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1 SYMBOLS USED IN THIS MANUAL

This manual uses symbols to highlight specific texts. The functions of each symbol are explained below:

⚠ Failure to respect the safety warnings could lead to accident or injury.

📖 Important details which must be respected for correct assembly and operation.

i Additional information to help the installer.

♻ Information on care for the environment.

2 IMPORTANCE OF THIS MANUAL

⚠ Read this manual in its entirety before carrying out the installation, and obey all instructions. Failure to do so may result in a defective installation, leading to accidents and failures.

i Moreover, this manual provides valuable information which will help you to carry out installation more efficiently.

📖 This manual is an integral part of the product. Keep for future reference.

3 ENVISAGED USE

This device has been designed for installation as part of an automatic opening and closing system for swing doors and gates.

⚠ This device is not suitable for installation in inflammable or explosive environments.

⚠ Failure to install or use as indicated in this manual is inappropriate and hazardous, and could lead to accidents or failures.

⚠ The installer shall be responsible for ensuring the installation is set up for its envisaged use.

4 INSTALLER'S QUALIFICATIONS

⚠ Installation should be completed by a professional installer, complying with the following requirements:

- He/she must be capable of carrying out mechanical assemblies in doors and gates, choosing and implementing attachment systems in line with the assembly surface (metal, wood, brick, etc) and the weight and effort of the mechanism.
- He/she must be capable of carrying out simple electrical installations in line with the low voltage regulations and applicable standards.

⚠ The installation should be carried out bearing in mind standards EN 13241-1 and EN 12453.

5 AUTOMATIC OPERATION SAFETY ELEMENTS

This device complies with all current safety regulations. However, the complete system comprises, apart from the actuator referred to in these instructions, other elements which should be acquired separately.

📖 The safety of the complete installation depends on all the elements installed. Install only Erreka components in order to guarantee proper operation.

⚠ Respect the instructions for all the elements positioned in the installation.

⚠ We recommend installing safety elements.

i For further details, see "Fig. 1 Elements of the complete installation" on page 27.

1 ELEMENTS OF THE COMPLETE INSTALLATION

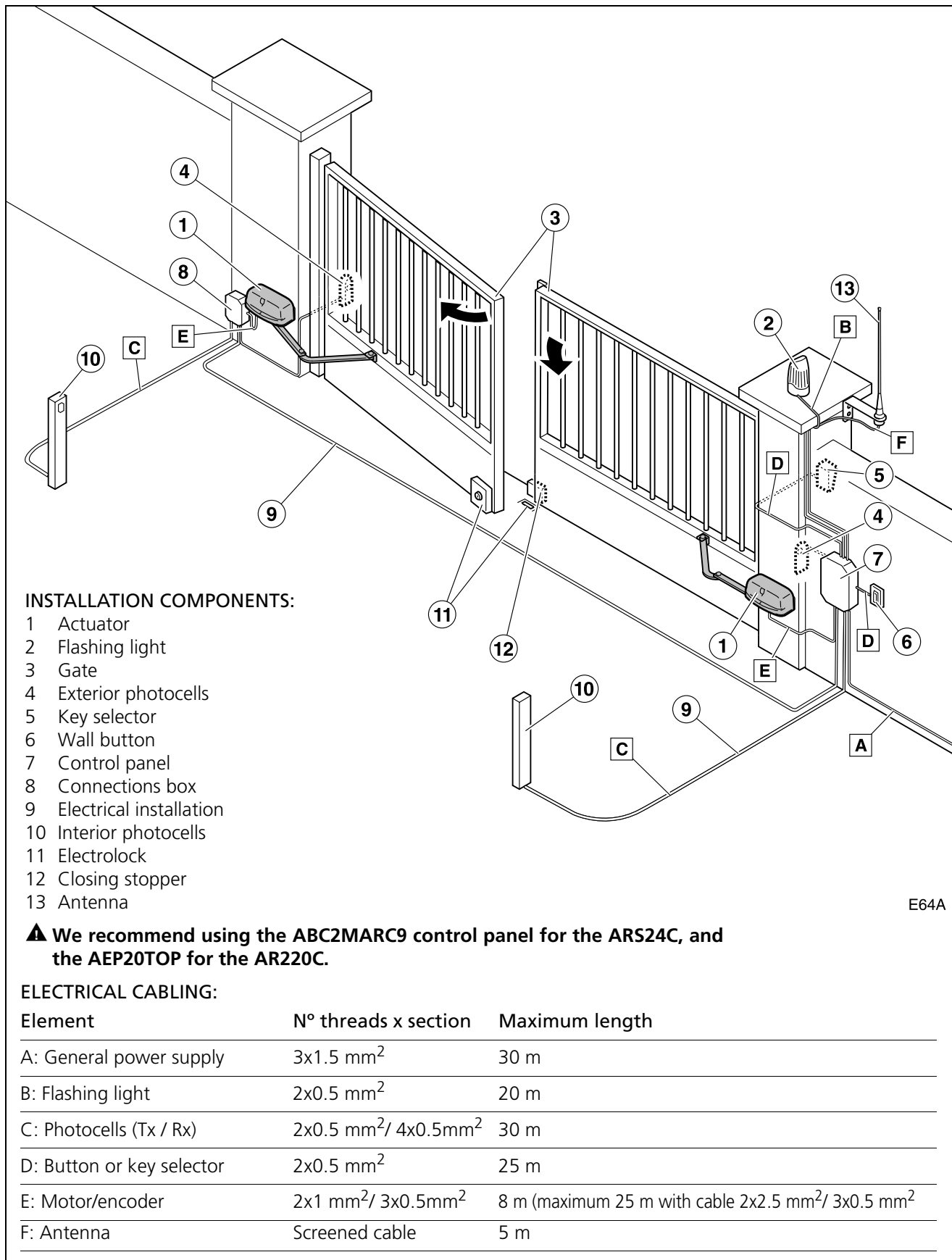


Fig. 1 Elements of the complete installation

▲ The safe and correct operation of the installation is the responsibility of the installer.

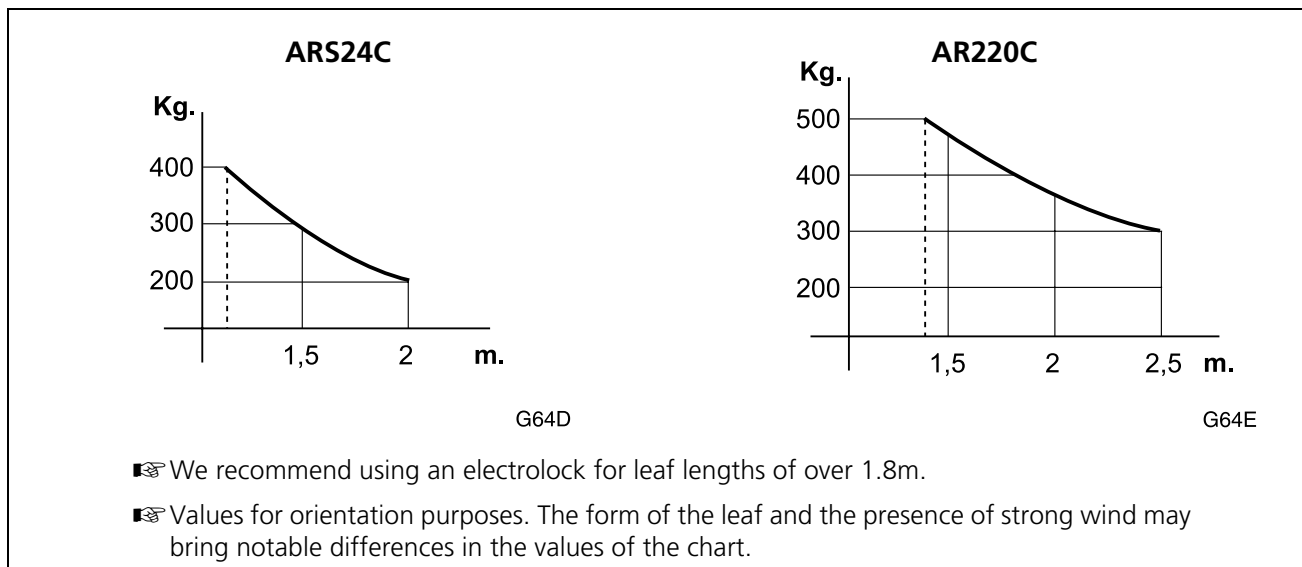
☞ For greater safety, Erreka recommends installing the photocells (4) and (10).

2 ACTUATOR CHARACTERISTICS

This actuator, along with its corresponding Erreka control panel, allow the implementation of a gentle halt system, with the speed slowing down at the end of the closing and opening operations.

Model	ARS24C	AR220C
Power supply (Vdc)	24	230
Max intensity (A)	5,3	1,1
Power consumed (W)	70	320
Capacitor (µF)	no	8
Protection grade (IP)	44	44
Available torque (Nm)	260	320
Output speed (rpm)	2	2
Opening time 90° (s)	8	8
Locking	Yes	Yes
Service temperature (°C)	-25/+60	-25/+60
Duty cycle (%)	80	15
Size and weight of the gate	See "Limits on use"	

Limits on use



3 DECLARATION OF CONFORMITY

Erreka Automatismos declares that the ARC electromechanical actuator has been designed for use in a machine or for assembly along with other elements in order to form a machine in line with Directive 89/392 EEC and successive modifications.

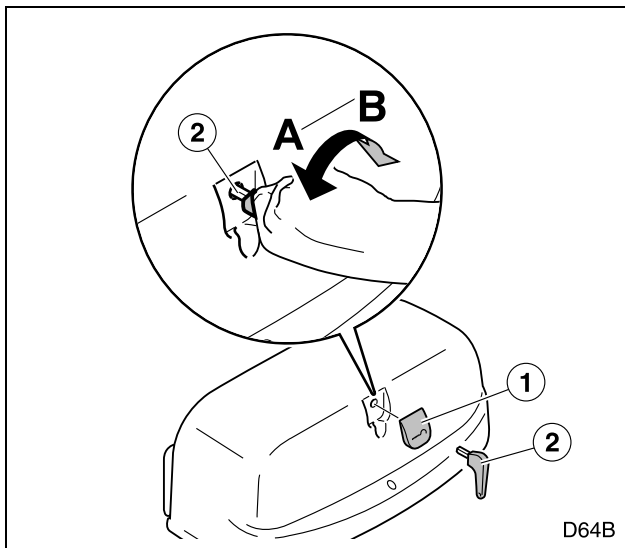
The ARC electromechanical actuator allows us to carry out installations in line with the standards EN 13241-1 and EN 12453.

The ARC electromechanical actuator complies with safety legislation in line with the following directives and standards:

- 73/23 EEC and successive modification 93/68 EEC
- 89/366 EEC and successive modifications 92/31 EEC and 93/68 EEC
- UNE-EN 60335-1

4 MANUAL OPERATION

By way of the supplied key



☞ In the event of need, the gate may be operated manually, first operating the release mechanism.

A- Release

- 1 Remove the cap (1) and introduce the key (2). Turn until you hear a click.
- 2 Move the gate manually.

B- Locking

- 1 Introduce the key (2) and turn until you hear a click. The gate remains locked.
- 2 Position the cap (1).



By way of release box (optional, not supplied)

A release box can be installed if required since the actuator has a device to install the release cable.

☞ In order to install the release cable, see "Installation of release box for manual drive" on page 34.

5 CONTENT OF THE PACKAGE

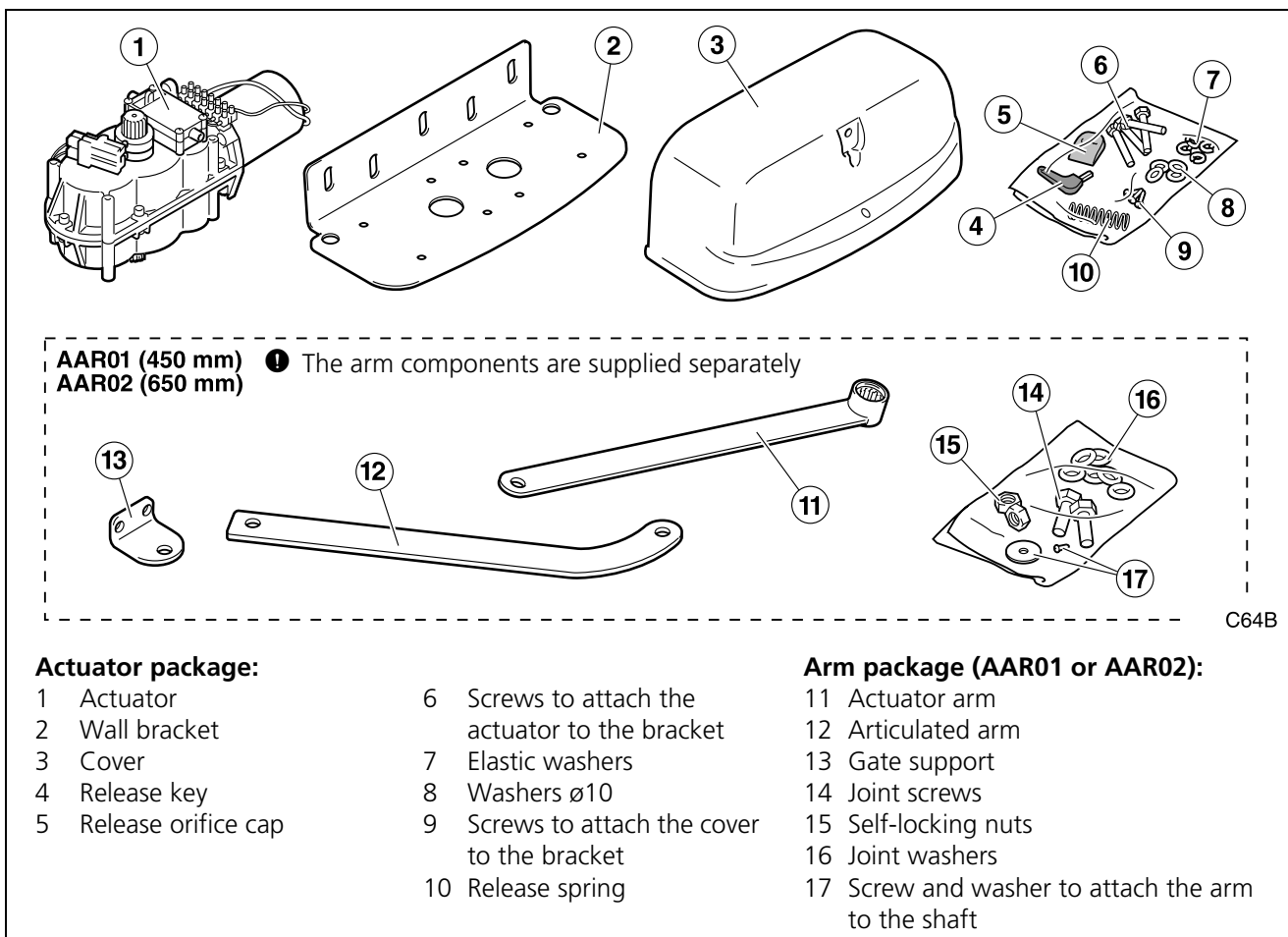


Fig. 2 Content and spare parts

1 TOOLS AND MATERIALS



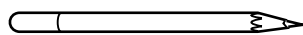
Screwdrivers



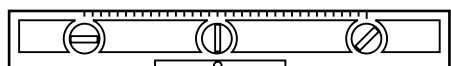
Fixed wrenches (13 mm)



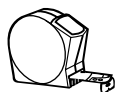
2.5 mm and 4 mm Allen keys



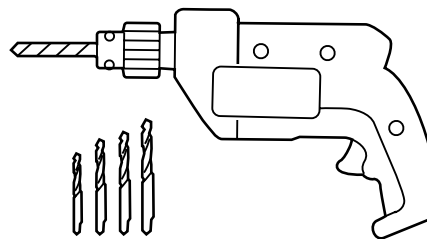
Marker pencil



Spirit level



Tape measure



Electric drill and broaches

▲ Use the electrical drill in line with the use instructions.



Screws to attach the actuator bracket and the arm bracket

2 INITIAL CONDITIONS AND CHECKS

Initial conditions of the gate

▲ Check that the size of the gate is within the admissible range of the actuator (see the technical characteristics of the actuator).

▲ If the gate to be automated has a passage gate, use a safety device to prevent the actuator from operating with the passage gate open.

☞ The gate must have a closing stopper. When installing an articulated arm, it is necessary to use the opening and closing stopper.

☞ The gate must be easy to manipulate manually, namely:

- It must be balanced, in order to ensure the effort made by the motor is minimum.
- There should be no stiffness throughout its travel.

▲ Do not install the actuator in a gate which does not work correctly in manual operation, as this may lead to accidents. Repair the gate before installing.

Environmental conditions

▲ This device is not suitable for installation in inflammable or explosive environments.

▲ Check that the admissible environmental temperature range for the actuator is suitable for the location.

Electrical power supply installation

▲ The electrical connections shall be made in line with the instructions in the control panel manual.

☞ The electrical cable section is indicated in: "Fig. 1 Elements of the complete installation" on page 27.

3 UNPACKING

- 1 Open the packages and remove the contents from within.
 - ♻ Discard the packaging in an environmentally friendly manner, using recycling containers.
 - ⚠ **Do not leave the packaging within the reach of children or handicapped people, as it may cause injury.**
- 2 Check the content of the packages (see "Fig. 2 Content and spare parts" on page 29).
 - 🔧 Should it be noticed that a piece is missing or deteriorated, contact the nearest technical service.

4 ACTUATOR INSTALLATION

Assembly positions and levels

🔧 It is necessary to install an opening and closing stopper.

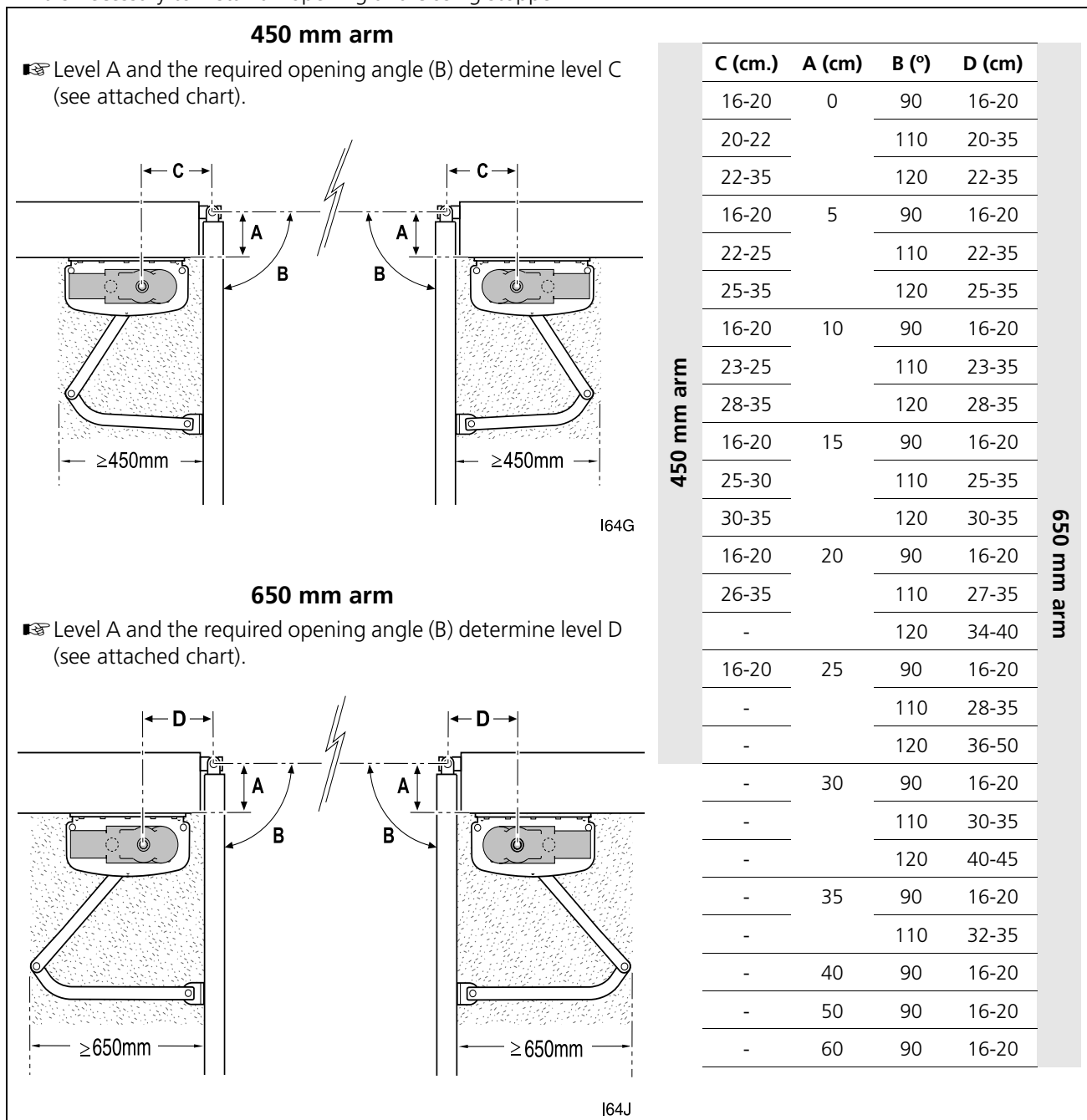
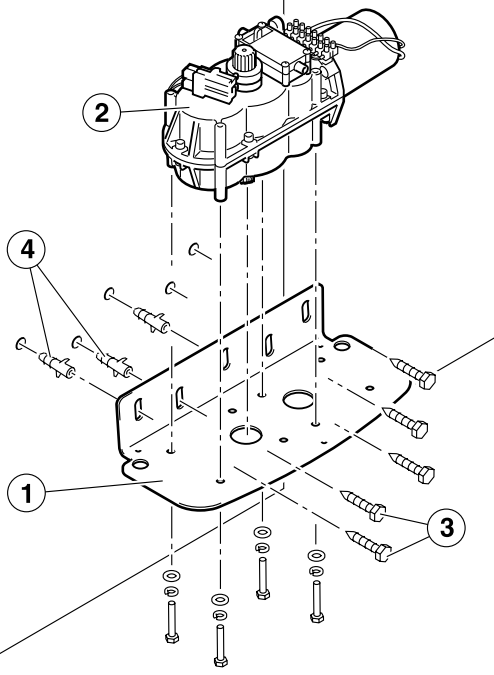


Fig. 3 Example of assembly position of the actuator



Mount the bracket (1) and the actuator (2)

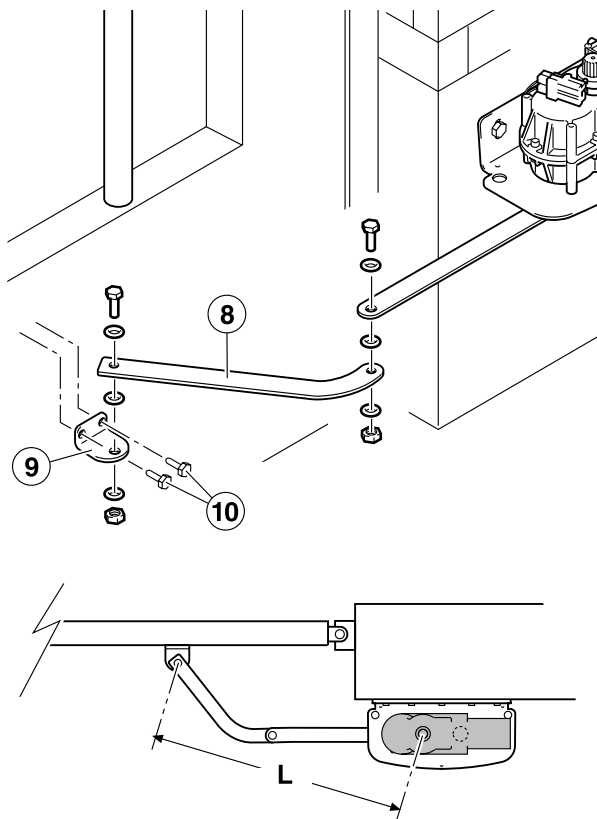
▲ The screws (3) and plugs (4) are not supplied. Use screws and plugs which are suitable for the place of attachment and the effort and weight of the actuator.



I64H

Mount the arm (8) and its bracket (9)

▲ The screws (10) are not supplied. Use screws which are suitable for the place of attachment and the effort of the actuator.

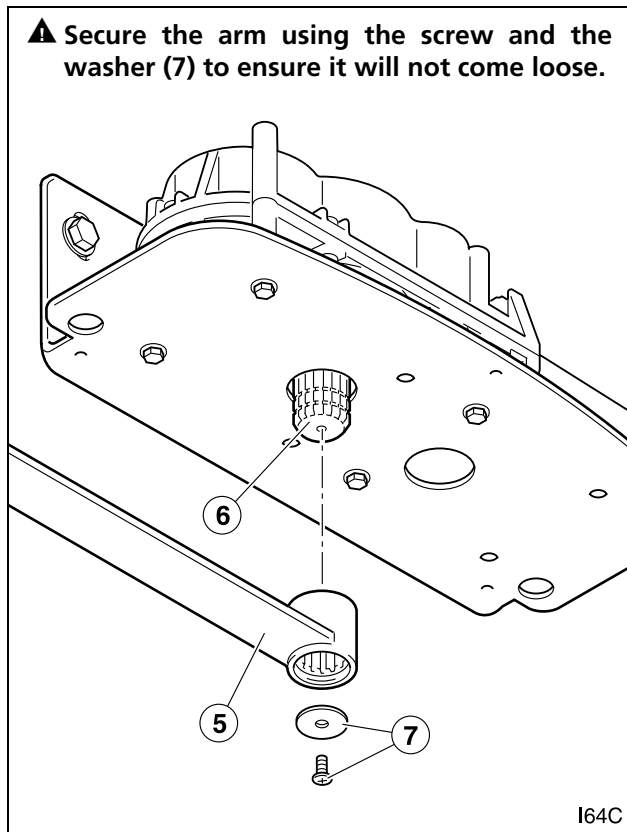


450 mm arm: L=740 mm max.
650 mm arm: L=1100 mm max.

I64E

Position the arm (5) on the shaft (6)

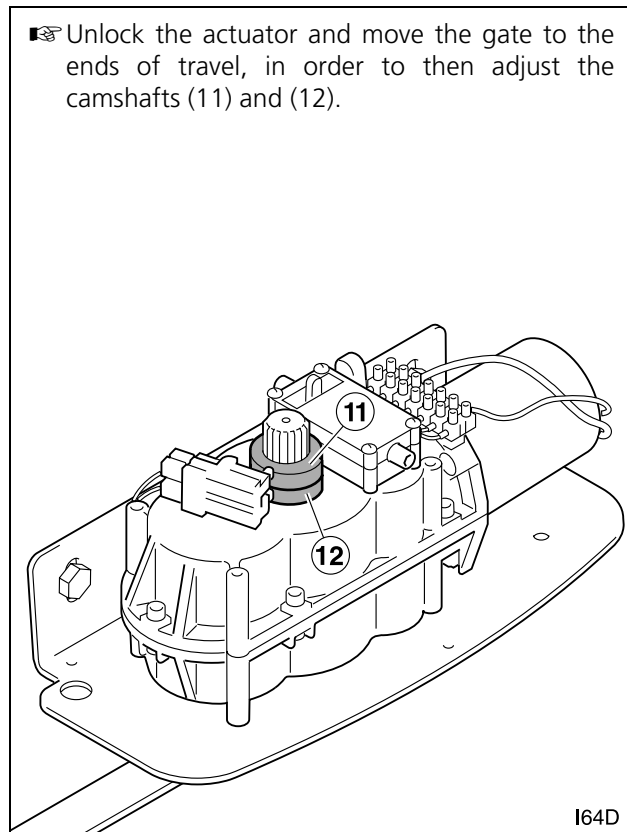
▲ Secure the arm using the screw and the washer (7) to ensure it will not come loose.



I64C

Adjust the ends of travel

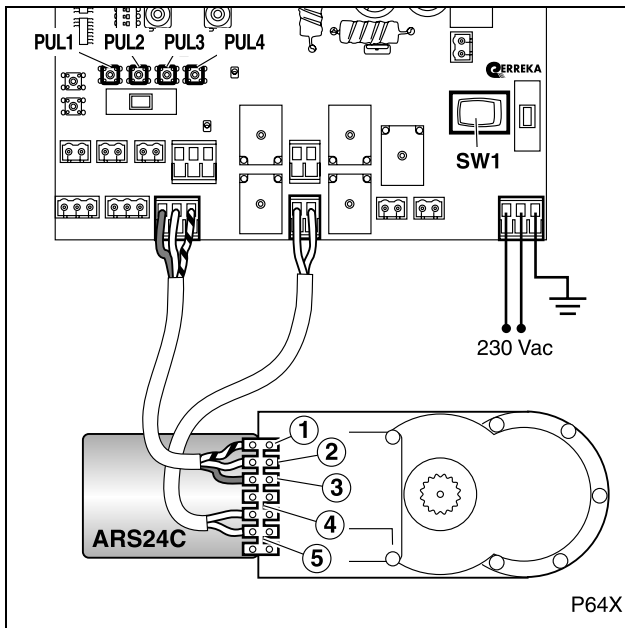
☞ Unlock the actuator and move the gate to the ends of travel, in order to then adjust the camshafts (11) and (12).



I64D

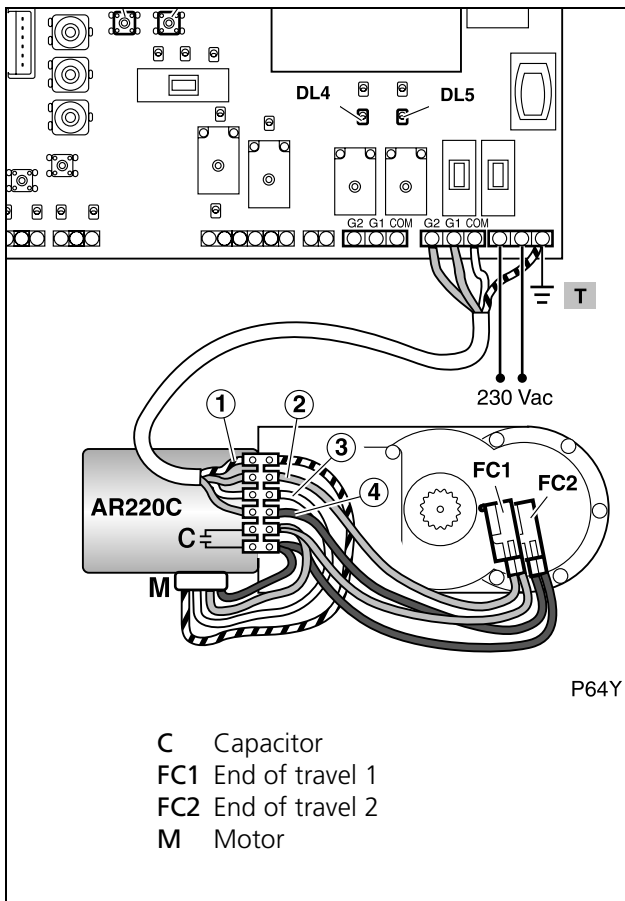
5 ELECTRICAL CONNECTIONS

A- ARS24C with 24Vdc control panel with encoder (ABC2MARC9)



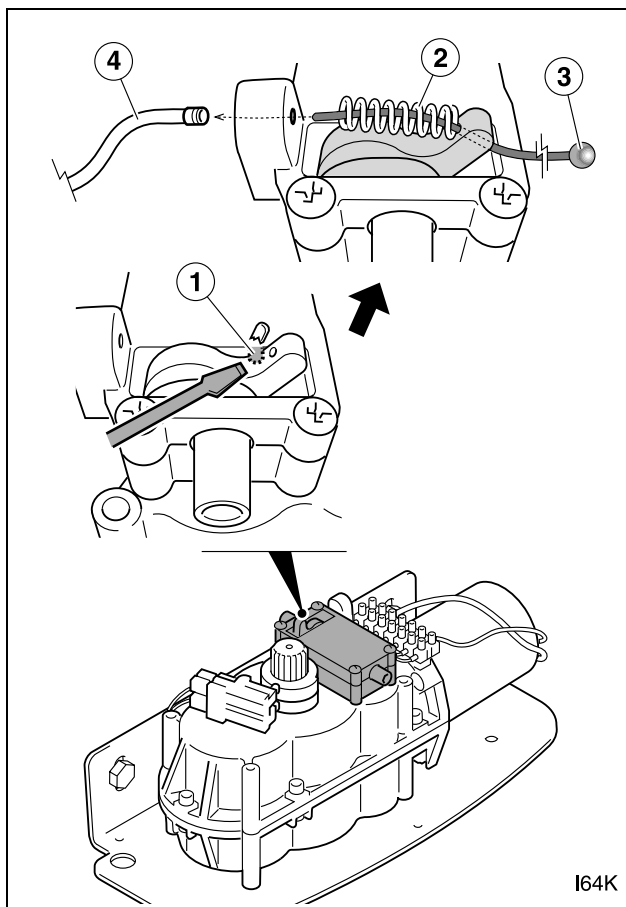
- 1 Complete the connections as shown in the figure:
 - 1 Green cable: encoder signal
 - 2 White cable: power supply (-) encoder
 - 3 Brown cable: power supply (+) encoder
 - 4 Blue cable: motor (24Vdc)
 - 5 Red cable: motor (24Vdc)
- 2 Use PUL1, PUL2, PUL3, PUL4 to check the correct operation of the actuator.
 - ✎ Check the instructions for the control panel in order to install the other electrical components.
- 3 Adjust the ends of travel so they act as a travel stopper (see "Adjust the ends of travel" on page 32).

B- AR220C with 230Vac control panel without encoder (AEP20TOP)



- 1 Complete the connections as shown in the figure:
 - 1 Yellow/green cable: earth
 - 2 Brown cable: turn 1
 - 3 Grey cable: common
 - 4 Black cable: turn 2
- 2 Use PUL1, PUL2 to check the correct operation of the actuator.
 - ✎ Check the instructions for the control panel in order to install the other electrical components.
- 3 Adjust the travel using the ends of travel of the actuator (see "Adjust the ends of travel" on page 32).

6 INSTALLATION OF RELEASE BOX FOR MANUAL DRIVE



☞ Release for manual drive can be carried out in two manners:

- By way of key: see “Manual operation” on page 29.
- By way of release box: a release box must be installed, as shown below:

- 1 Remove the rim (1).
- 2 Position the spring (2) and introduce the release cable (3) and its cover (4).
- 3 Install the release box. Check the release box instructions manual.

7 FINAL CHECKS

Closing force check

⚠ Installation must respect the values indicated in Standard EN 12453:2000. All measurements must be made in line with the method described in Standard EN 12445:2000.

- $F_d < 400\text{N}$ in spaces between 50mm and 500mm
- $F_d < 1400\text{N}$ in spaces $> 500\text{mm}$

User instruction

- 1 Instruct the user with regards to the use and maintenance of the installation and provide him/her with the use manual.
- 2 Signpost the gate, showing that it opens automatically and indicating how to operate it manually. Where appropriate, indicate that operation is using the remote control.

1 MAINTENANCE

▲ Before carrying out any maintenance operation, disconnect the device from the power supply.

1 Frequently check the installation in order to discover any imbalance or sign of deterioration or wear. Do not use the device if any repair or adjustment is necessary.

2 Clean and lubricate the articulations of the gate and the articulated arm, so as not to increase the effort of the actuator.

3 Check that the controls and photocells, as well as their installation, have not suffered any damage from the weather or external agents.

2 FAILURE DIAGNOSIS

Problem	Cause	Solution
The actuator does not make any movement when the opening or closing controls are activated	Absence of system power supply voltage	Re-establish the power supply
	Defective electrical installation	Check that the installation does not present any short-circuits or cut-off points
	Defective control panel or control devices	Check these elements, seeing their respective manuals
When activating the opening or closing devices, the actuator is activated but the gate does not move	Gate obstructed or blocked	Unblock, adjust and lubricate the gate articulations
	The angle formed by the two sections of the articulated arm is too big or too small	Carry out installation again, respecting the dimensions indicated in the "Fig. 3 Example of assembly position of the actuator"
The gate moves in an irregular manner	Gate partially obstructed or blocked	Unblock, adjust and lubricate the gate joints
	The photocell detects an obstacle	Remove the obstacle and try again
The gate cannot completely close (or open)	The resistance of the gate has increased when closing (or when opening)	Check the moving parts of the gate and remove the resistance
	The force of the actuator during closing (or opening) is too low	Increase the closing or opening force using the control panel programme.
	The ends of travel of the actuator are maladjusted	Adjust the camshafts of the ends of travel



3 SCRAP

▲ The actuator, up until the end of its useful life, must be dismantled at its location by an installer who is as well qualified as the person who completed the assembly, observing the same precautions and safety measures. In this manner we will avoid possible accidents and damage to adjacent facilities.

♻️ The actuator must be deposited in the appropriate containers for subsequent recycling, separating and classifying the different materials in line with their nature. NEVER deposit it in domestic rubbish or in landfills which are not controlled, as this will cause environmental damage.

4 SPARE PARTS

▲ If the actuator needs repairing, go to an authorised assistance centre or manufacturer; never try to repair it yourself.

▲ Use only original spare parts.