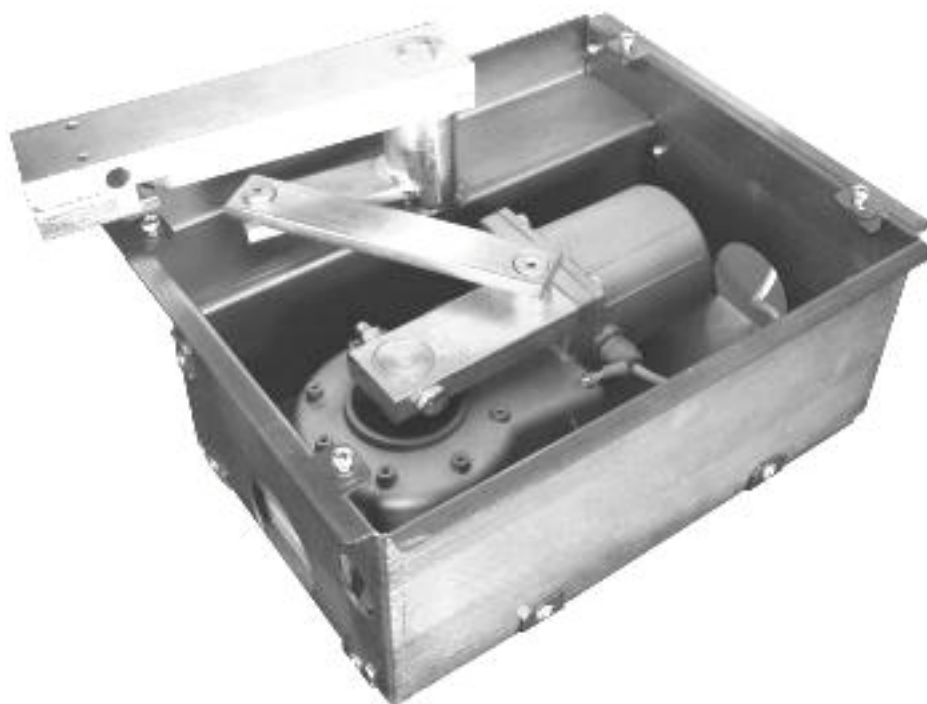


# TECHNICAL INSTALLATION MANUAL

## UNDER 250



## UNDERGROUND OPERATOR FOR SWINGING GATES AND DOORS



**WARNING!!** Before installing, thoroughly read this manual that is an integral part of the pack



The CE mark conforms to European directive EEC 89/336 + 92/31 + 93/68

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# INDEX

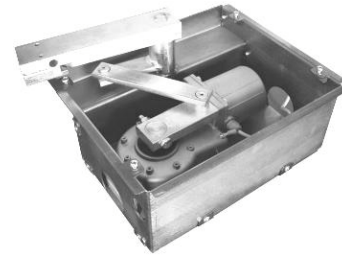
<b><u>1</u></b>	<b><u>PACKING CONTENTS</u></b> .....	<b>3</b>
<b><u>2</u></b>	<b><u>VIEW OF TYPICAL AUTOMATION AND NAMES OF COMPONENTS</u></b> .....	<b>4</b>
<b><u>3</u></b>	<b><u>TECHNICAL DATA</u></b> .....	<b>5</b>
<b><u>4</u></b>	<b><u>DIMENSIONS</u></b> .....	<b>6</b>
<b><u>5</u></b>	<b><u>TYPICAL CONNECTION AND CABLE SECTION</u></b> .....	<b>6</b>
<b><u>6</u></b>	<b><u>INSTALLATION</u></b> .....	<b>7</b>
6.1	<u>GATE WING OPENING ANGLE</u> .....	7
6.2	<u>BOX INSTALLATION PROCEDURE</u> .....	8
6.3	<u>ASSEMBLING THE OPERATOR AND LEVERS</u> .....	9
6.4	<u>FASTENING THE OPERATOR LEVER TO THE GATE</u> .....	10
6.5	<u>EMERGENCY RELEASE PROCEDURE</u> .....	10
<b><u>7</u></b>	<b><u>TROUBLESHOOTING</u></b> .....	<b>11</b>

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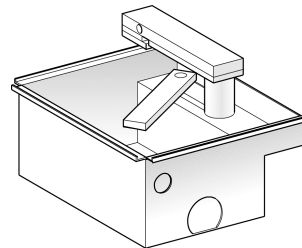
## 1 PACKING CONTENTS

This Kit contains the following items:

- 1 Underground operator



- 1 Foundation box
- 1 Lever kit for 90° opening



- 1 Release lever

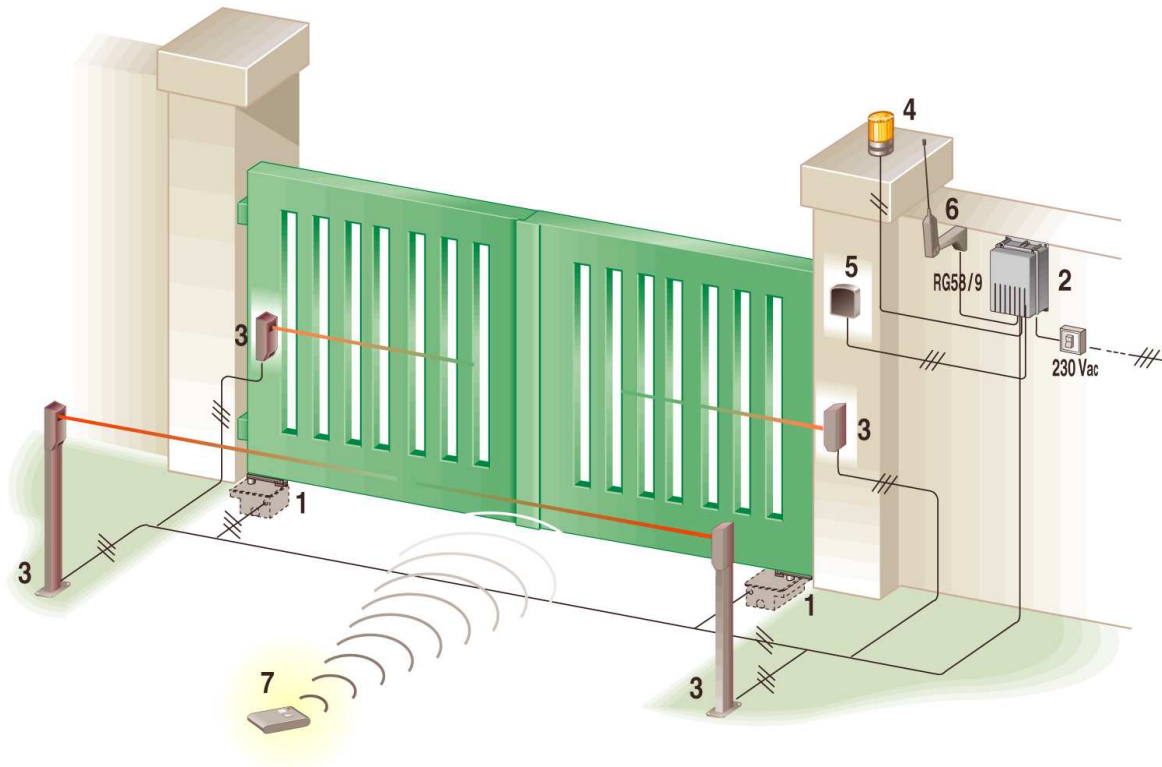
CHS



### Optional accessories

- 1 Remote control
- 1 Tuned antenna 433.920
- 1 Pair of outdoor photocells
- 1 Flashing light 230V
- 1 Outdoor key-switch
- 1 Sign

## 2 VIEW OF TYPICAL AUTOMATION AND NAMES OF COMPONENTS



Optimal installation

1. Operator	4. Flashing warning light
2. Electronic control unit	5. Key-switch
3. External photocell Internal photocell (optional)	6. Antenna
	7. Remote control

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### 3 TECHNICAL DATA

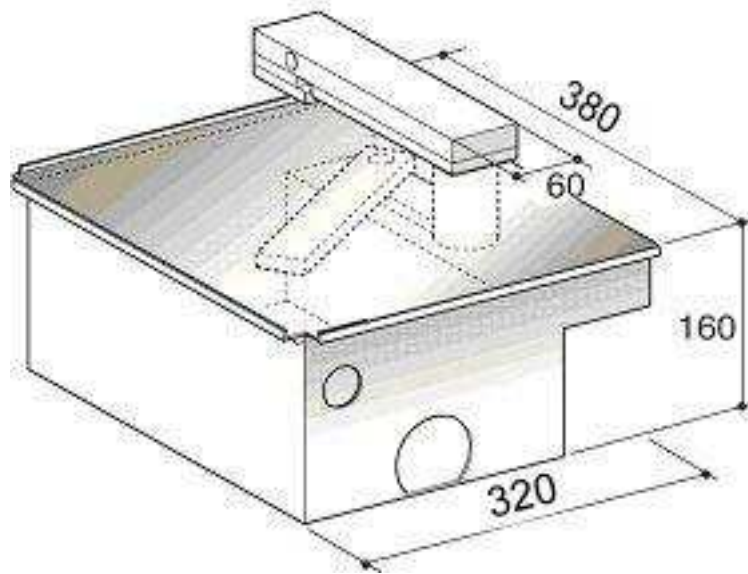
#### UNDER 250 (230VAC)

Max. weight per wing	500 Kg
Max. width per wing	2,5 m
Motors power supply	230 V $\pm$ 10%, 50 Hz
Condenser	10 $\mu$ F
Motor current input	1.2 – 1.6 A
Motor power	200W
Overload cutout	135°C
Torque given	250 Nm
Operator weight	10 Kg
Noise level	< 30 dB
Protection rating	IP 67
Opening time 90°	16 sec.
Mechanical release for emergency manoeuvre	With toothed lever provided
Working temperature	-20°C / + 55°C

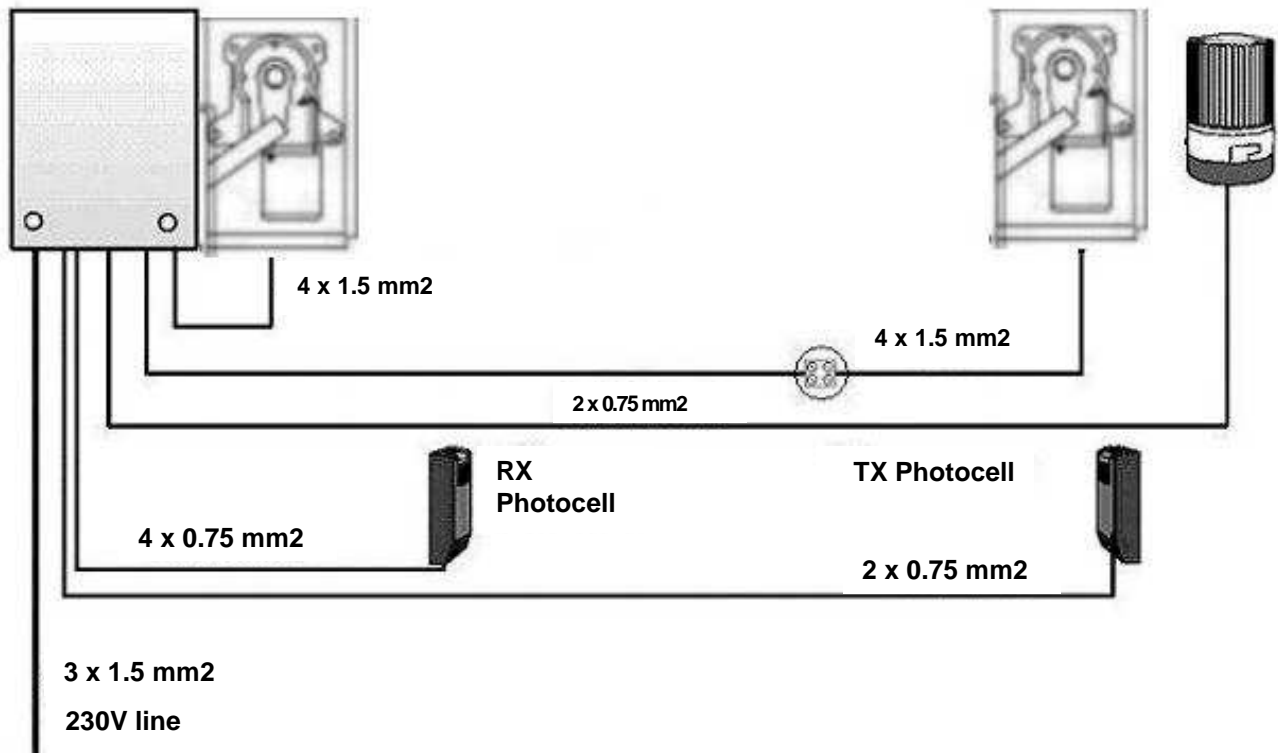
#### UNDER 250 (24VDC)

Max. weight per wing	500 Kg
Max. width per wing	2,5 m
Motors power supply	24VDC
Motor current input	2,7 A
Motor power	60W
Torque given	200 Nm
Operator weight	10 Kg
Noise level	< 30 dB
Protection rating	IP 67
Opening time 90°	16 sec.
Mechanical release for emergency manoeuvre	With toothed lever provided
Working temperature	-20°C / + 55°C

## 4 DIMENSIONS



## 5 TYPICAL CONNECTION AND CABLE SECTION



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## CONSIDERATIONS FOR INSTALLATION

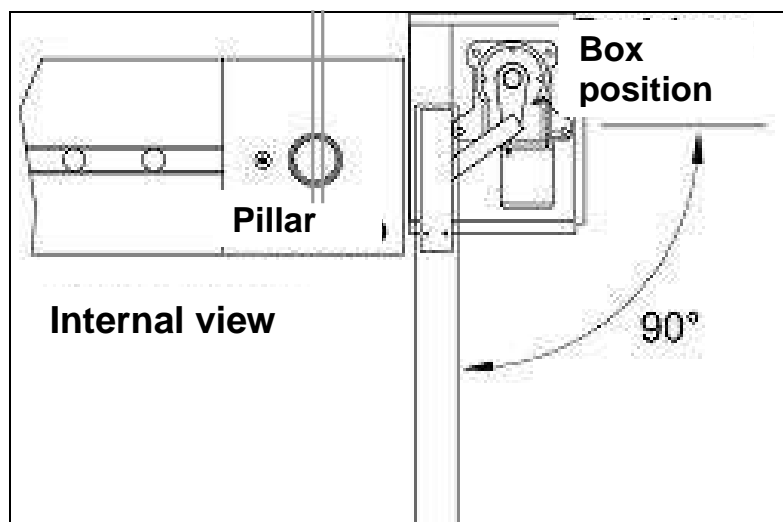
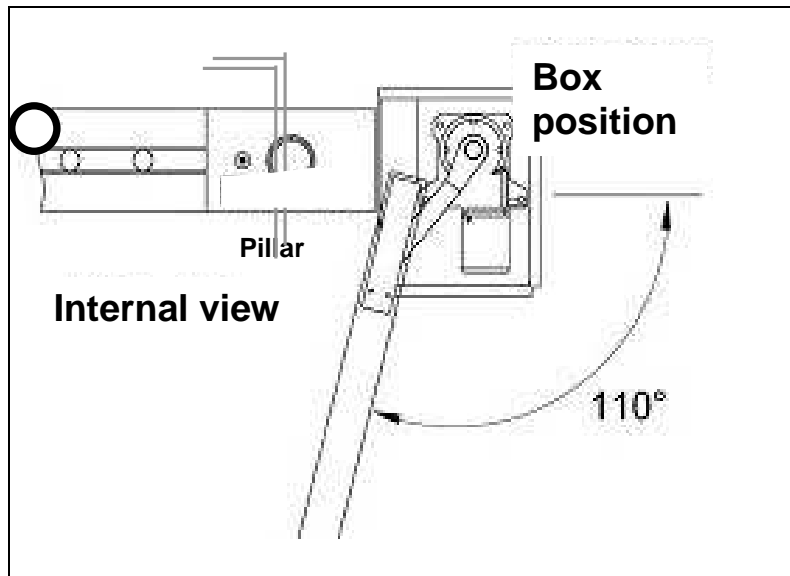
- The installation and testing operations must be performed solely by qualified personnel in order to guarantee the proper and safe operation of the automatic gate.
- The company declines any responsibility for damage caused by incorrect installations due to incompetence and/or negligence.
- Before assembling the automatism, check that the gate is in perfect working order, hangs well on its hinges and is suitably lubricated. It must also comply with the safety standards in force in the country of installation.

## 6 INSTALLATION

**Introductory note:** Dig a hole big enough to hold the foundation box, calculate the required opening angle, insert the sheath for laying the power cable and that for laying the limit switch cables (where applicable), make water drainage holes in the ground and cement the box solidly.

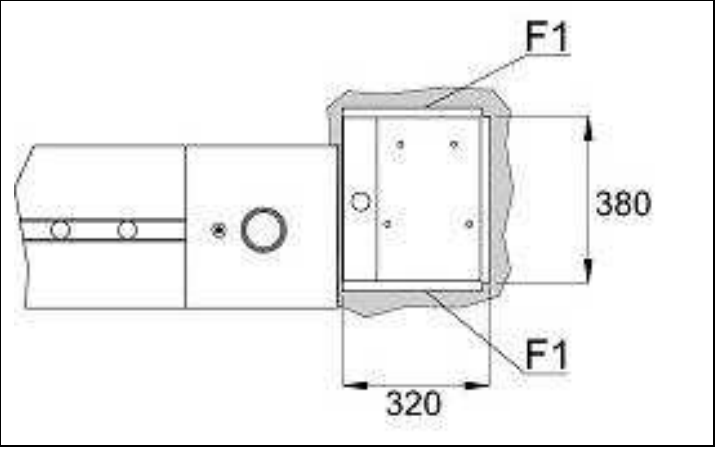
### 6.1 GATE WING OPENING ANGLE

#### 6.1.1 Establish the required opening angle



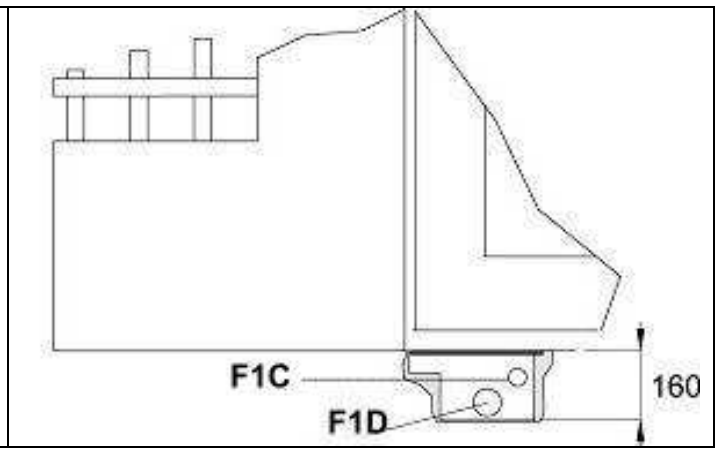
## 6.2 BOX INSTALLATION PROCEDURE

**6.2.1** Dig a hole big enough to hold the box containing the operator (**see F1**)



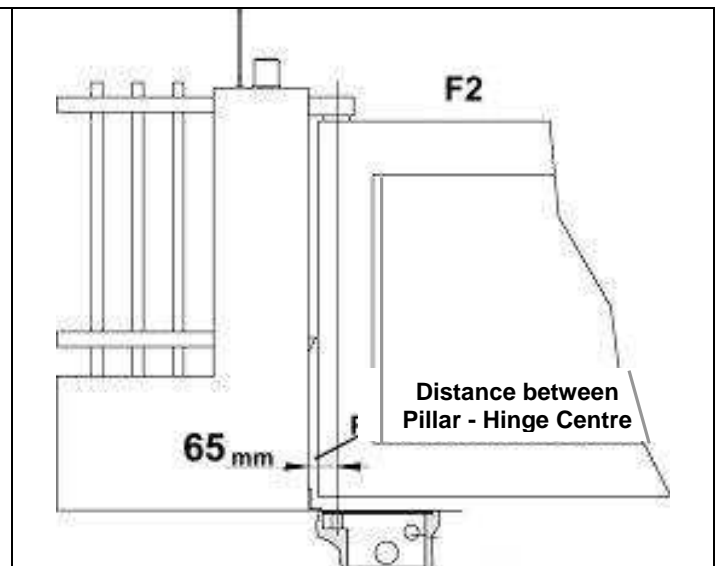
**6.2.2** Insert the tubes for water drainage in the prepared holes (**F1C**)

**6.2.3** Insert the sheath for laying the power cables and limit switch (**F1D**).



**Note:** while positioning the box, keep in mind the minimum distance there must be between the pillar and the centre of rotation of the gate hinge. (**see F2**)

Cement so that the box cannot be moved, wait for it to dry and then assemble the operator and levers.

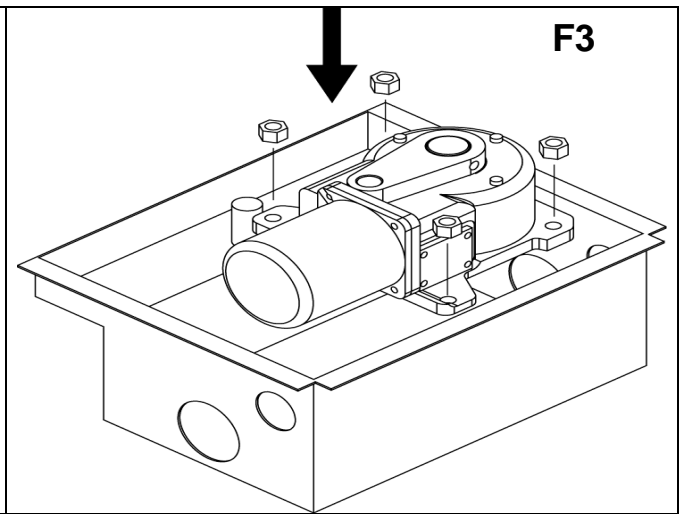


Distance between Pillar - Hinge Centre

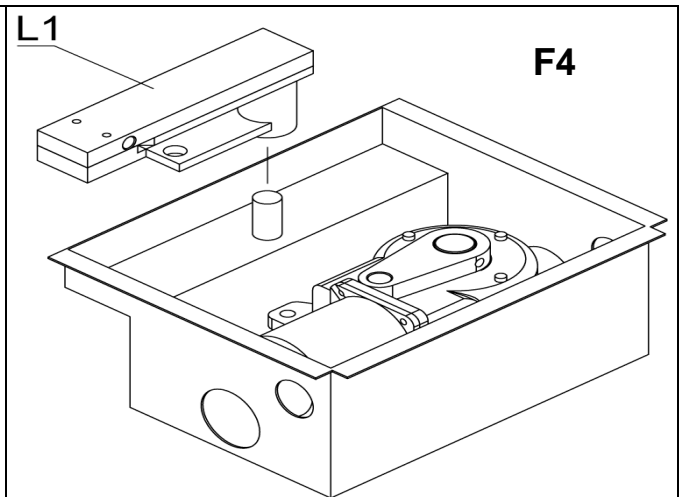


### 6.3 ASSEMBLING THE OPERATOR AND LEVERS

**6.3.1** Place the operator in the box and fasten it with the nuts provided.

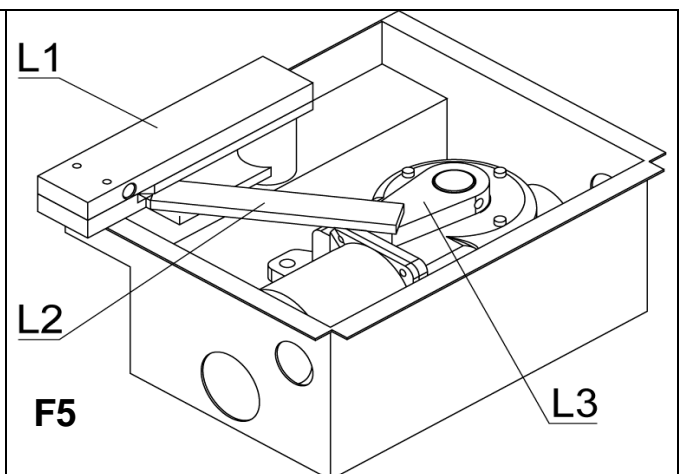


**6.3.2** Insert the ball in the pin located on the box and fit the gate anchorage lever (L1)

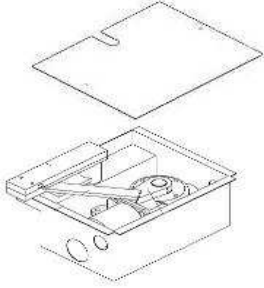
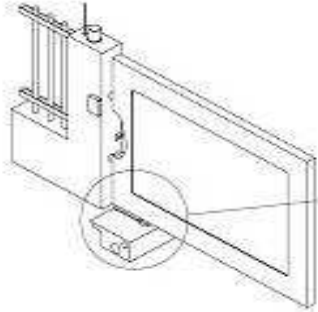
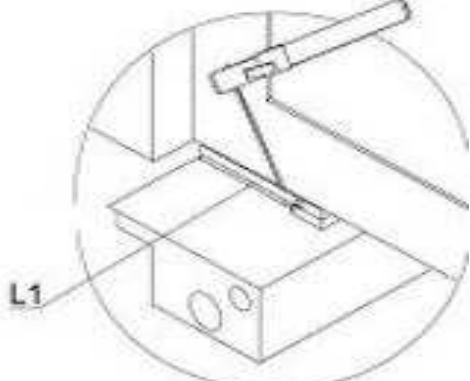


**6.3.3** Insert the lever (L3) onto the motor shaft

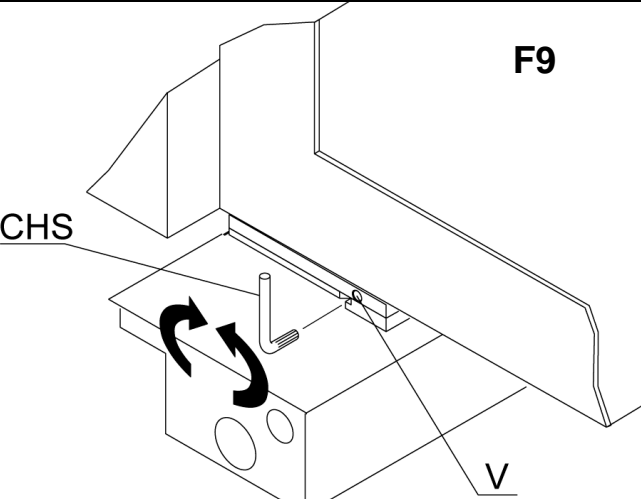
**6.3.4** Fit the connecting lever (L2)



## 6.4 FASTENING THE OPERATOR LEVER TO THE GATE

<p><b>6.4.1</b> Insert the cover and fasten it with the screws provided</p>	<p><b>F6</b></p> 
<p><b>View</b></p>	<p><b>F7</b></p> 
<p><b>6.4.2</b> Position the gate wing and the lever (<b>L1</b>) so that they are perfectly aligned and fasten them by welding or similar.</p>	<p><b>F8</b></p> 

## 6.5 EMERGENCY RELEASE PROCEDURE

<ul style="list-style-type: none"><li>• Insert the key <b>CHS</b> provided into the appropriate hole (<b>V</b>) on the lever <b>L1</b> (see Fig.).</li><li>• Turn the key clockwise by about 45°</li></ul>	<p><b>F9</b></p> 
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## 7 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
On giving a command with the remote control or with the key-switch, the gate opens or the motor does not start	230 volt mains voltage absent	Check master switch
	Emergency STOP present	Check for any STP selectors or commands. If not used, check jumper on STP contact input on unit
	Fuse blown	Replace with one of same value.
	Power cable of motor or motors not connected or faulty.	Connect the cable to appropriate terminal or replace.
	There is a blockage in the photocell or it is not working	Check the connection, remove any obstacle.
On giving a command with the remote control, the gate does not open but works with the key command	The remote control has not been memorised or the battery is flat	Carry out the remote control recognition procedure on the radio receiver or replace the battery with a new one.
On giving a command, the flashing warning light works slowly and the light is dim	2 A fuse blown	Replace with one of same value
The gate starts, but then stops	The force of the motor or motors is insufficient	Modify the value with the FORCE trimmer on the control unit
On giving a command, the motor starts, but the gate does not move	There is an obstacle in front of the wings, the hinges are blocked or the motor anchorage bracket or brackets have come loose	Remove the obstacle from in front of the wings, restore the hinges, replace or lubricate them.  Fasten the motor bracket
	The electric lock, if present, does not work	Check if it is connected or lubricate
One wing opens and the other closes	The connection is not correct	Invert the cable polarity of motor in question

**N.B. - If the problem persists, contact your Retailer or the nearest Service Centre**

## **SAFETY PRECAUTIONS**

These warnings are an essential, integral part of the product and must be given to the user. They provide important indications on the installation, use and maintenance and must be read carefully. This form must be preserved and passed on to subsequent users of the system. The incorrect installation or improper use of the product may be dangerous.

### **INSTALLATION INSTRUCTIONS**

- The installation must be performed by professionally skilled personnel and in compliance with current local, state, national and European legislation.
- Before beginning the installation, check the integrity of the product.
- The laying of cables, electrical connections and adjustments must be workmanlike performed.
- The packing materials (cardboard, plastic, polystyrene, etc.) are a potential hazard and should be disposed of correctly and not left within reach of children.
- Do not install the product in potentially explosive environments or environments disturbed by electromagnetic fields. The presence of inflammable gases or fumes is a grave danger to safety.
- Set up a safety device for overvoltage, a disconnecting and/or differential switch suitable for the product and conforming to current standards.
- The manufacturer declines any and all responsibility for product integrity, safety and operation in the event incompatible devices and/or components are installed.
- Solely original spare parts should be used for repairs and replacements.
- The installer must provide all the information relating to the operation, maintenance and use of the individual parts, components and system as a whole.

### **MAINTENANCE**

- To ensure product efficiency, it is essential that professionally skilled personnel carry out maintenance within the times established by the installer, the manufacturer and by current legislation.
- All installation, maintenance, repairs and cleaning operations must be documented. This documentation must be preserved by the user, and made available to the personnel responsible.

### **WARNINGS FOR THE USER**

- Read the instructions and enclosed documentation carefully.
- The product must be used for the express purpose for which it was designed. Any other use is considered improper and therefore hazardous. In addition, the information given in this document and in the enclosed documentation may be subject to modifications without prior notice. It is given as an indication only for product application. The company declines any responsibility for the above.
- Keep products, devices, documentation and anything else provided out of reach of children.
- In the event of maintenance, cleaning, breakdown or faulty operation of the product, cut off the power and do not attempt to operate on the product. Contact solely the professionally skilled personnel responsible for these operations. Failure to adhere to the above indications may be dangerous.

### **WARRANTY LIMITS**

The 24-month warranty starting from the date printed on the product is valid only for the first purchaser. It does not cover the following eventualities: negligence, incorrect or improper use of the product, use of accessories not conforming to the manufacturer's specifications, tampering by the customer or third parties, natural causes (lightning, floods, fire, etc.), riots, vandalism, modifications to the environmental conditions of the installation site. Nor does the warranty cover parts subject to wear (batteries, etc..). The product is to be returned for repair carriage free. The company shall return the repaired product to the sender carriage forward. Otherwise, the goods shall be rejected on arrival or withheld at dispatch. The purchase of the product implies full acceptance of all warranty conditions.



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