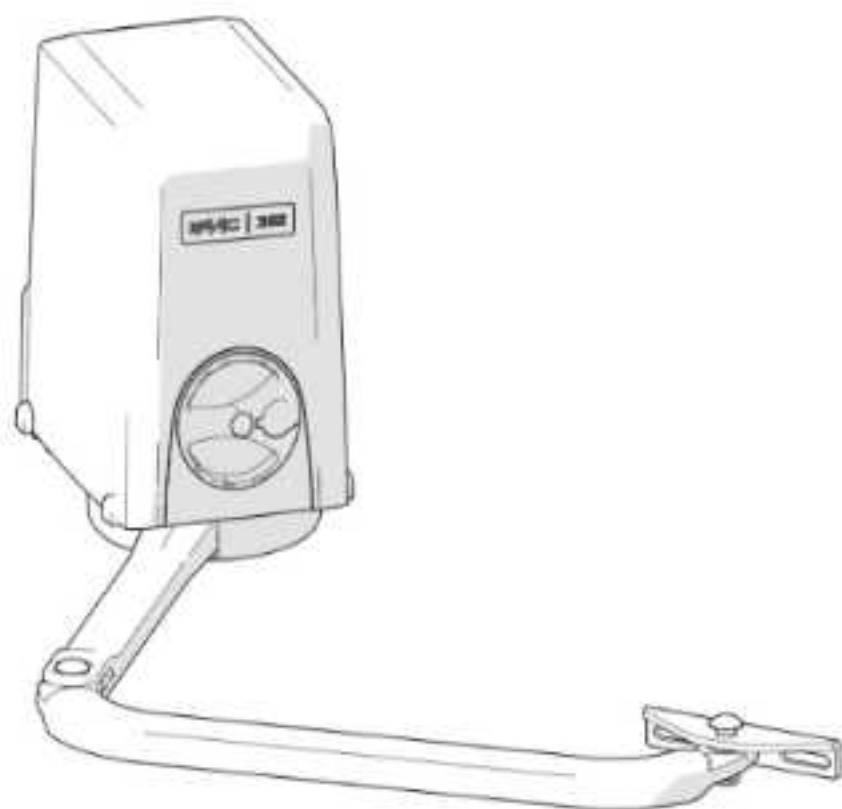


392 - 392 C

EN



FAAC

FAAC

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EN

Translation of the original instructions

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1. INTRODUCTION TO THE INSTRUCTION MANUAL

This manual provides the correct procedures and requirements for installing 392 - 392 C and maintaining it in a safe condition.

In Europe, the automation of a gate falls under the Machinery Directive 2006/42/EC and the corresponding harmonised standards. Anyone automating a gate (new or existing) is classified as the Manufacturer of the Machine. They are therefore required by law, among other things, to carry out a risk analysis of the machine (automatic gate in its entirety) and take protective measures to fulfil the essential safety requirements specified in Annex I of the Machinery Directive.

FAAC S.p.A. recommends that you always comply with the EN 12453 standard and in particular that you adopt the safety criteria and devices indicated, without exception, including the dead-man function.

This manual contains references to European standards. The automation of a gate must fully comply with any laws, standards and regulations applicable in the country where installation will take place.



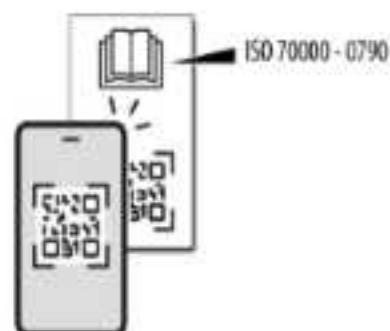
Unless otherwise specified, the measurements provided in the instructions are in mm.

SAFETY WARNINGS FOR THE INSTALLER

Before starting the installation, read and comply with the "Safety warnings for the installer" booklet supplied with the product, and these installation instructions. Keep all the printed documentation provided.

ONLINE INSTRUCTIONS

When you receive your goods, to go directly to the specific instructions page for the product, scan the QR code associated with the ISO 70000 - 0790 icon on the product.



MEANING OF THE SYMBOLS USED

NOTES AND WARNINGS ON THE INSTRUCTIONS



WARNING - Details and specifications which must be respected in order to ensure that the system operates correctly.



RECYCLING AND DISPOSAL - The materials used in manufacturing, the batteries and any electronic components must not be sent to landfill. They must be taken to authorised recycling and disposal centres.



FIGURE E.g.:  1-3 see Figure 1 - Item 3.



TABLE E.g.:  1 see Table 1.



CHAPTER/SECTION E.g.: § 1.1 see section 1.1.

2. 392 - 392 C

2.1 UNPACKING AND HANDLING

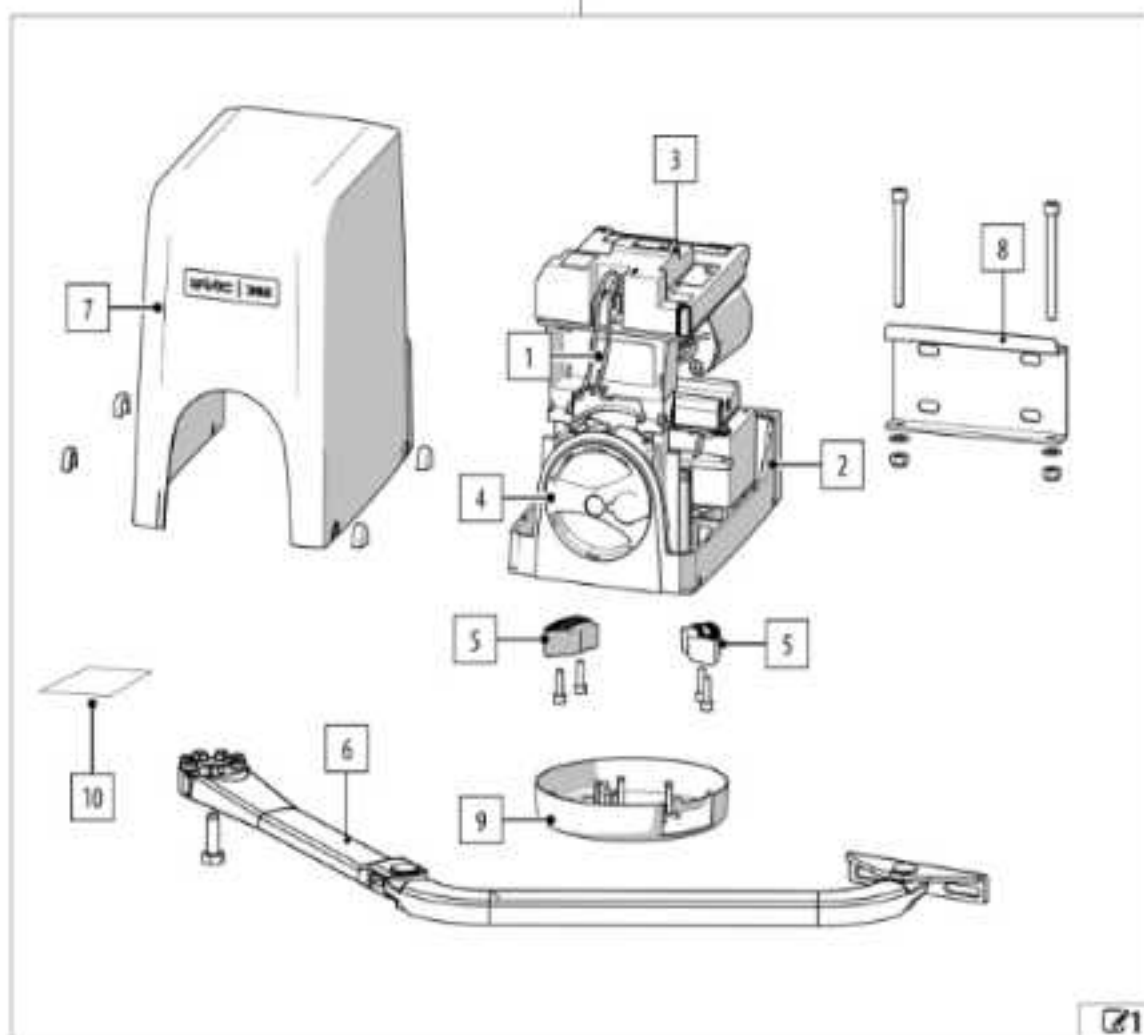
1. Open the package
2. Remove the transmission arms (6).
3. Remove the box of accessories.
4. Use both hands to lift and remove the actuator body from the packaging.

i Do not lift the actuator by its cover.

5. Check that all components are present and intact.

1 Components

- 1 Actuator
- 2 Transformer
- 3 Electronic board E034 (only 392 C)
- 4 Release device
- 5 Mechanical stops
- 6 Transmission arms
- 7 Casing
- 8 Rear bracket
- 9 Lower casing
- 10 Supplied documentation



2.2 PRODUCT IDENTIFICATION

The product is identified by the label A.

MARKINGS ON THE PRODUCT

Label B with QR code for direct access to the online instructions.

2.3 INTENDED USE

The FAAC series 392 - 392 C actuators have been designed for use on horizontal movement swing gates intended for installation in areas that are accessible to people, the main purpose of which is to provide safe access for goods, vehicles and people to residential buildings.

One actuator must be installed for each leaf. To move the gate manually, follow the manual operation instructions.

Any other use that is not expressly specified in these instructions is prohibited and could affect the integrity of the product and/or represent a source of danger.

2.4 LIMITATIONS OF USE

The leaf must fall within the dimensional and frequency of use limits indicated in the technical data.

The presence of weather conditions such as snow, ice and strong wind, even occasional, could affect the correct operation of the automation, the integrity of the components and be a potential source of danger (see § Emergency use). The limitations of use of the 392 - 392 C in wind are detailed in table Limits of use in relation to wind.

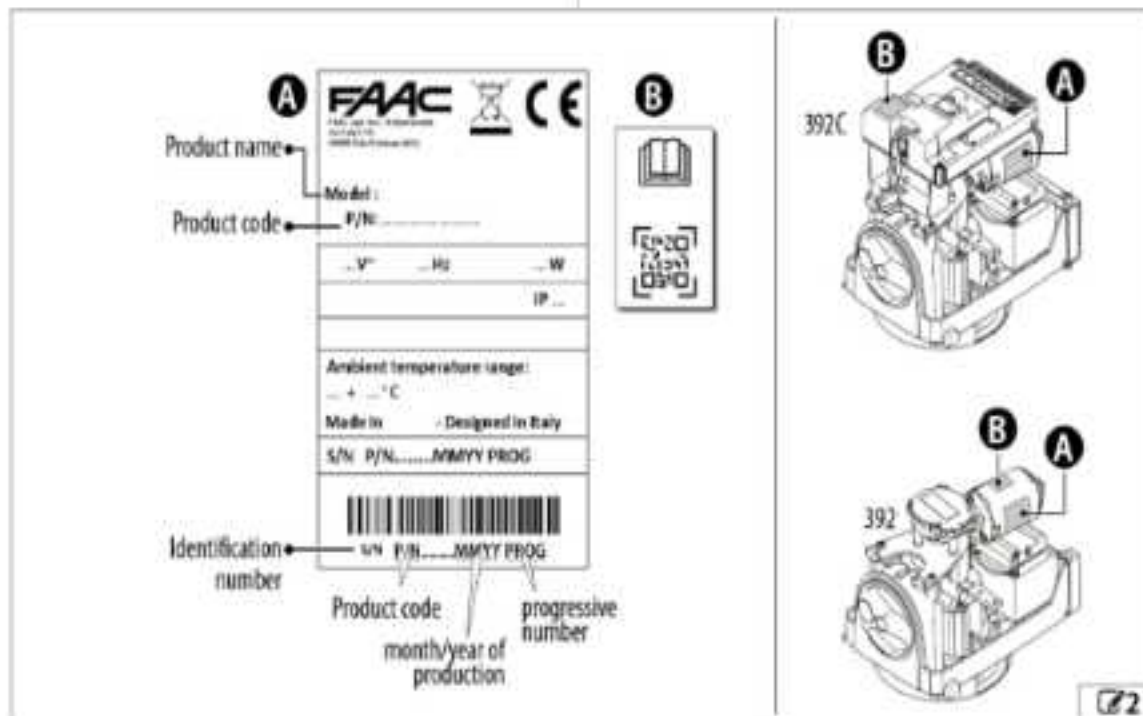
392 - 392 C is not designed to be a security (break-in protection) system.

If there is a pedestrian access gate integrated in the leaf of the gate, the motorised movement must be disabled when the pedestrian gate is not in a safe position.

The installation must be visible during the day and at night. If it is not, appropriate solutions must be provided to make the fixed and moving parts visible.

The 392 - 392 C must be connected to a FAAC electronic board as indicated in this manual (Technical characteristics).

Implementing the automation requires the installation of the necessary safety devices, identified by the installer through an appropriate risk assessment of the installation site.



2.5 UNAUTHORISED USE

- Uses other than the intended use are prohibited.
- It is prohibited to install the automation system outside of the limits specified in the Technical Data and in the Mechanical and Electrical Installation Requirements.
- It is forbidden to use 392 - 392 C in a constructional configuration other than the one provided by the manufacturer.
- No component part of the product may be modified.
- It is prohibited to install the automation system on escape routes.
- It is prohibited to install the automation system to create fire doors.
- It is prohibited to install the automation system in environments in which there is a risk of explosion and/or fire: the presence of flammable gases or fumes is a serious safety hazard (the product is not ATEX certified).
- It is prohibited to power the system with energy sources other than those specified.
- It is prohibited to integrate commercial systems and/or equipment other than those specified, or use them for purposes not intended and authorised by their respective manufacturers.
- Do not allow water jets of any type or size to come into direct contact with the actuator.
- Do not expose the actuator to corrosive chemicals or atmospheric agents.
- It is prohibited to use and/or install accessories which have not been specifically approved by FAAC S.p.A.
- It is prohibited to use the automation system before performing commissioning.
- It is prohibited to use the automation system in the presence of faults which could compromise safety.
- It is prohibited to use the automation system with the fixed and/or mobile guards removed or altered.
- Do not use the automation system unless the area of operation is free of persons, animals or objects.
- Do not enter/remain in the area of operation of the automation system while it is moving.
- Do not try to prevent the movement of the automation system.
- Do not climb on, hold onto or let yourself be pulled by the leaf. Do not climb onto the actuator.
- Do not allow children to approach or play in the area of operation of the automation system.
- Do not allow the control devices to be used by anyone who is not specifically authorised and trained to do so.
- Do not allow the control devices to be used by children or persons with mental and physical deficiencies unless they are supervised by an adult who is responsible for their safety.
- During manual operation, gently guide the leaf the whole way, do not push it and let it slide freely.

2.6 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation. If the leaf can be moved safely by hand, use the **MANUAL OPERATION** mode; otherwise place the automation out of service until it has been reset/repaired.

In the case of a breakdown, the automation must be reset/repaired exclusively by the installer/maintenance technician.

2.7 MANUAL OPERATING MODE

RELEASING THE ACTUATOR



If you have to actuate operator manually because of a power failure or a malfunction, proceed as follows:

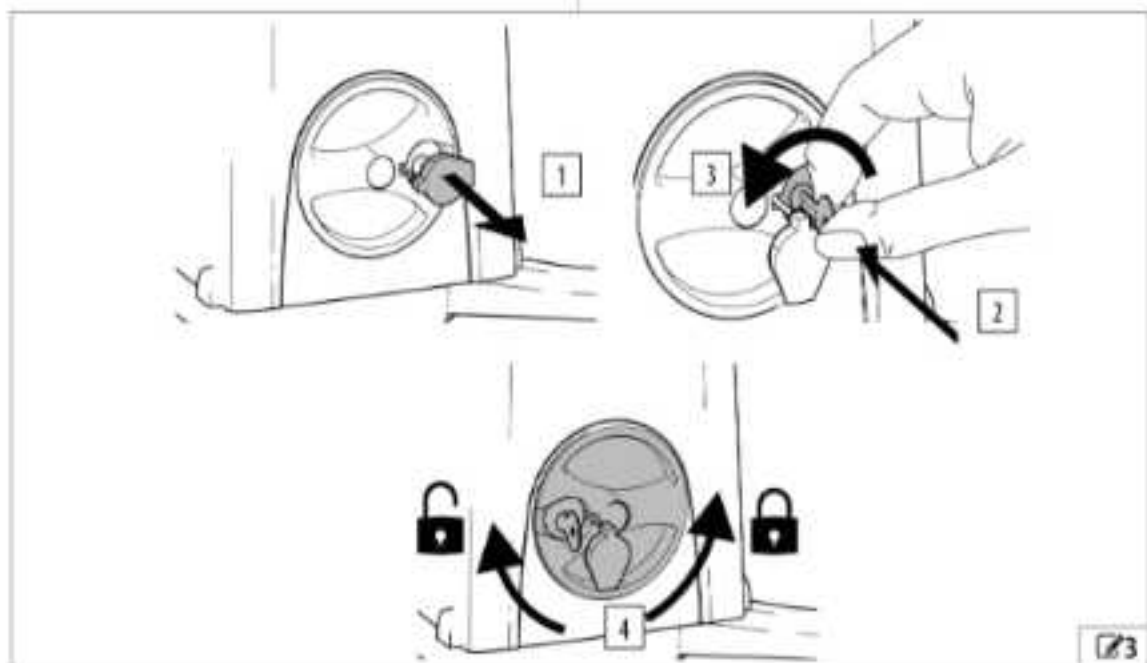
1. Disconnect power to the system using the differential switch.
2. Lift the protective cap of the lock.
3. Insert the key and turn it anticlockwise until it stops.
4. Turn the release knob clockwise until it stops.
5. Move the leaf manually.

RESTORING OPERATION



To return the operator to its normal operating condition, proceed as follows:

1. Make sure the system is not powered.
2. Place the leaf at approximately the halfway point of the memorised opening.
3. Turn the release knob anti-clockwise until it stops, then turn the key clockwise until it stops and remove it.
4. Check that the release device has been re-engaged correctly by trying to move the leaf manually. The leaf must be locked and it must not be possible to move it manually.
5. Replace the protective cap on the lock.
6. Restore power to the system and carry out an opening cycle.



2.8 TECHNICAL SPECIFICATIONS

The automation 392 - 392 C consists of an irreversible electromechanical operator. Two versions are available:

- 392 C: automation with built-in electronic board
- 392: automation without an electronic board

A practical and safe release system, with a personalised key, allows the leaf to be moved in the event of a power failure or malfunction.

The two jointed arms are designed to move gates mounted on large pillars and with a distance of up to 220 mm between the hinge and the fixing point of the actuator.

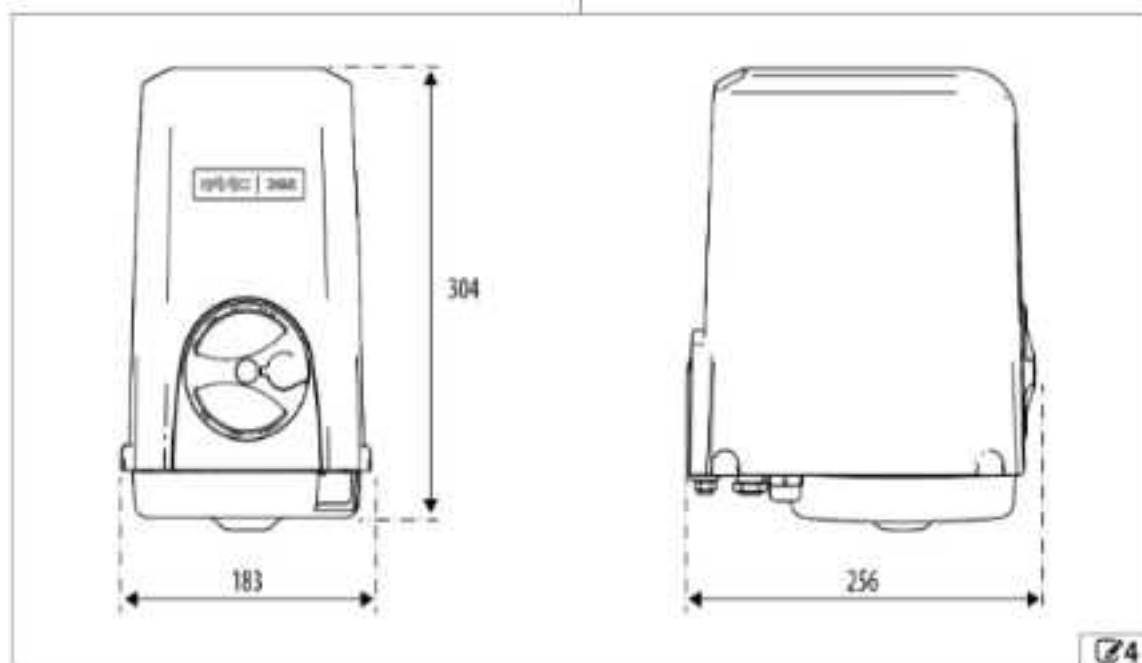
i The geometry of the two arms does not present a shearing hazard; however, the variable angle of the arms during movement could crush parts of the body.

TECHNICAL DATA

	392 C	392
Power supply voltage	220 - 240 V~ @50/60 Hz	/
Electric motor	24 V~	24 V~
Absorbed power	200 W	50 W
Standby power	10 W	10 W
Fuse	5x20 2A - 250 V~	/
Torque max.	300 N/m	300 N/m
Angular speed max.	8.5 °/s	8.5 °/s
Length of the leaf min/max	0.5/2.5 m *	0.5/2.5 m *
Leaf weight max.	350 kg	350 kg
Leaf opening angle max.	120°	120°
Use frequency	Continuous use	Continuous use
Type of use	Residential	Residential
Protection rating	IP44	IP44
Ambient temperature	-20 ... +65 °C	-20 ... +65 °C
Sound pressure LpA	≤70 dB (A)	≤70 dB (A)
Weight of operator	11.7 kg	9 kg

*For leaves longer than L>2m, an electric lock has to be installed to ensure that the leaf locks.

2.9 DIMENSIONS



SAFETY FUNCTIONS
■ Specifying the minimum levels of protection of the primary edge (EN 12453)

ACTIVATION TYPE	TYPE OF USE		
	Trained users and unlikely presence of the general public	Trained users and probable presence of the general public	Untrained users
Dead-man mode	A	B	not allowed
Pulse activation with the automation visible	C / E	C / E	(C + D) / E
Pulse activation with the automation not visible	C / E	(C + D) / E	(C + D) / E
Automatic mode	(C + D) / E	(C + D) / E	(C + D) / E

A Dead-man mode of operation with non self-latching control device.

B Dead-man mode of operation with non self-latching control device with key-operated switch or similar device.

C Force limitation, either by force-limiting devices or by sensitive protective devices

D Additional device to reduce the likelihood of contact between a person or obstacle and the mobile leaf used in combination with force limitation (C)

E Sensitive presence detection protection device, designed and installed in such a way that a person cannot be touched by the moving leaf

■ Safety functions of E034

Inputs	Programming	Functions	Protection type according to EN 12453	Device performance level	E034 Performance level
STOP	Failsafe enabled on OUT1 ol = 01 Pl = no	Safety STOP for pedestrian door integrated in the swing leaf or Contact prevention using presence detection devices (ESPE)	E	-	Pl c Category 2
BUS 2easy	BUS 2easy sensitive edges	Force limitation by means of sensitive edges BUS 2easy (PSPE)	C	Pl c Category 2	Pl c Category 2
	SAFEcoder and anti-crushing functions (EC, FI, SP, P, r-B, SF, r1, r2)	Intrinsic force limitation	C	-	Pl c Category 2

■ Additional protection functions

Inputs	Programming	Functions	Protection type according to EN 12453
Bus 2EASY	BUS 2easy photo cells	Additional devices to reduce the likelihood of contact	D

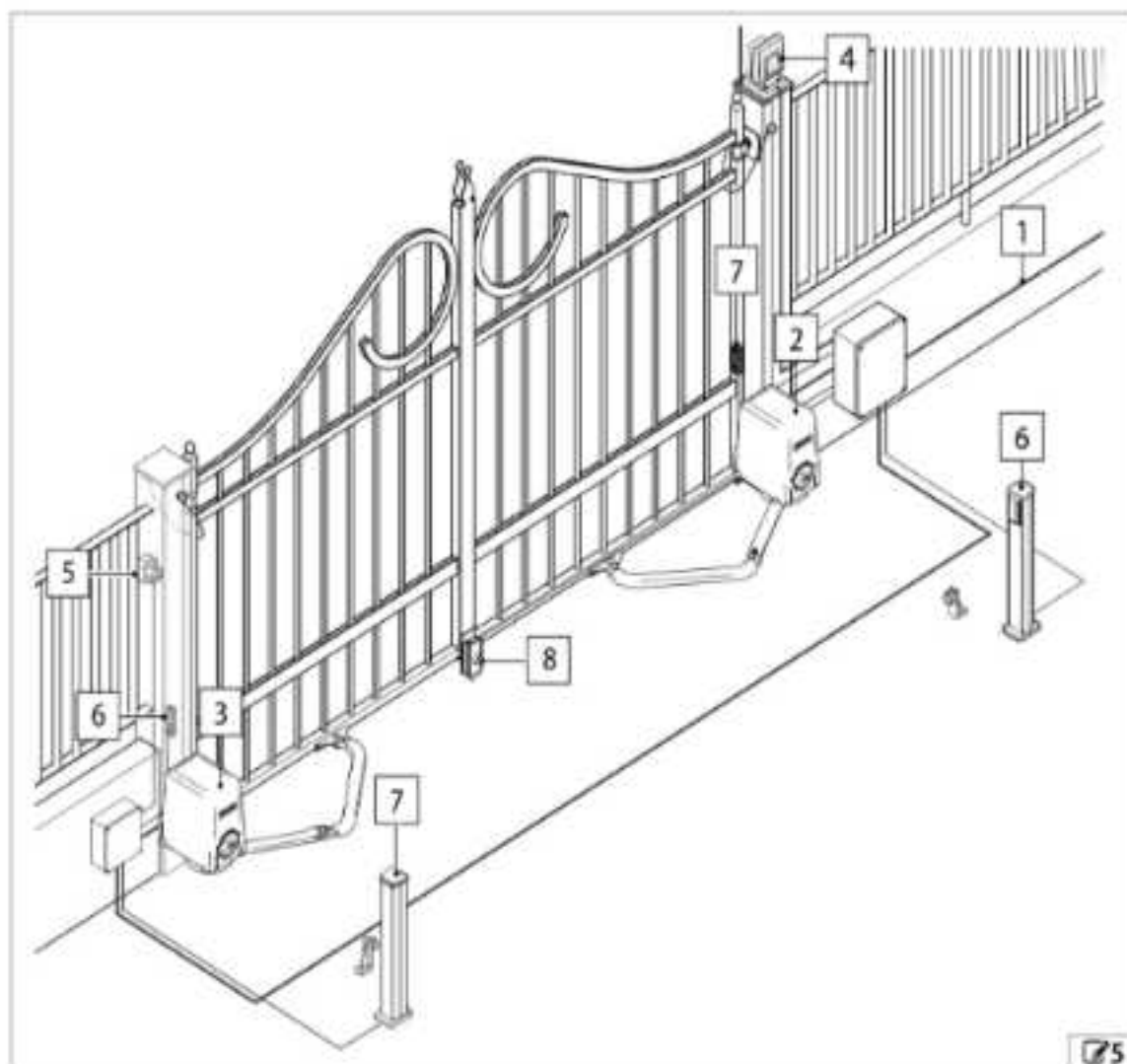
2.10 EXAMPLE SYSTEM

- i** The example is an illustration only and is just one of the possible applications.
 The diagram refers to a two-motor installation with all the safety and signalling devices connected.
 In two-motor applications, use a HOSRN-F cable to connect the primary operator 392 C and the secondary operator 392.

1	Mains power supply	3G 1.5 mm ² (max 2.5 mm ²)
2	Actuator 392 C	
3	Actuator 392*	
4	Flashing	
5	Key switch	
6	Photocell transmitter	
7	Photocell receiver	
8	Electric lock**	

*Only in two-leaf applications


**Mandatory for leaves > 2 m long

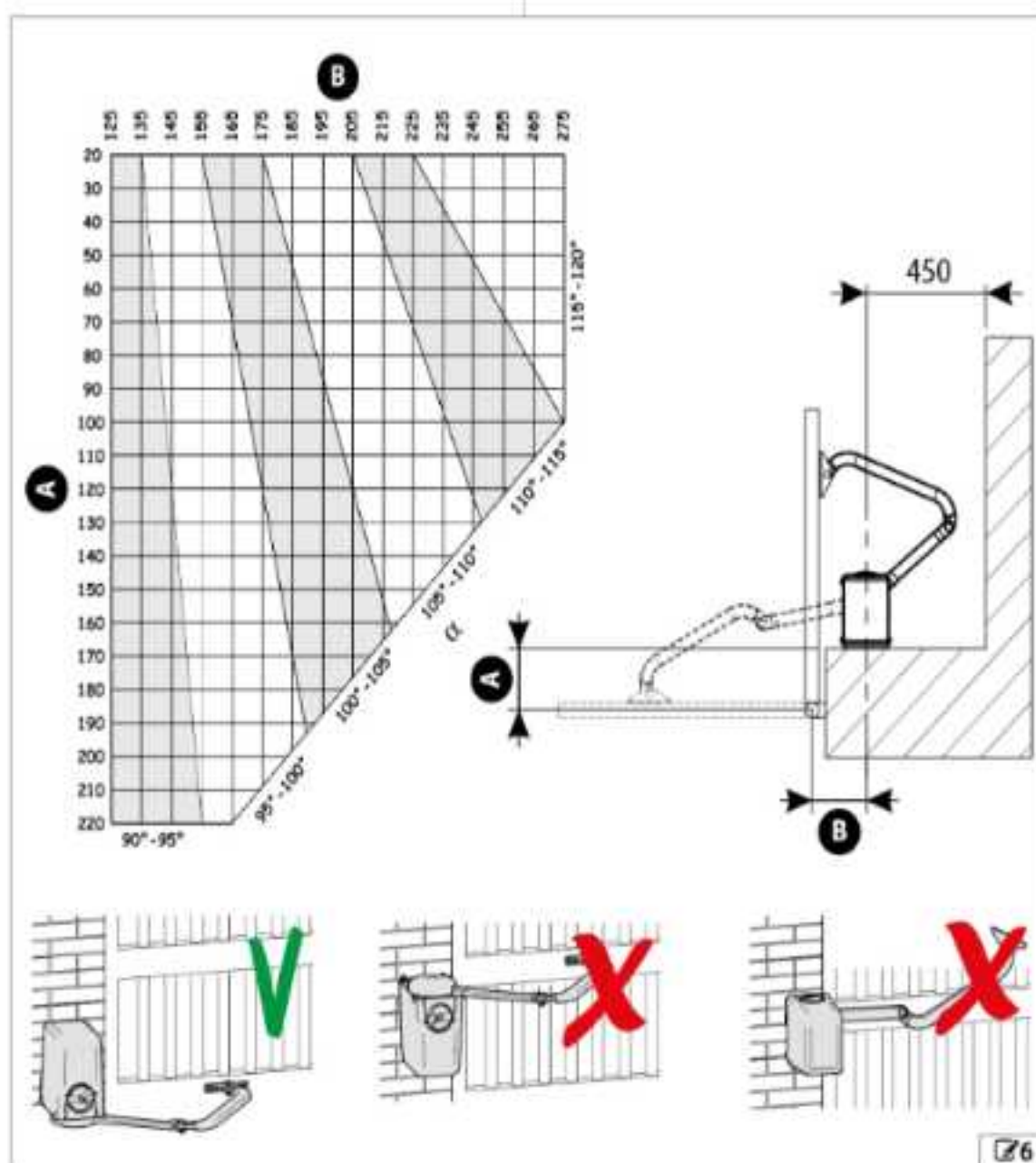


2.11 INSTALLATION DIMENSIONS

With reference to figure  determine the fixing position:

- measure the distance "A" of the gate and draw a horizontal line on the graph corresponding to the measured value. This line should cross the entire graph
- on the basis of the dimension "A" the maximum allowable angular opening can be obtained from the graph
- select the required opening range
- select the distance "B" so that it intersects the horizontal line (distance "A") in the required opening range

 Check that the minimum distance of 450 mm shown in the figure is maintained.
The operator is designed to be installed vertically and NOT in any other position.



3. MECHANICAL INSTALLATION

TOOLS REQUIRED

The tools required are indicated below.


 Spanner 13-17-19	 Phillips screwdrivers 1
 Flat-head screwdriver 1	 Level
 Pencil	 Drill bit
 Box spanner 13	 Allen key 5-6


TORQUE ADJUSTMENT - comply with fastening torque indicated in the figure. E.g.: Spanner 7 set at 2.5 Nm

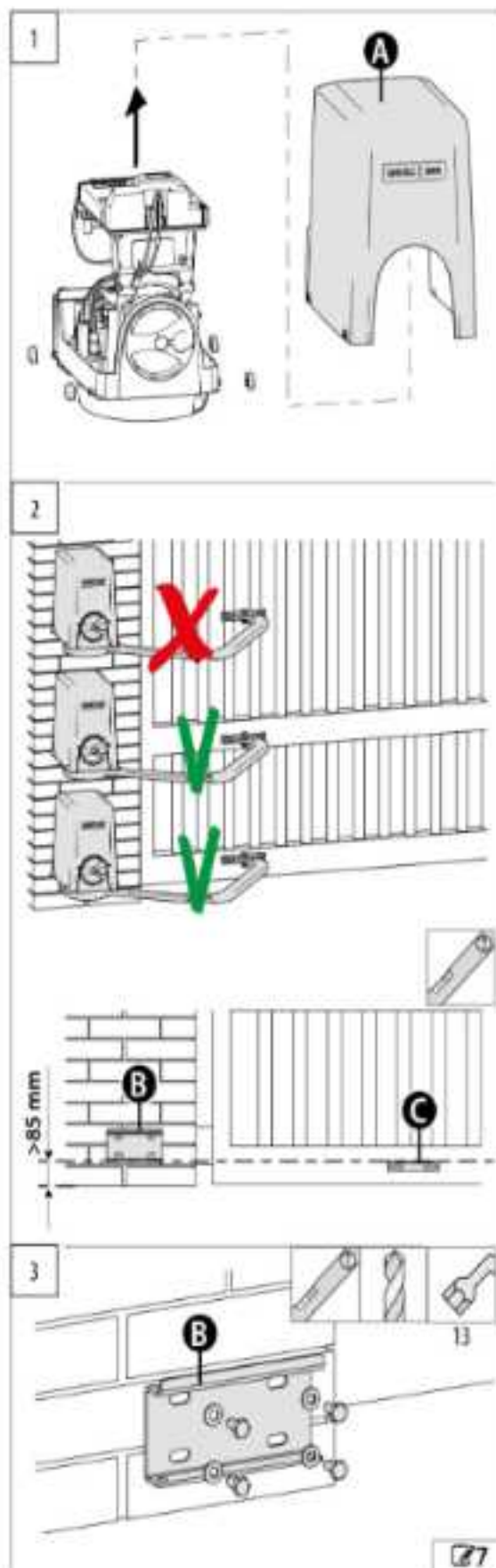


3.1 INSTALLING THE ACTUATOR

REAR BRACKET

1. Remove the cover **A**. Prepare the operator for manual operation, (see the **MANUAL OPERATION** section).
2. Establish the height of the operator, bearing in mind that:
 - the mounting bracket of the curved arm must be located in an area where it can be fixed to the leaf of the gate.
 - the minimum height of the operator from the ground must be sufficient to enable the curved arm to be attached and the lower casing positioned (minimum 85 mm)
 - the lower edge of the rear bracket **B** must be aligned with the upper edge of the front bracket **C**.
3. Fasten the rear bracket in the previously determined position using four M8 screws. Keep to the position indicated in  7 and use a spirit level to check that it is horizontal.

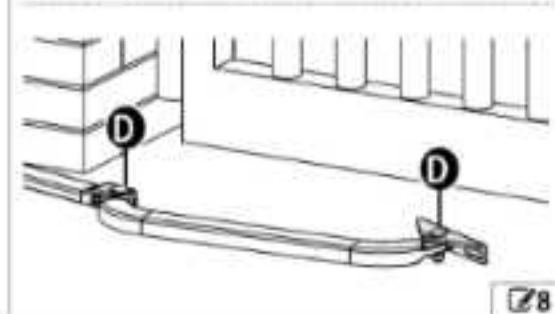
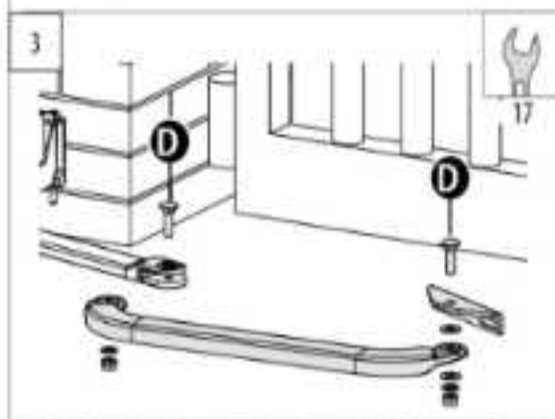
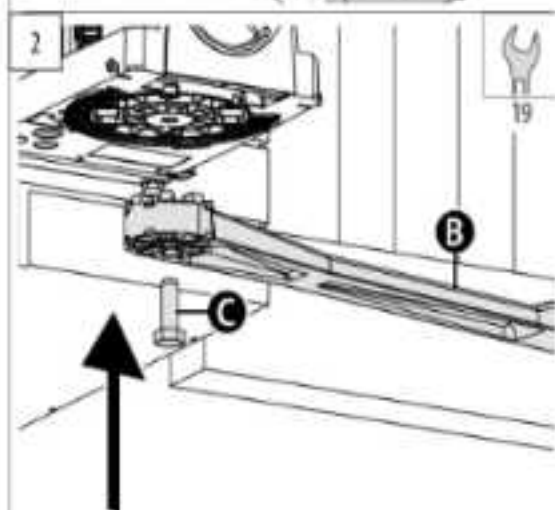
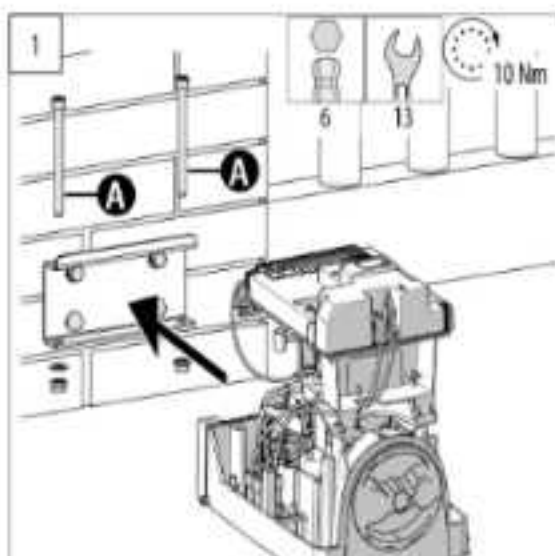
 Do not weld the bracket directly to the pillar. The rear bracket must be secured to a surface that is as smooth as possible.



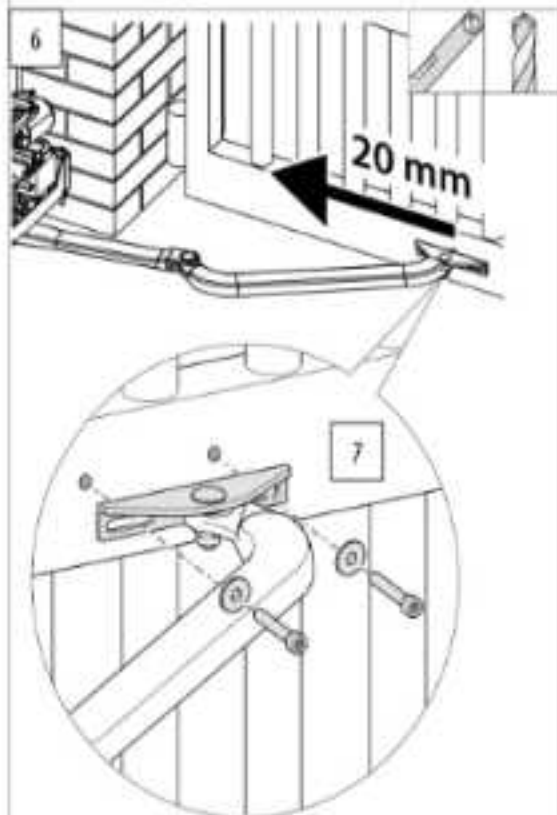
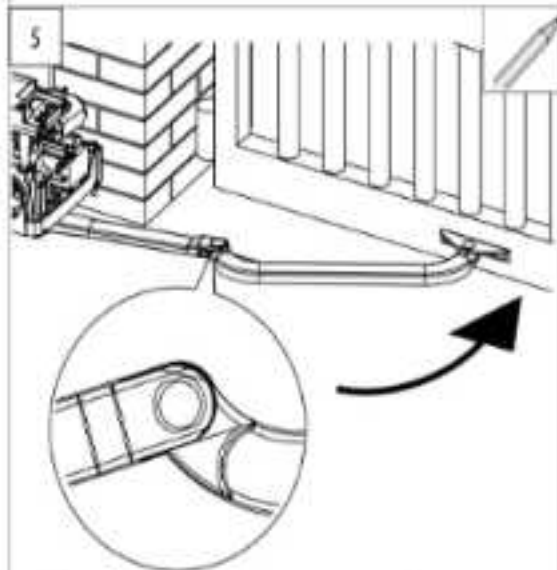
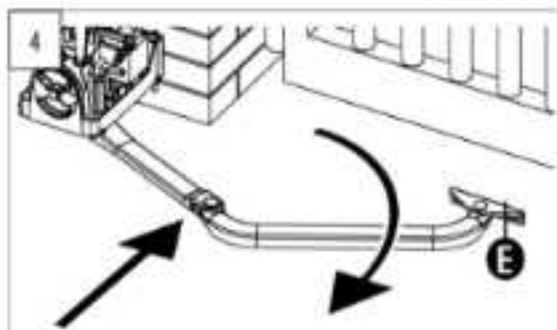
INSTALLING THE ACTUATOR

1. Place the actuator on the bracket and secure it with the screws and nuts **A** with washers provided.
2. Mount the straight arm **B** with the screw **C** provided.
3. Assemble the other components of the arm.

i In order for it to work correctly, the two fixing screws **D** must be tightened and then loosened by about 1/2 turn to allow the arms to rotate smoothly.



4. Align the two elements of the arm by pushing in the central area until they stop. Two stops are provided to make it easier to align the curved arm.
5. Rest the bracket E on the front of the leaf.
6. Retract the front bracket by approximately 20 mm and mark the fixing holes.
7. Secure the bracket in position using two M8 screws suitable for the gate material (screws and washers are not provided).



i The screws and washers are not supplied. Do not weld the bracket directly to the gate, the slots in the bracket allow for later adjustment.

8. Move the leaf manually and check that the two arms do not collide with each other when the leaf is in the closed position.
9. Restore the operation of the actuator (see the MANUAL OPERATION section).
10. In the case of 2-leaf automation, follow the same procedure to install the second actuator.


3.2 OPERATOR WIRING

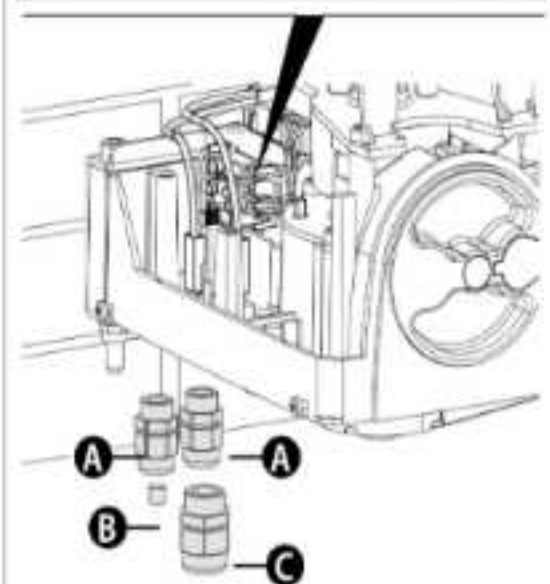
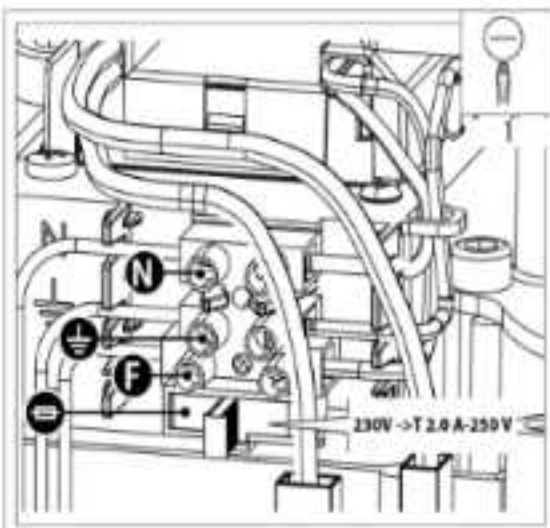
Once the operator is in place, the electrical connections can be made. There are three holes in the lower part of the operator for cable glands. These are used for power cables, connecting the accessories and the second motor, if any.

1. Install all three cable glands **A** supplied, with the appropriate fixing nuts,



The larger cable gland **C** must always be used. Use the cable gland plugs provided **B** to seal any unused glands.

2. Feed the cables through the cable glands and connect as shown in .
3. Connect the earth cable.
4. Make sure that the power cable is inserted correctly into the corresponding "comb" connector so that they are locked in place.
5. Wire up all the connected accessories and safety devices according to their instructions.



Description

N	Neutral
⊥	Earth connector
F	Phase



3.3 POSITIONING THE MECHANICAL STOPS

The operator 392 is supplied as standard with mechanical opening and closing stops, this makes installation easier as it avoids having to make mechanical limit stops.

Prepare the operator for manual operation (see the MANUAL OPERATION section).

- i** The mechanical closing stop should only be used when there is no external mechanical stop.
The mechanical closing stop does not guarantee that the leaf will remain locked during an attempted break-in.

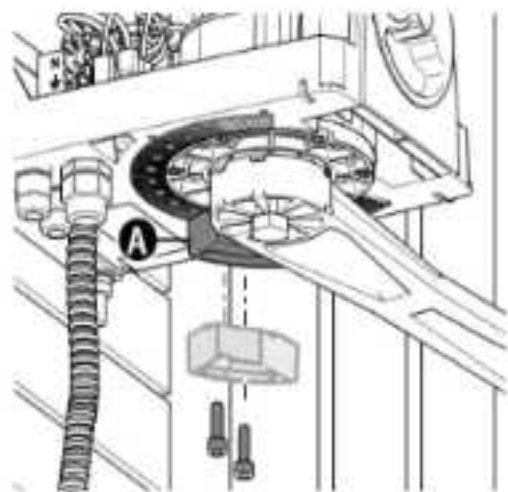
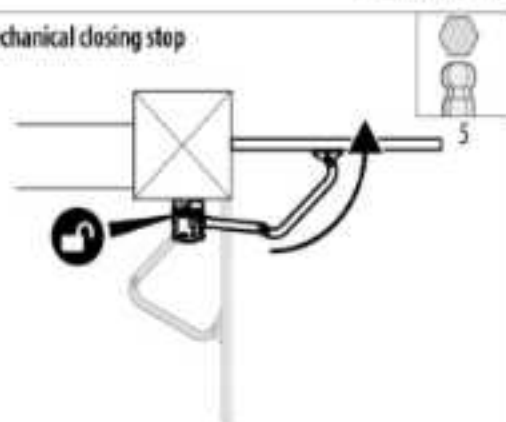
MECHANICAL CLOSING STOP

1. Move the leaf to the closed position.
2. Bring the mechanical stop **A** as close as possible to the straight arm and tighten the two fixing screws.
3. Make sure that the toothed sector is engaged correctly.

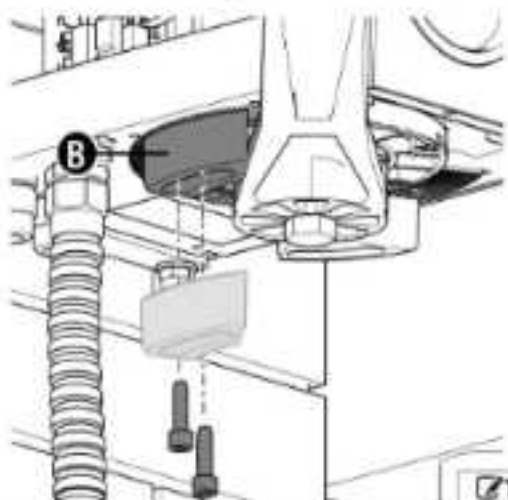
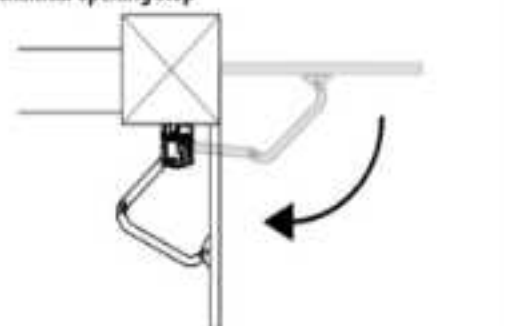
MECHANICAL OPENING STOP

1. Move the leaf to the open position.
2. Bring the mechanical stop **B** as close as possible to the straight arm and tighten the two fixing screws.
3. Make sure that the toothed sector is engaged correctly.

Mechanical closing stop



Mechanical opening stop



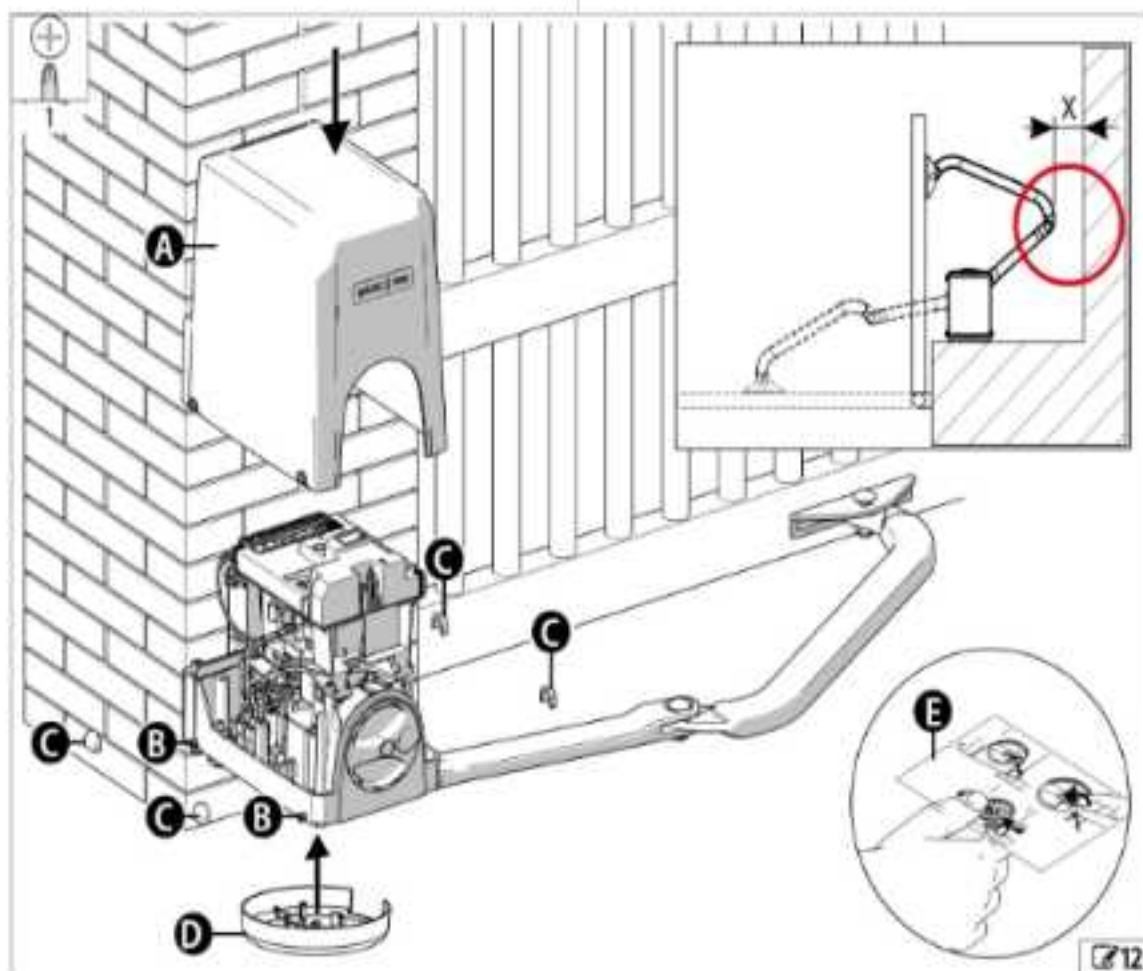
4. PUTTING INTO SERVICE

4.1 FINAL OPERATIONS

1. Carry out a complete functional test of the automation and all the installed devices.

i Make sure that the forces generated by the leaf are within the limits permitted by the current regulations. If the distance "X" is less than 500 mm, an impact test must be carried out at the point highlighted in the figure. Use an impact force tester in accordance with EN 12453. For non-EU countries, if there are no specific local regulations, the force must be less than 150 N. If necessary, adjust the anti-crushing system on the board and make any other adjustments that may be necessary. Check that the maximum force required to move the leaf manually is less than 225 N in residential areas and 260 N in industrial or commercial areas.

2. Position the cover **A**, tighten the fixing screws **B** and install the four screw caps **C**.
3. Position the lower casing **D**.
4. Highlight all areas with adequate warning signs in which there are still residual risks, even if all possible safety measures having been adopted.
5. Place a "DANGER, AUTOMATIC MOVEMENT" sign (not supplied) in a prominent position on the gate.
6. Attach the CE marking to the gate.
7. Fill out the EC declaration of conformity and the system register.
8. Give the EC Declaration, the system register with the maintenance plan, the instructions for use and the "Manual operating mode" label to the automation owner/operator **E**.



5. MAINTENANCE

5.1 SCHEDULED MAINTENANCE

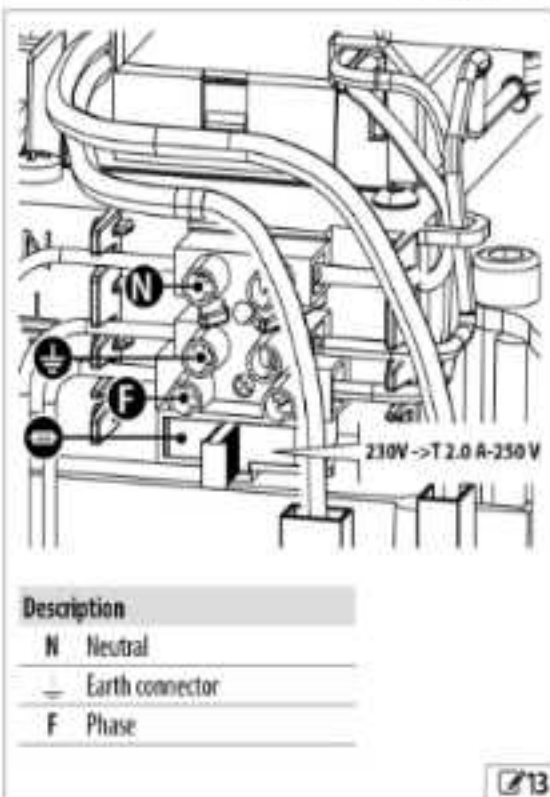
It is mandatory to carry out the operations indicated in table Maintenance of the 392 - 392 C, in order to keep the operator working reliably and safely.

The installer/machine manufacturer is responsible for drawing up the maintenance plan for the machine, supplementing this list or shortening maintenance intervals according to the machine characteristics and current local regulations.

5.2 REPLACING A FUSE

With the power supply disconnected, remove the fuse holder from the terminal board. Replace the fuse with a \varnothing 5 mm 20 mm long glass tube fuse of the required rating (13).

Switch the power back on and check that the board and the connected accessories are on.



Maintenance 392 - 392 C	Frequency in months
Check that the cover/casing and all the movable guards are integral and that they are fastened correctly. Tighten screws and bolts where necessary.	12
Check that the body of the operator is undamaged.	12
Check that the actuator is firmly attached to the rear fork.	12
Check that the brackets are firmly secured to their supports.	12
Check that the motor power cable is intact.	12
Generally clean the actuator with a clean cloth, moistened with a neutral detergent.	12
Grease all the rotation points with a brush.	12
Make sure that the manual release is working correctly.	12
Maintenance of other components	Frequency in months
STRUCTURES	
Check the structures and the parts of the building to which the gate and the automation is fixed: make sure there is no damage, cracking, breaks or subsidence.	See manufacturer's instructions
Check the gate's area of movement, ensuring it is free from obstacles, objects or deposits which would reduce the effectiveness of the safety measures.	See manufacturer's instructions
Check that there are no gaps in the perimeter fence and that any protective grilles in the area where it overlaps with the mobile leaf are intact.	See manufacturer's instructions
Ensure that there are no sharp protrusions which could represent a perforation or hooking hazard.	See manufacturer's instructions
Perform a general clean of the area of movement of the gate.	See manufacturer's instructions
Check that the mechanical stops are fastened solidly and in good condition. This check must be performed on both sides, simulating any knocks which could occur during use.	See manufacturer's instructions
GATE	
Check the frame: make sure that it is fixed correctly, that it is intact and that there is no deformation or damage. Tighten screws and bolts where necessary.	See manufacturer's instructions
Check the leaf: make sure that it is intact and that there is no deformation or damage.	See manufacturer's instructions
Check the hinges: make sure that they are fixed correctly; that they are intact, correctly positioned in their seats and that there is no deformation or damage.	See manufacturer's instructions
Lubricate hinges and locks/electric locks, if necessary.	See manufacturer's instructions
Perform a general clean of the area of movement of the gate.	12
Make sure that the pictograms are present and intact. If they are missing or damaged, replace them.	12
PROTECTIVE DEVICES AND CONTROL DEVICES	
Check that the protective devices are intact and that they operate correctly.	See manufacturer's instructions
Check that the control devices are intact and that they operate correctly.	See manufacturer's instructions
Check that each pair of photocells is working correctly and that there is no optical/light interference between the pairs of photocells.	6
Check that indicator lights are intact that they are working correctly, if present.	See manufacturer's instructions
GATE COMPLETE WITH ACTUATOR	

Maintenance of other components	Frequency in months
Check that the gate operates properly in both directions with all the devices installed.	6
Check that the gate moves correctly - smooth, regular and without making abnormal noises.	6
Check that both the opening and closing speeds are correct and that the expected stopping positions and slowdowns are correct.	6
Check that the safety devices (e.g. sensitive edges) are working correctly, if present.	6
Repeat the operations in the "Final checks" section.	6
Check that the gate's CE marking and the DANGER, AUTOMATIC MOVEMENT warning sign is present, intact and legible.	12

5.3 OPERATIONAL PROBLEMS

3 Troubleshooting

CONDITION	FINDING SOLUTIONS
No movement	<ul style="list-style-type: none"> Check that the actuator is not released Check that there is power Check the motor connection Check the operation of the electronic equipment

6. INSTRUCTIONS FOR USE

It is the installer's responsibility to provide the owner of the automation with the instructions for use, maintenance and disposal, incorporating the following information.

RELEASING THE ACTUATOR



If you have to actuate operator manually because of a power failure or a malfunction, proceed as follows:

1. Disconnect power to the system using the differential switch.
2. Lift the protective cap of the lock.
3. Insert the key and turn it anticlockwise until it stops.
4. Turn the release knob clockwise until it stops.
5. Move the leaf manually.



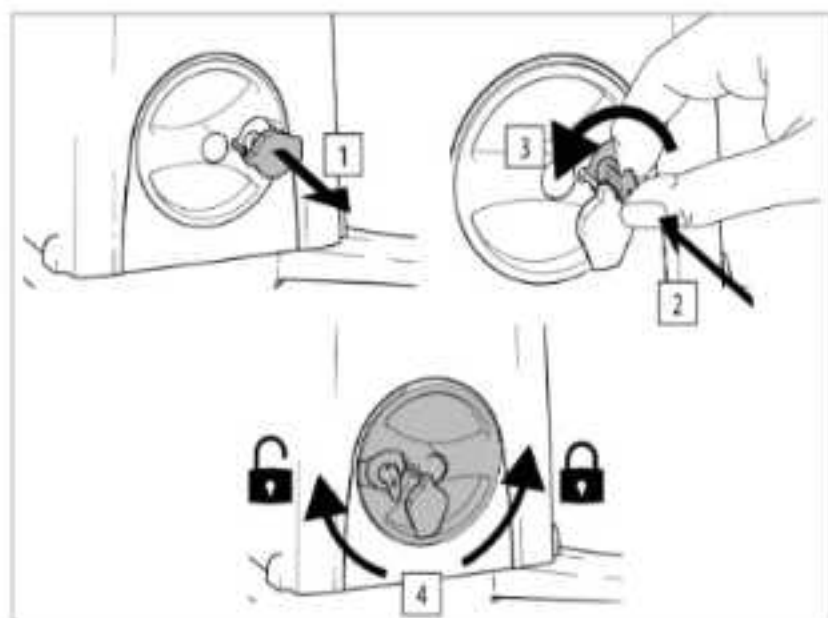
During manual operation, gently guide the leaf the whole way. Do not push it and let it slide freely. Do not leave the actuator in the released mode: restore automatic operation after moving it manually.

RESTORING OPERATION



To return the operator to its normal operating condition, proceed as follows:

1. Make sure the system is not powered
2. Place the leaf at approximately the halfway point of the memorised opening.
3. Turn the release knob anti-clockwise until it stops, then turn the key clockwise until it stops and remove it.
4. Check that the release device has been re-engaged correctly by trying to move the leaf manually. The leaf must be locked and it must not be possible to move it manually.
5. Replace the protective cap on the lock.
6. Restore power to the system and carry out an opening cycle.



1 Limitations of use in relation to wind

The tables indicate the maximum permitted wind force (Beaufort scale) for the 392 - 392 C with maximum force regulation in relation to the:

- surface of the leaf exposed to the wind
- length of the leaf

Winds stronger than those permitted could affect the operation of the 392 - 392 C.

It is the responsibility of the installer to assess the impact of the wind on all components of the structure (columns, hinges, leaves) in order to calculate the maximum permitted wind force for the automation.

Beaufort number and description (Beaufort scale)	Wind speed (km/h)
0 Calm	≤ 1
1 Light air	> 1...6
2 Light breeze	> 6...11
3 Gentle breeze	> 11...19
4 Moderate breeze	> 19...29
5 Fresh breeze	> 29...39
6 Strong breeze	> 39...50
7 High wind	> 50...62
8 Gale	> 62...75
9 Severe gale	> 75...87
10 Storm	> 87...102
11 Violent storm	> 102...117
12 Hurricane force	> 117

4 Limitations of use 392 - 392 C

Exposed surface (m ²)	Leaf length (m)						
	1	1.25	1.5	1.75	2.0	2.25	2.5
1	12			11			10
2	11	10		9		8	
3	10	9					
4	9	8					
5	8						
6	8						
7	7						
8							
9							
10	6						
11							
12							
13							
14							
15					4		
16	5						



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