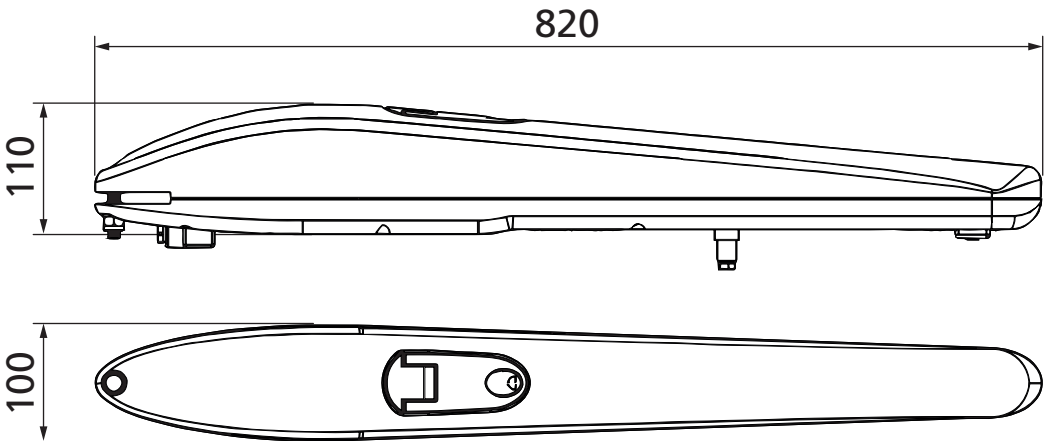
13. Technical features of the product

⚠ CAUTIONS:

- The technical features set out refer to an ambient temperature of 20°C (± 5°C).
- King-Gates reserves the right to make alterations to the product any time it deems it necessary, keeping the same functionality and destination of use.

AVAILABLE VERSIONS					
CODE	MOTOR	MECHANICAL LIMIT SWITCHES	FIXING KIT	PROTECTIVE BRUSHES	MAX LEAVES DIMENSION
JET 230 F	230 VAC	1	•		3 m; 600 kg
JET 24	24 VDC	1	•		3 m; 600 kg
JET 230 F TOP	230 VAC	2	•	•	3 m; 600 kg
JET 24 TOP	24 VDC	2	•	•	3 m; 600 kg

TECHNICAL FEATURES		
	JET 230 F (TOP)	JET 24 (TOP)
Power supply (Vac 50Hz)	230	230
Motor (Vac / dc)	230	24
Power (W)	200	50
Speed (m / sec)	0,16	0,13 ÷ 0,16
Stroke (mm)	360 (300)	360 (300)
Degree of protection (IP)	44	44
Gearmotor weight (kg)	8	7
Max leaf length (m)	3	3
Max leaf weight (kg)	600	600
Working cycle (%)	30	90
Gearmotor dimensions (mm)	820x100x110h	820x100x110h
Operating temperature (° C)	-20 ÷ +55	-20 ÷ +55



14. EU Declaration of conformity and declaration of incorporation of partly completed machine

**Declaration in accordance with Directives:
2014/35/UE (LVD); 2014/30/UE (EMC);
2006/42/CE (MD) ANNEX II, PART B**

The manufacturer V2 S.p.A., headquarters in Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italy

Under its sole responsibility hereby declares that:

the partly completed machinery model(s):
JET 24, JET 230

Description: electromechanical actuator for gates

- is intended to be installed on gates, to create a machine according to the provisions of the Directive 2006/42/EC. The machinery must not be put into service until the final machinery into which it has to be incorporated has been declared in conformity with the provisions of the Directive 2006/42/EC and 89/106/CE.
- is compliant with the applicable essential safety requirements of the following Directives:
Machinery Directive 2006/42/EC (annex I, chapter 1)
Low Voltage Directive 2014/35/EU
Electromagnetic Compatibility Directive 2014/30/EU
Directive ROHS-3 2015/863/UE

The relevant technical documentation is available at the national authorities' request after justifiable request to:
V2 S.p.A., Corso Principi di Piemonte 65, 12035,
Racconigi (CN), Italia

The person empowered to draw up the declaration and to provide the technical documentation:

Sergio Biancheri

Legal representative of V2 S.p.A.
Racconigi 01/06/2020

