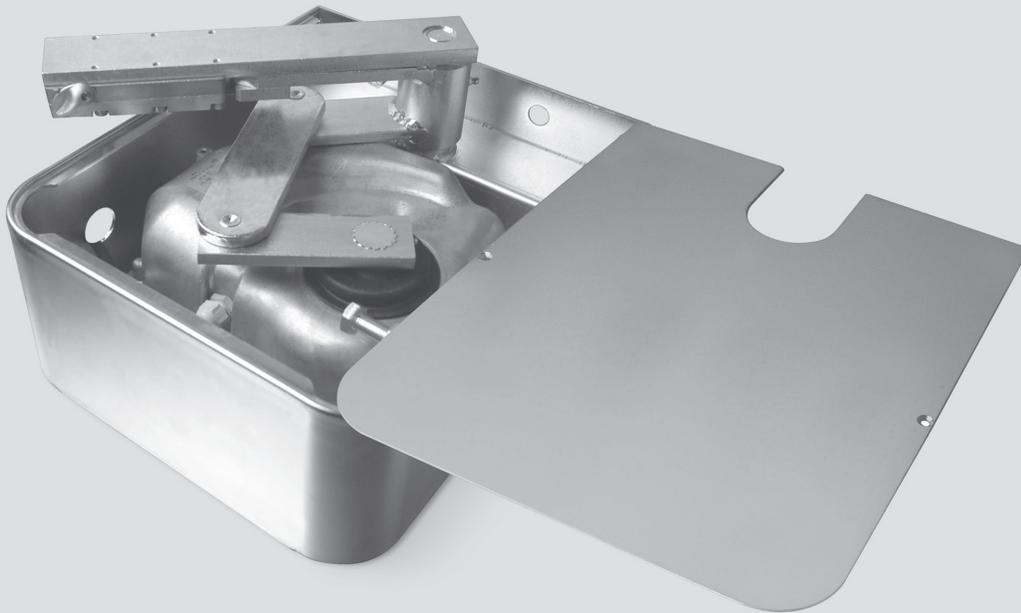


CE

For swing gates



Metro

Instructions and warnings for the fitter

Istruzioni ed avvertenze per l'installatore

Instructions et recommandations pour l'installateur

Anweisungen und Hinweise für den Installateur

Instrucciones y advertencias para el instalador

Instrukcje i uwagi dla instalatora

Instructies en waarschuwingen voor de gebruiker

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=

Nice

Warnings

This manual contains important information regarding safety. Before you start installing the components, it is important that you read all the information contained herein. Store this manual safely for future use. Due to the dangers which may arise during both the installation and use of the METRO, installation must be carried out in full respect of the laws, provisions and rules currently in force in order to ensure maximum safety. This chapter provides details of general warnings. Other, more specific warnings are detailed in Chapters “2.1 Preliminary Checks” and “5 Testing and Commissioning”.

According to the most recent European legislation, the production of automatic doors or gates is governed by the provisions listed in Directive 98/37/CE (Machine Directive) and, more specifically, to provisions: EN 12445, EN 12453 and EN 12635, which enable manufacturers to declare the presumed conformity of the product.

Please access “www.niceforyou.com” for further information, and guidelines for risk analysis and how to draw up the Technical Documentation.

- This manual has been especially written for use by qualified fitters. Except for the enclosed specification “Instructions and Warnings for Users of the METRO gearmotor” which is to be removed by the installer, none of the information provided in this manual can be considered as being of interest to end users!
- Any use or operation of METRO which is not explicitly provided for in these instructions is not permitted. Improper use may cause damage and personal injury.
- Risk analysis must be carried out before starting installation, to include the list of essential safety requisites provided for in Enclosure I of the Machine Directive, indicating the relative solutions employed.

N.B. Risk analysis is one of the documents included in the “Technical Documentation” for this automation.

- Check whether additional devices are needed to complete the automation with METRO based on the specific application requirements and dangers present. The following risks must be considered: impact, crushing, shearing, dragging, etc. as well as other general dangers.
- Do not modify any components unless such action is specified in this manual. Operations of this type are likely to lead to malfunctions. NICE disclaims any liability for damage resulting from modified products.
- During installation and use, ensure that solid objects or liquids do not penetrate inside the control unit or other open devices. If necessary, please contact the NICE customer service department; the use of METRO in these conditions can be dangerous.
- The automation system must not be used until it has been commissioned as described in chapter 5: “Testing and commissioning”.
- The packing materials of METRO must be disposed of in compliance with local regulations.
- If a fault occurs that cannot be solved using the information provided in this manual, refer to the NICE customer service department.
- In the event that any automatic switches are tripped or fuses blown, you must identify the fault and eliminate it before resetting the switches or replacing fuses.
- **Before accessing the METRO connection terminals, disconnect all power circuits.** If the disconnection device is not identifiable, post the following sign on it: “WARNING: MAINTENANCE WORK IN PROGRESS”.

1) Product Description

METRO is a gearmotor designed for the automation of single-leaf or double-leaf gates.

⚠ Any applications other than those described above or under different conditions from those specified in this manual are forbidden.

METRO operates with electric power. In the event of a power failure, the gearmotor can be released using suitable keys in order to move the leaves manually.

2) Installation

2.1) Preliminary Checks

Before proceeding with the installation, make sure that the structure is suitable and that it complies with the regulations in force. In particular, you need to make sure that:

- there are no points of friction in the opening and closing travel of the gate;
- the gate is well balanced, i.e., once it is stopped in any position it should not show a tendency to start moving again;
- the gate opens and closes smoothly and noiselessly;
- the area selected for gearmotor installation enables easy and safe manual manoeuvring;

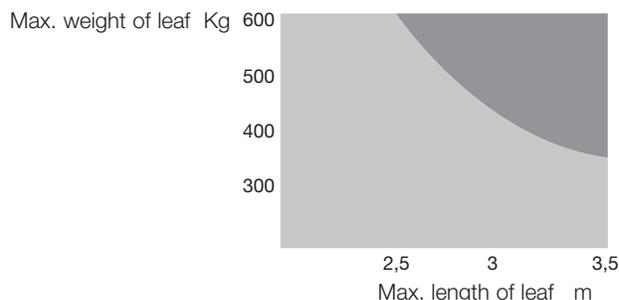
- check the integrity of the package
- make sure that the mounting area is compatible with the dimensions of the box (**fig.1**)
- provide a closing strike and, if possible, also an opening strike.

⚠ Please keep in mind that METRO is designed to drive an efficient, safe gate (with one or two leaves), and is not intended to make up for defects resulting from improper installation or poor maintenance.

2.2) Operating Limits

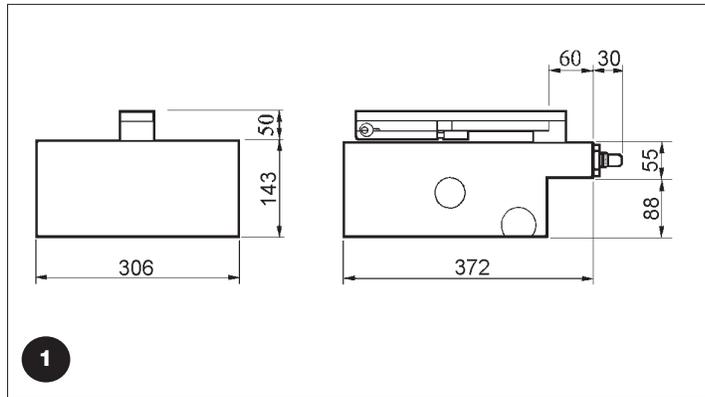
The shape and height of the gate (e.g. blind) and the weather conditions (e.g. strong winds) may significantly reduce the values shown in the chart.

* If any of the gate leaves is wider than 2.5 metres, we recommend the installation of an electric lock (PLA10 or PLA11).

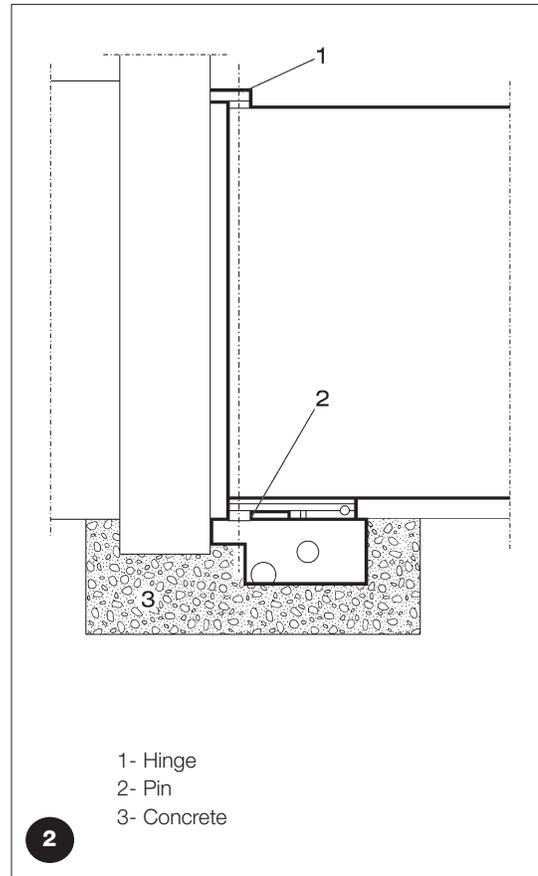


3) Mounting

3.1) Overall Dimensions and Positioning of Foundation Box



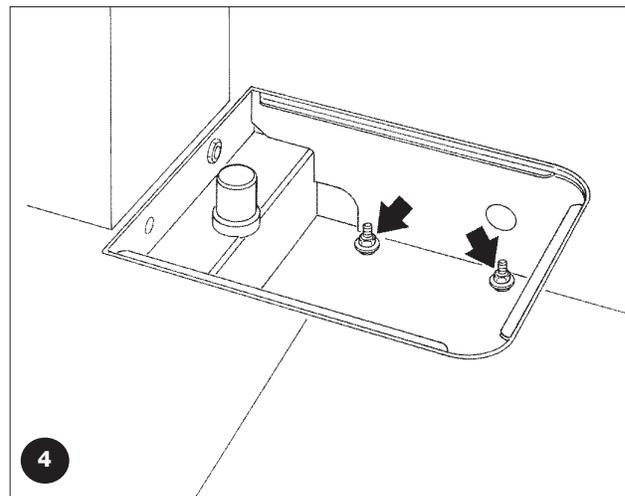
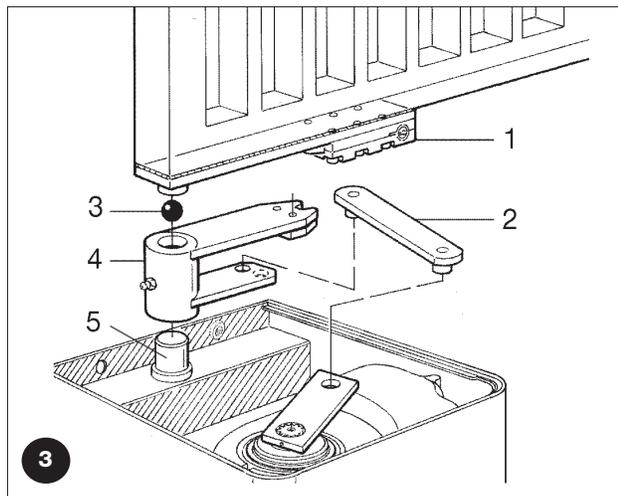
1. Excavate the foundation hole based on the overall dimensions; provide good drainage in order to prevent water stagnation.
2. Fasten the accessory for the opening limit switch to the box (see paragraph 4), carefully observing the directions and measurements shown in the figure to avoid incorrect installation
3. Place the box inside the foundation hole; the stud must be aligned with the axis of the hinge (**fig. 2**)
4. Provide a duct for the electrical cables and a drainage pipe.
5. Bury the foundation box in concrete, making sure it is set level.
6. Mount the control bracket on the box's stud along with the ball.
7. Set the gate leaf on the release lever and weld them securely.
8. Grease using a suitable grease nozzle.



- 1- Hinge
- 2- Pin
- 3- Concrete

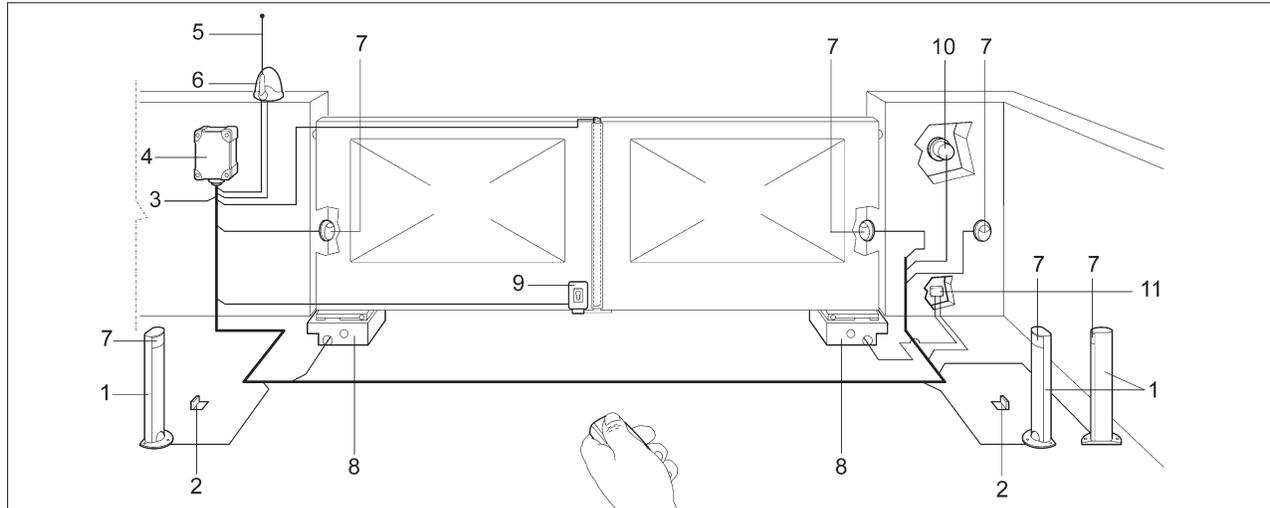
3.2) Installation of METRO Gearmotor

1. Remove the nuts and washers shown in the figure on the right (**fig. 4**).
2. Place the gearmotor inside the foundation box making sure it faces the correct direction.
3. Slide the bracket for the closing limit switch into the appropriate hole (paragraph 4).
4. Secure the gearmotor using the grower washers and the 4 self-locking nuts found in the accessories box.
5. Connect the gearmotor to the gate by means of the connecting lever (2) (**fig. 3**).



- 1 Release lever
- 2 Connecting lever
- 3 Ball
- 4 Control bracket
- 5 Pin

3.3) Typical System



- | | | |
|-------------------------------------|----------------------------|--|
| 1 Photocell post. | 5 Aerial. | 9 Vertical electric lock. |
| 2 Pair of opening stops. | 6 Flashing light. | 10 Key-operated selector switch or digital keypad. |
| 3 230V line. | 7 Photocell. | 11 Connector block (not supplied). |
| 4 Control panel (electrical panel). | 8 Box with METRO actuator. | |

3.4) Electrical Connections

For ME3000 and ME3010 connect the cables as follows:

- Black = "open" phase
- Brown = "close" phase
- Blue = Common
- Yellow/Green = ⊕

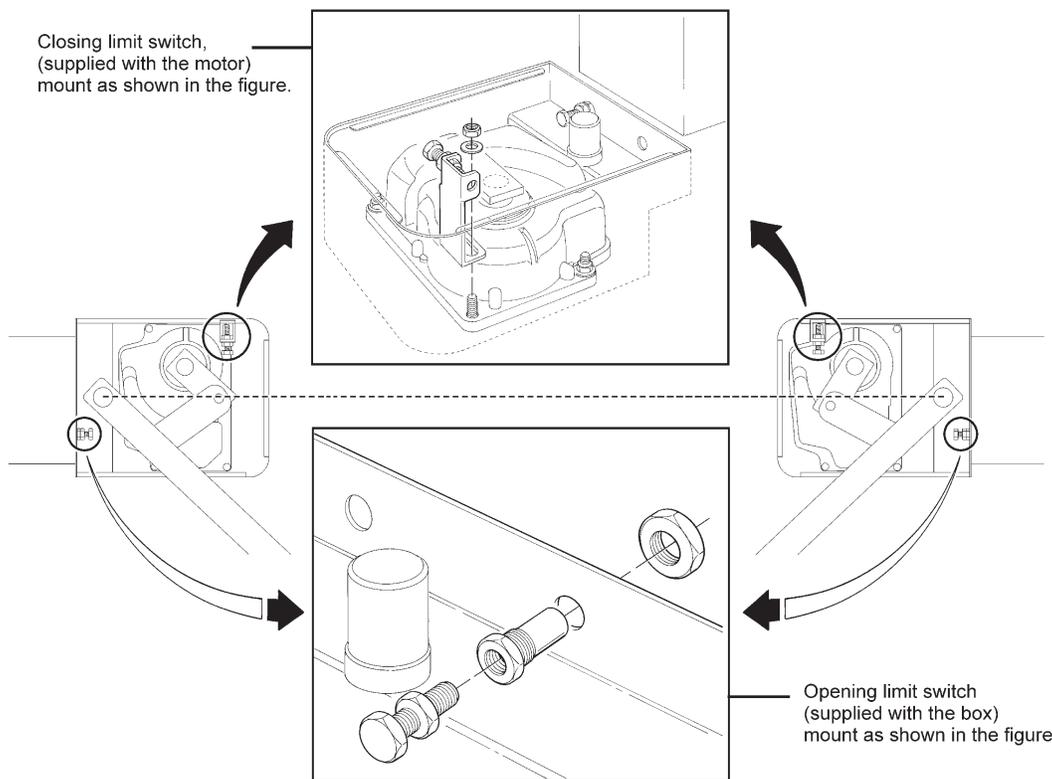
For ME3024 connect the cables as follows:

- Blue = Motor power supply
- Brown = Motor power supply
- Black = Encoder
- Grey = Encoder
- Yellow/Green = ⊕

⚠ The motors are equipped with a 2-meter cable.

Making junctions inside the box IS FORBIDDEN. For any connections use only the appropriate connector block (not included) in order to ensure the safety of the system.

4) Position of Limit Switches



5) Testing and commissioning

Testing of the entire system must be conducted by experienced and qualified personnel, who must establish what tests are necessary depending on the risks involved. To test METRO proceed as follows:

- close the gate;
- disconnect the power supply to the control unit;
- release the gearmotor from the gate leaf as shown in paragraph "Manual release device (Key and Lever-Operated Release)" in Chapter "Instructions and Warnings for Users of the METRO Gearmotor".
- open the gate manually all the way;
- make sure the gate opens and closes smoothly without any points of friction;
- make sure that the gate, when stopped in any position and

released, does not display a tendency to start moving again;

- make sure that the safety systems and mechanical stops are in good working order;
- make sure that the screw connections are properly tightened;
- clean the inside of the box and make sure that the drain operates properly;
- when all the checks have been completed, re-connect the gearmotor and power the control unit;
- METRO is not equipped with any torque adjustment device, therefore this operation is performed by the control unit;
- measure the impact force as provided by the EN12453 and EN12445 standards.

6) Maintenance

METRO does not require any special maintenance; however, routine checks conducted every six months at least will ensure the long life of the gearmotor as well as the correct and safe operation of the system.

Maintenance consists simply in repeating the testing procedure.

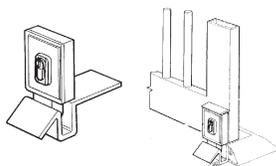
6.1) Disposal

METRO is made out of various types of materials, which must be disposed of in compliance with the regulations locally in force. The system can be dismantled and scrapped without any risks arising out of the automation itself.

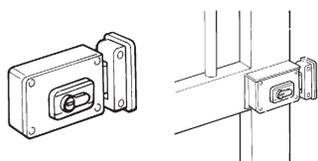
If sorted waste disposal is required, the materials should be separated according to their type (electrical, aluminium, plastic parts, etc.).

7) Accessories On Request

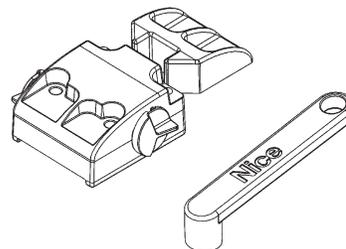
PLA10 Vertical electric lock 12 Vac



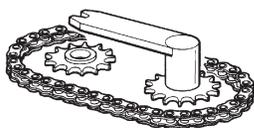
PLA11 Horizontal electric lock 12 Vac



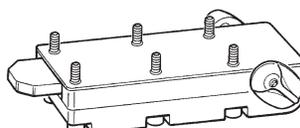
MEA3 Lever-operated release mechanism



MEA1 360° opening device



MEA2 Key-operated release mechanism



8) Technical Characteristics

Nice S.p.a., in order to improve its products, reserves the right to modify their technical characteristics at any time without prior notice. In any case, the manufacturer guarantees their functionality and fitness for the intended purposes. All the technical characteristics refer to a room temperature of 20°C (±5°C).

Models and Characteristics

	Unit of measurement	ME3000	ME3010	ME3000L	ME3000/110	ME3024
Power supply	(Vac-Hz) (Vdc)	230V-50Hz	230V-50Hz	230V-50Hz	110V-60Hz	24
Absorbed current	(A)	1.2	1.2	1.3	2.4	5
Absorbed power	(W)	250	250	300	250	120
Incorporated capacitor	(uF)	10	10	10	30	
Protection class	(IP)	67	67	67	67	67
Speed	(Rpm)	1.14	1.14	0.8	1.4	1.4
Torque	(Nm)	300	300	250	300	250
Operating temperature	(°C Min/Max)	-20° ÷ +50°	-20° ÷ +50°	-20° ÷ +50°	-20° ÷ +50°	-20° ÷ +50°
Thermal protection	(°C)	140°	140°	140°	140°	
Work cycle	(%)	30	40	30	30	80
Weight	(Kg)	11	11.5	11	11	11

Congratulations on choosing a Nice product for your automation system!

Nice S.p.A. produces components for automating gates, doors, shutters and awnings: gear motors, control units, radio control units, flashing lights, photocells and accessories.

Nice only uses first rate materials and production processes and constantly develops innovative technical, aesthetic and ergonomic solutions in order to make its products as simple to use as possible: your fitter will certainly have chosen the most suitable article for your requirements from the large range of Nice products. Nice however, is not the producer of your automated system as this is the result of a process of analysis, evaluation, choice of materials and installation performed by your fitter.

Each automated system is unique and only your fitter has the experience and professionalism required to create a system that is tailor-made to your requirements, featuring long-term safety and reliability, and, above all, professionally installed and compliant with current regulations.

An automated system is handy to have as well as being a valid security system. Just a few, simple operations are required to ensure it lasts for years.

Even if your automated system satisfies regulatory safety levels, this does not eliminate "residue risks", that is, the possibility of dangerous situations being generated, usually due to irresponsible or incorrect use. For this reason we would like to give you some suggestions on how to avoid these risks:

- **Before using your automated system** for the first time, ask your fitter to explain how residue risks can arise and spend a few minutes reading the **instructions and warnings for the user** handbook that the fitter will have given you. Keep this manual for future use and, if you should ever sell your automated system, hand it over to the new owner.
- **Your automated system is a machine which carries out your commands to the letter;** irresponsible or incorrect use may cause it to become dangerous: do not move the automated system if animals or objects are in its working radius.
- **Children:** an automated system ensures a high level of safety as it always offers reliable and safe operation and its detection systems stop it from moving in the presence of people or objects. However, children should not be allowed to play near it. Do not let them accidentally use the system by leaving the remote control unit within their reach: **it is not a toy!**
- **Faults.** If you notice any abnormal behaviour, disconnect the system from the electricity supply immediately and perform the manual release operation. Do not attempt to make repairs yourself but call in your fitter: in the meantime the system can work as a non-automated gate once the gear motor has been released as described further on.
- **Maintenance.** Just like all machines, your automated system requires periodic maintenance to ensure it works as long as possible and in total safety. Agree on a routine maintenance plan with your fitter; Nice recommends a visit once every six months for normal residential use but this period can vary depending on how often the system is used. All controls, maintenance work or repairs may only be carried out by qualified personnel.
- Do not modify the system or its programming and adjustment parameters even if you think you can do it: your fitter is responsible for this.
- Final testing, routine maintenance and any repairs must be documented by the fitter and such documents kept by the owner of the system.
- **Disposal.** At the end of the life of the automatic system, make sure that it is demolished by qualified personnel and that the materials are recycled or disposed of according to local regulations.
- **In case of breakage** or during a power failure. While waiting for your fitter to call (or power to come on again if the system does not have buffer batteries), the system can be used just like any other manual opening system. To do this, perform the manual release operation: this can be done by the user and Nice has made it as easy as possible, without the need for tools or physical effort.



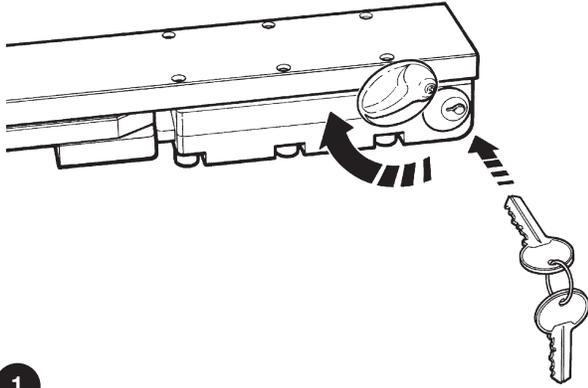
Manual Manoeuvre (Key and Lever-Operated Release)

Perform the manual operation in the event of a power failure or system malfunction.

MEA2 Type KEY-Operated Release (fig. 1)

- A Pull down the lock cover as shown in the figure.
- B Insert the key and rotate it 90° clockwise.
- C Move the gate manually (fig.3).

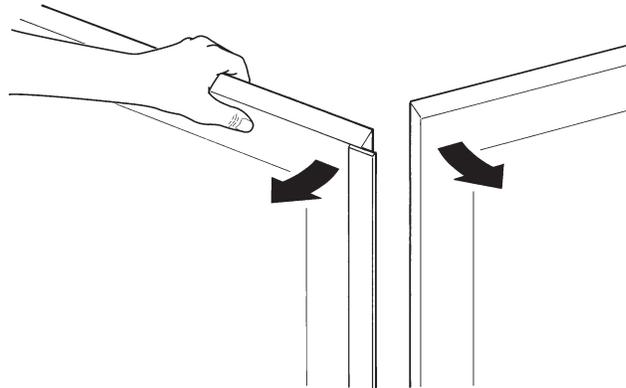
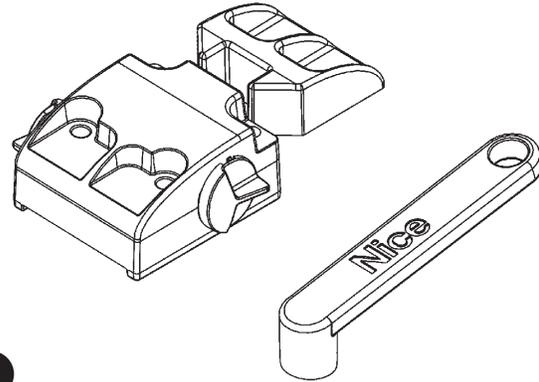
⚠The system will revert to automatic operation upon the first electrical manoeuvre.



MEA3 Type Lever-Operated Release (fig. 2)

- A Pull down the lock cover as shown in the figure.
- B Insert the lever and rotate it 90° clockwise.
- C Move the gate manually (fig.3).

⚠The system will revert to automatic operation upon the first electrical manoeuvre.



Are you satisfied? If you wish to add a new automated system to your house, contact your fitter and we at Nice will provide the advice of a specialist, the most developed products on the market, leading-edge operativeness and maximum compatibility.

Thank you for reading these suggestions and we trust you are fully satisfied with your new system: please contact your fitter for all your current or future requirements.