



Ditec DOR

Folding doors operator

[Original instructions]

IP1783EN
Technical Manual

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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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1. General safety precautions



**Failure to respect the information given in this manual
may cause personal injury or damage to the device.**

Keep these instructions for future reference

This installation manual is intended for qualified personnel only.

Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with Good Working Methods and in compliance with the current regulations. Read the instructions carefully before installing the product.

Bad installation could be dangerous.



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

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

Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard.

Before installing the motorisation device, make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas.

Make sure the existing structure is up to standard in terms of strength and stability. The motorisation device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorised, or for any deformation 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 motorised door or gate.

The safety devices must protect against crushing, cutting, trapping and general danger areas of the motorised door or gate.

Display the signs required by law to identify hazardous areas.

Each installation must bear a visible indication of the data identifying the motorised door or gate.

When necessary, connect the motorised door or gate to an effective earthing system that complies with the current safety standards.



During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.

The automation protection casing must be removed by qualified personnel only.

The electronic parts must be handled using earthed antistatic conductive arms. The manufacturer of the motorisation declines all responsibility if component parts not compatible with safe and correct operation are fitted.

Only use original spare parts for repairing or replacing products.



The installer must supply all information concerning the automatic, manual and emergency operation of the motorised door or gate, and must provide the user with the operating instructions.

2. Declaration of incorporation of partly completed machinery

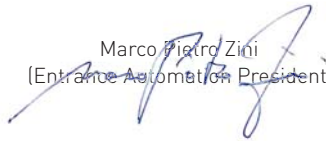
Directive 2006/42/EC, Annex II-B)

The manufacturer Entrematic Group AB, with headquarters in Lodjursgatan 10, SE-261 44 Landskrona, Sweden, declares that the automation for folding doors type Ditec DOR:

- is designed to be installed on a manual gate to form a machine pursuant to Directive 2006/42/EC. The manufacturer of the motorised gate must declare conformity with Directive 2006/42/EC (annex II-A) prior to initial machine start-up;
- conforms to the 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;
- conforms to the R&TTE Directive 1999/5/EC;
- the technical documentation conforms to Annex VII-B of the Directive 2006/42/EC;
- the technical documentation is managed by Marco Pietro Zini with headquarters 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.

Landskrona, 13-01-2013

Marco Pietro Zini
(Entrance Automation President)



2.1 Machinery Directive

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

- prepare the technical data sheet which must contain the documents indicated in Annex V of the Machinery Directive;
(The technical data sheet must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorised 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 motorised door or gate, in accordance with point 1.7.3 of Annex I of the Machinery Directive;
- ensure compliance of the motorised door or gate with safety regulations, by installing the necessary safety devices;
- refer to the installation manual of control panel for the operating force adjustments, in compliance with EN12453 and EN12445.

3. Technical data

	DOR1BH	DOR1BHS
Power supply	24 V $\overline{\text{AC}}$	24 V $\overline{\text{AC}}$
Absorption	12 A	12 A
Torque	300 Nm	300 Nm
Max. door weight	500 kg	500 kg
Max. door width	1,5 m + 1,5 m	1,5 m + 1,5 m
Revolution transmission shaft	2,5 RPM	2,5 RPM
Service class	4 - INTENSIVE	4 - INTENSIVE
Intermittence	S2 = 30 min S3 = 50%	S2 = 30 min S3 = 50%
Temperature	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
Degree of protection	IP44 IPX4 with limit switch	IP55 IPX5 with limit switch
Control panel	VIVAH	VIVAH

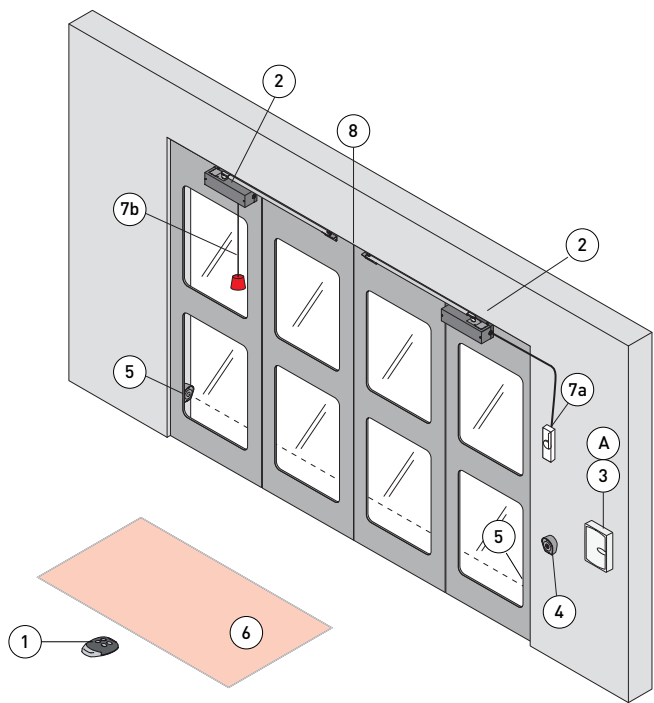
3.1 Operating instructions

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

Use: INTENSIVE (For all special applications with ongoing use such as toll gates and so on).

- 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

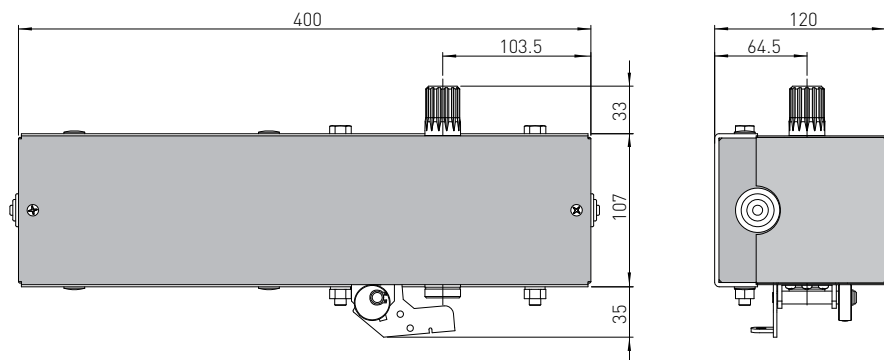


Ref.	Code	Description
1	GOL4	Transmitter
2	DOR1BH	Gearmotor
	DOR1BHS	Gearmotor water and dustproof
3	VIVAH	Control panel
4	XEL5	Key selector
	GOL4M	Codified via radio control keyboard
5	XEL2	Photocells
	LAB4	Photocells IP55
6	LAB9	Magnetic loop detection device for traffic monitoring
7A	DEB04	Key release handle
7B		Release cord
8	SOFA-SOFB	Safety edge
	GOPAV	Radio system for safety edges
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.

4.1 Dimensions



5. Installation

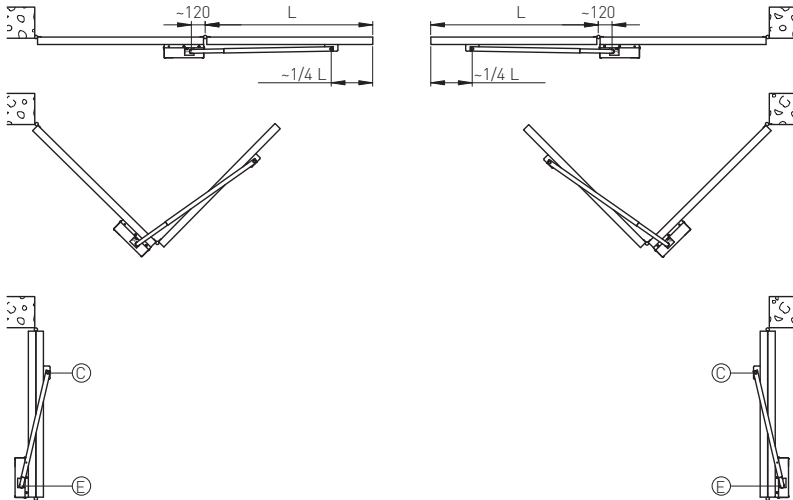
Unless otherwise specified, all measurements are expressed in millimetres (mm).

5.1 Preliminary checks

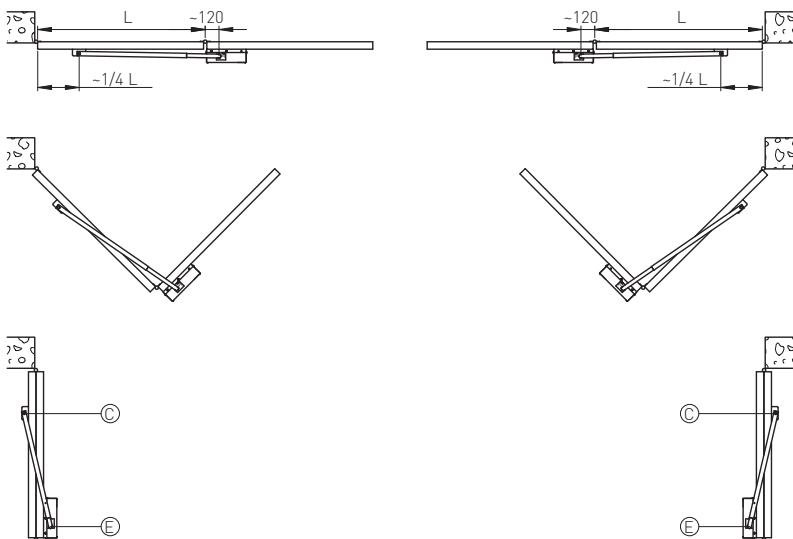
Check that the structure is sufficiently rugged and that the hinge pivots are properly lubricated.
Provide an opening and closing stop.

Select installation mode.

Geared motor concealed left or right

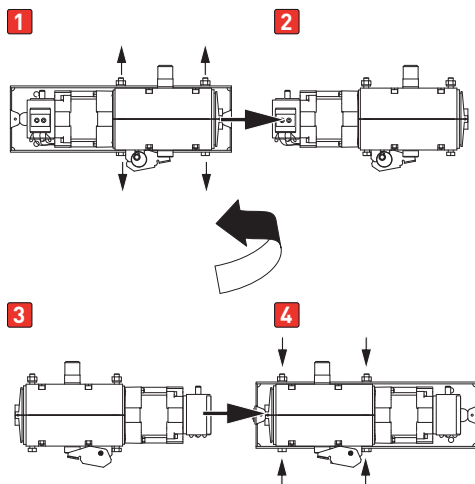


Geared motor exposed left or right

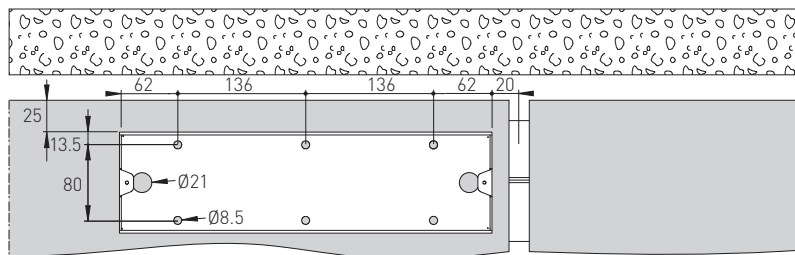


5.2 Geared motor installation

- To reverse installation of the Dor from left to right, proceed as shown in figure.

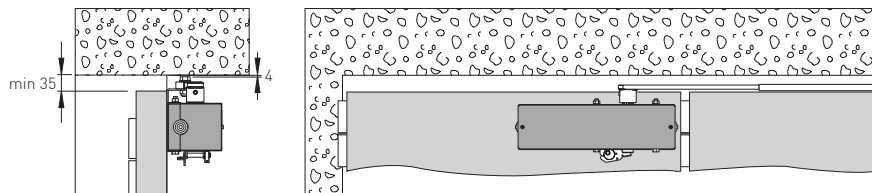


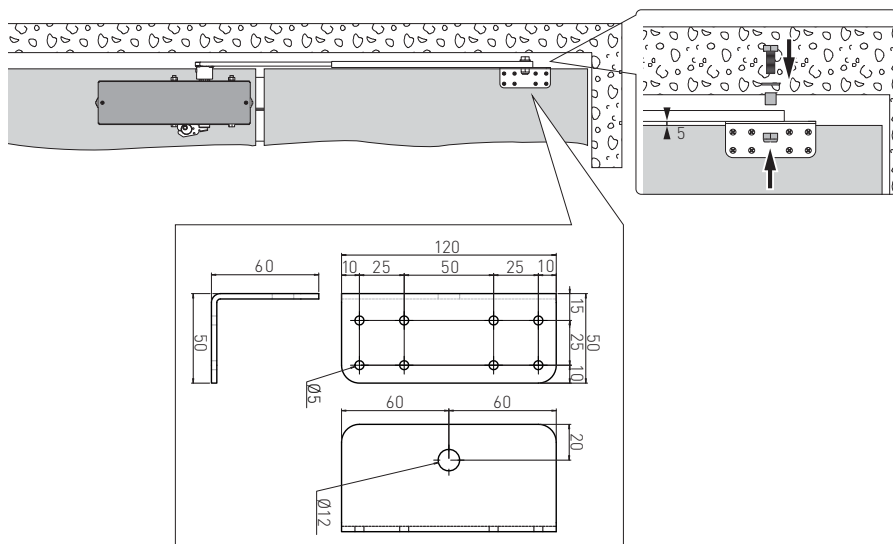
- Secure the mounting plate to the wing as shown in figure.



- Install the geared motor on to the mounting plate.

ATTENTION: The geared motor shaft must always be turned upwards, facing the hinge between the two wings.

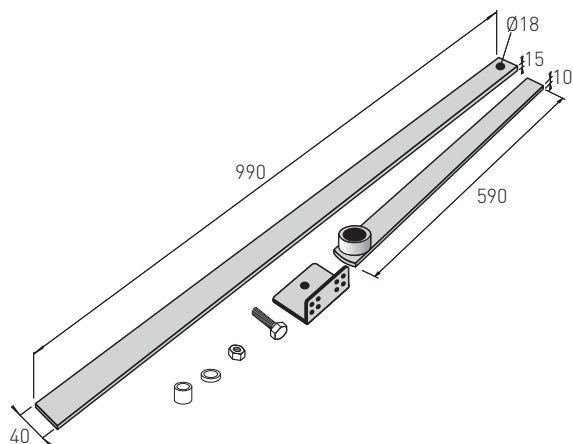




- With the door open determine the mounting position of the arm on the wing, see figure on page 8.
- Shorten the tube and if necessary the rod depending on the previously determined mounting positions (geared motor shaft [E] and wing [C]).

WARNING: after the tube has been fit in all the way, ensure that it does not knock against the rod's bush or that the rod's head does not knock against the screw that secures it to the wing (min. 5 mm).

- Mount the arm DORBD and lubricate the rod.



- Release the geared motor by pulling the cord and securing it in the release position (see RELEASE INSTRUCTION).
- Perform a manual maneuver to ensure that the movement is devoid of obstacles or friction and that the arm stays horizontal.
- Re-lock the geared motor.

5.3 Limit switch installation and adjustment (optional)

- Connect the limit switch wire fastons to the microswitches. Arrange the limit switch wires neatly inside the microswitch box [1] and route the wire out through the appropriate opening.
- Fit the two cams [3] on to the cam ring without tightening the screws.
- Install the cam ring on the driving shaft and screw down screw [4] without tightening.
- Secure the microswitch box [1] to the geared motor.
- (Fig. 2-3) With gate closed, manually rotate the cam ring [2] so as to have the closing microswitch pressed down and the opening microswitch released. Firmly secure the cam ring in this position by means of screw [4].

WARNING: check that between the geared motor and the limit switch cams there is a gap of at least 1 mm.

- (Fig. 2-3) With gate open, check that the opening microswitch is pressed down.

NOTE: if the opening microswitch is not pressed down, move the cam on to hole [A].

- Upon setting being completed, tighten the cam screws.
- Connect limit switches as shown in fig. 2 (for motors opening clockwise) or in fig. 3 (for motors opening anticlockwise).

NOTE: follow VIVAH control panel instructions manual to connect.

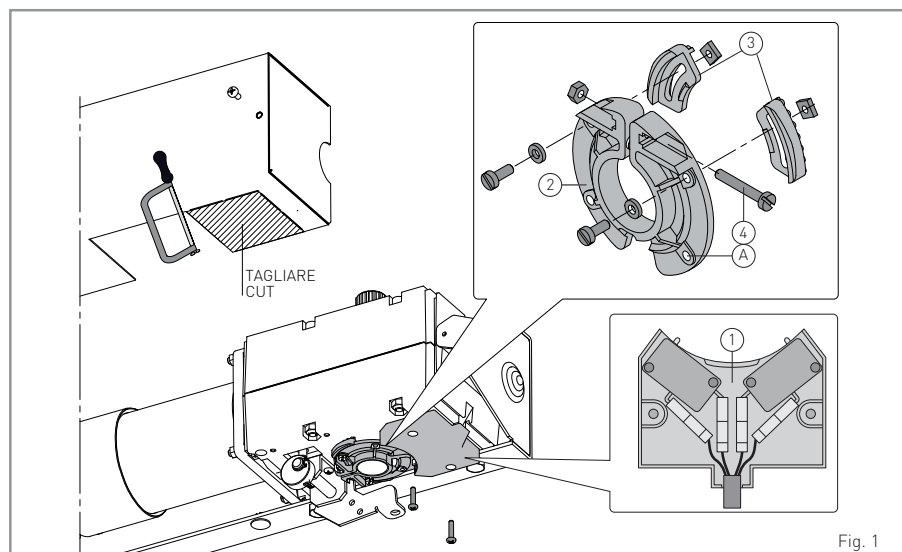


Fig. 1

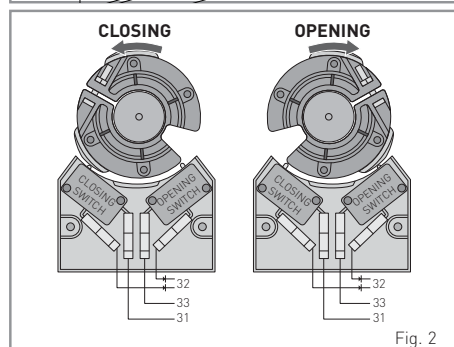


Fig. 2

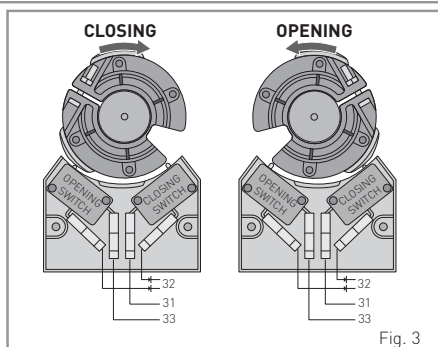


Fig. 3

6. 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.

The electrical connections and starting of the DOR gearmotor are illustrated in the VIVAH control panel installation manual.

7. 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:

- Clean and lubricate the gate's rotation pins and hinges with neutral grease.
- Check the resistance of the fixing points.
- Check the good conditions of the electric connection.
- Check the value of the capacity of the motor capacitor.

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

- Check the power adjustment.
- Check that all commands and safety functions are operating correctly (photocells).
- Check that the release system is working correctly.
- Check that the batteries are working correctly (in continuity) if the VIVAH control panel with battery kit is present, by switching off the power supply and performing several manoeuvres.



WARNING: For spare parts, see the spares price list.

Operating instructions

General safety precautions for the user

 These 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 motorised door or gate while it is moving.

Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

The motorised door or gate may be used by children over the age of 8 and by people with reduced physical, sensorial or mental abilities, or lack of experience or knowledge, as long as they are properly supervised or have been instructed in the safe use of the device and the relative hazards.

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

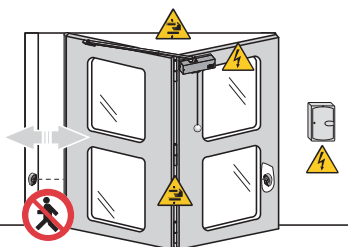
Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

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

Any repair or technical intervention must be carried out by qualified personnel.

Cleaning and maintenance work



must not be carried out by children unless they are supervised.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. 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.

Only lock and release the door wings when the motor is switched off.

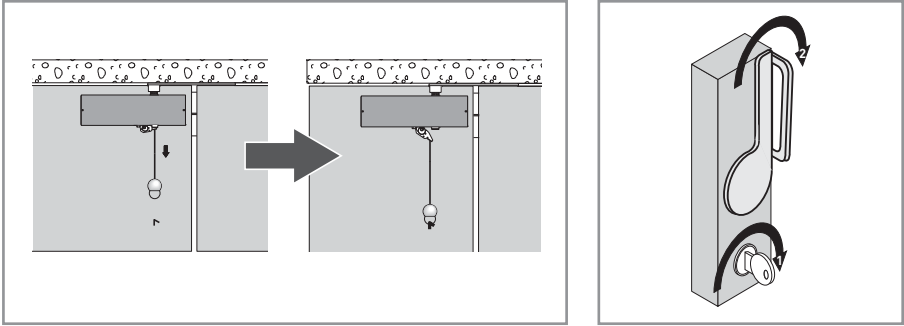
Do not enter within the operating range of the wing.



To dispose of electrical and electronic equipment correctly, users must take the product to special "recycling centres" provided by the municipal authorities.

Manual release instructions

In case of faulty operation or power failure, pull the release cord downwards and secure it by means of the appropriate ring (when the DEB04 handle is present work on it). To return to normal operation, release the ring and leave the cord free. The release pin will automatically return to the lock position.



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



For any problems and/or information, contact the Technical Service.

Installer's stamp	Operator
	Date of intervention
	Technician's signature
	Customer's signature

Intervention performed _____

ENTRE//MATIC



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