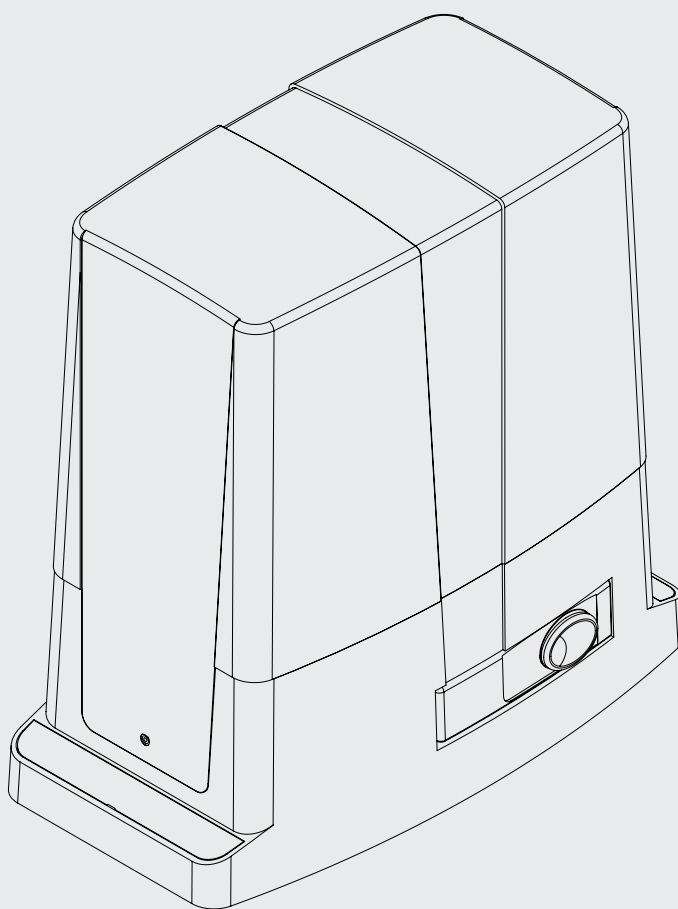
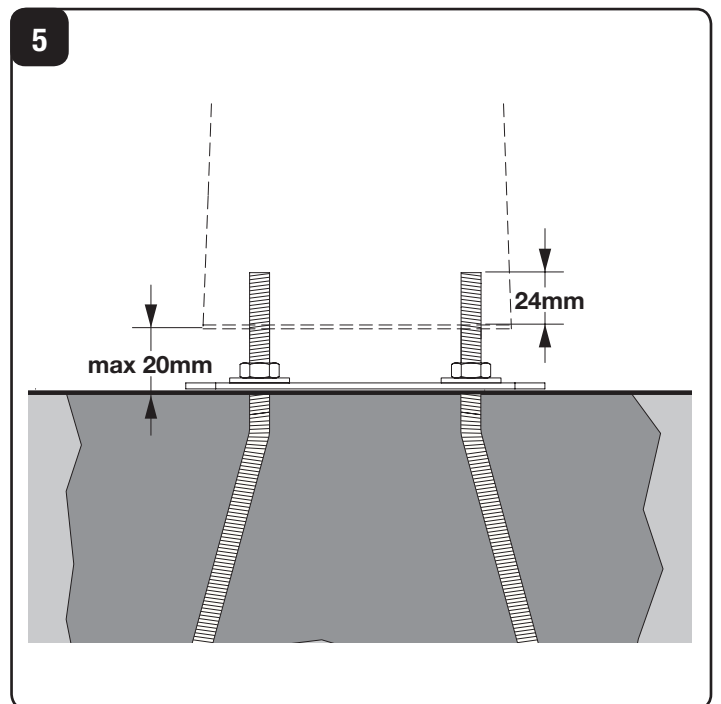
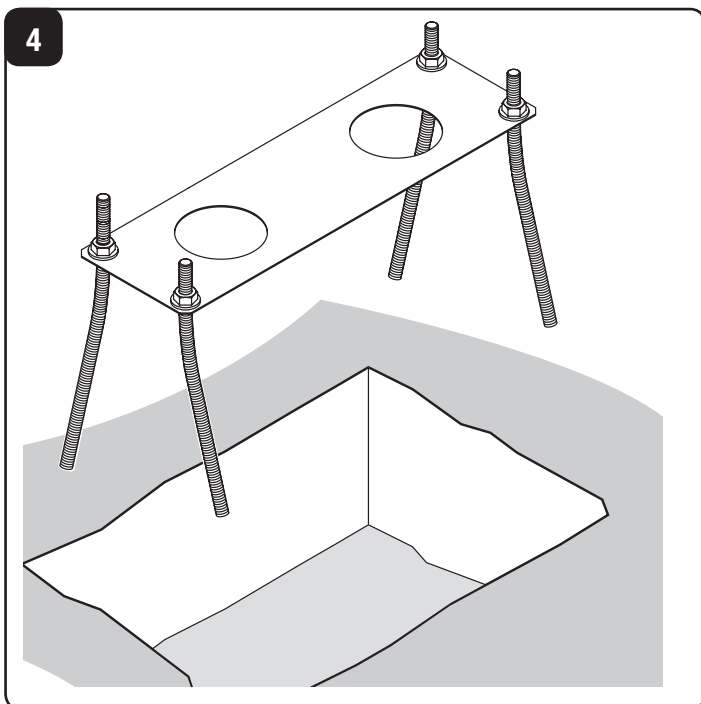
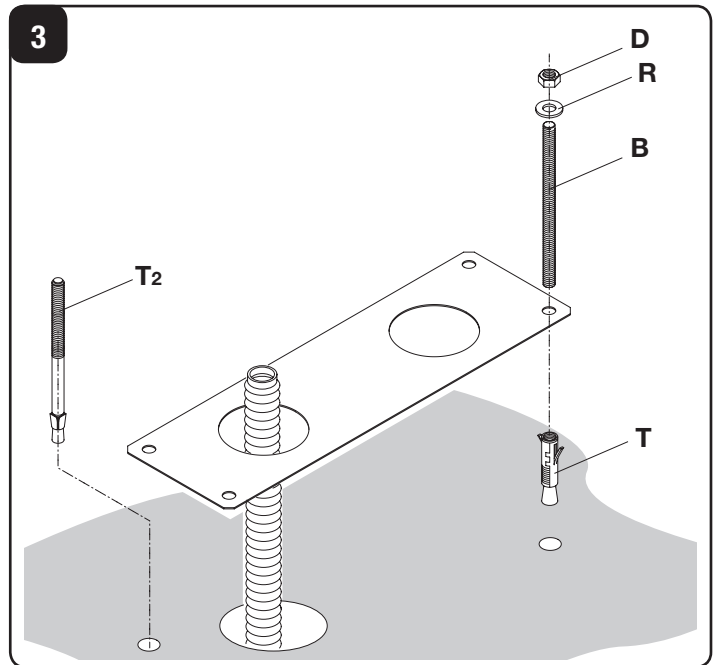
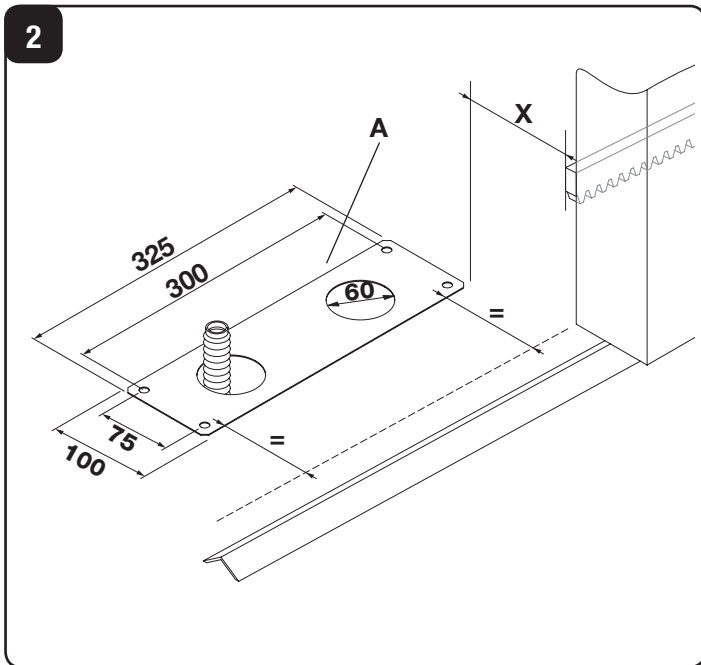
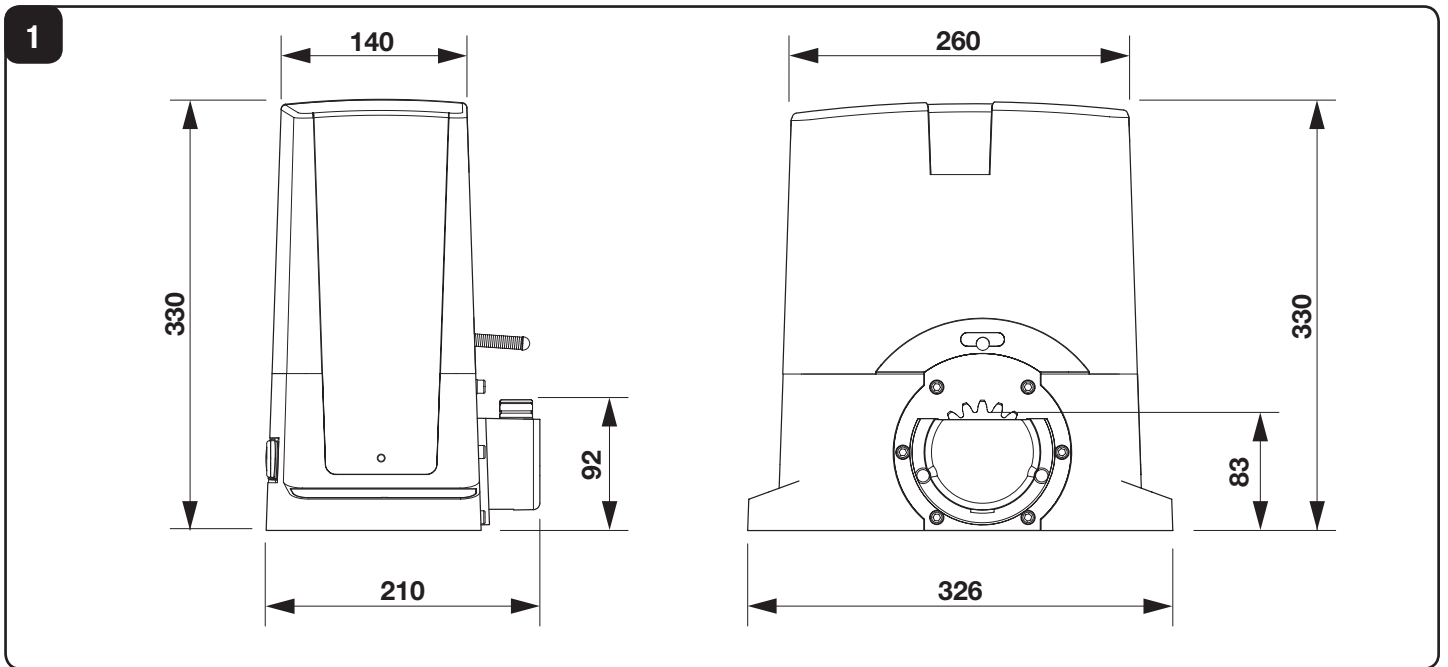


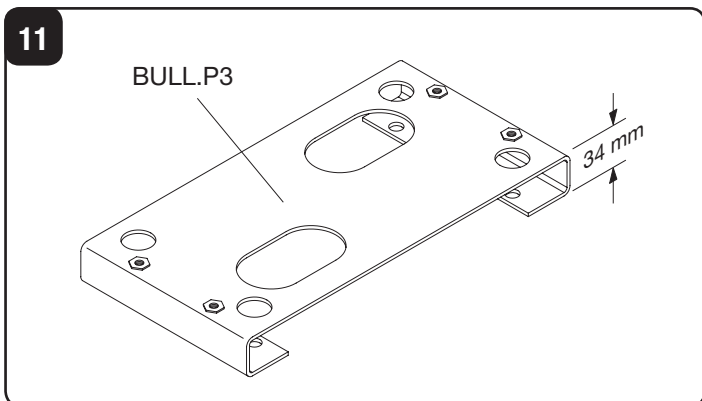
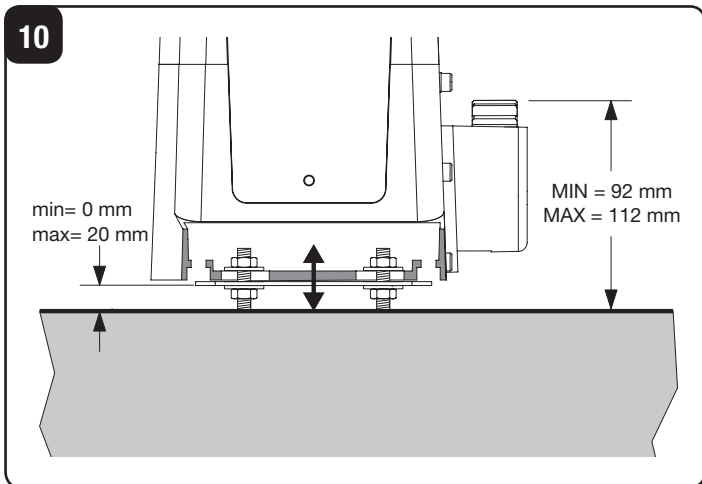
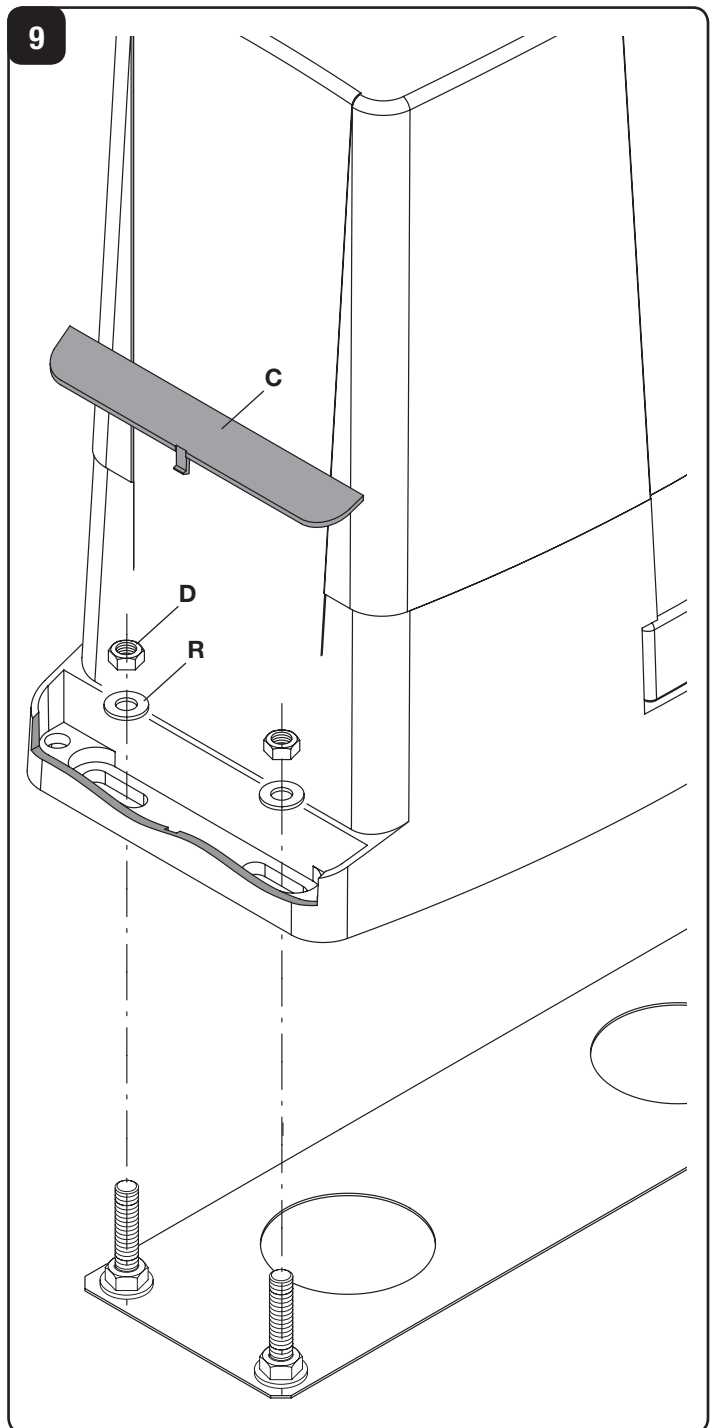
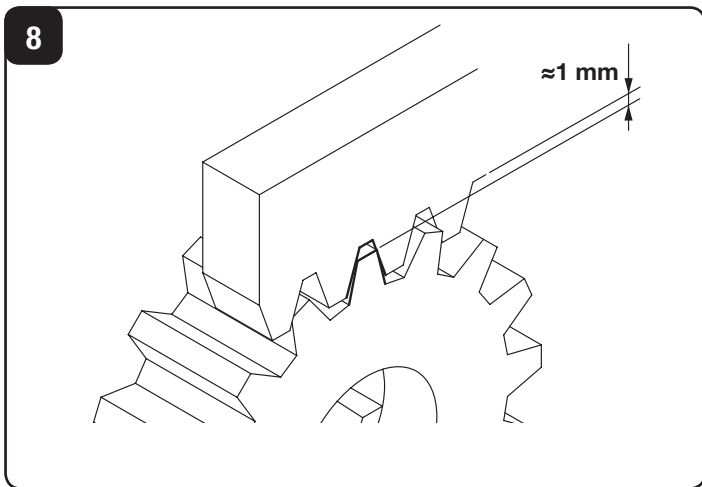
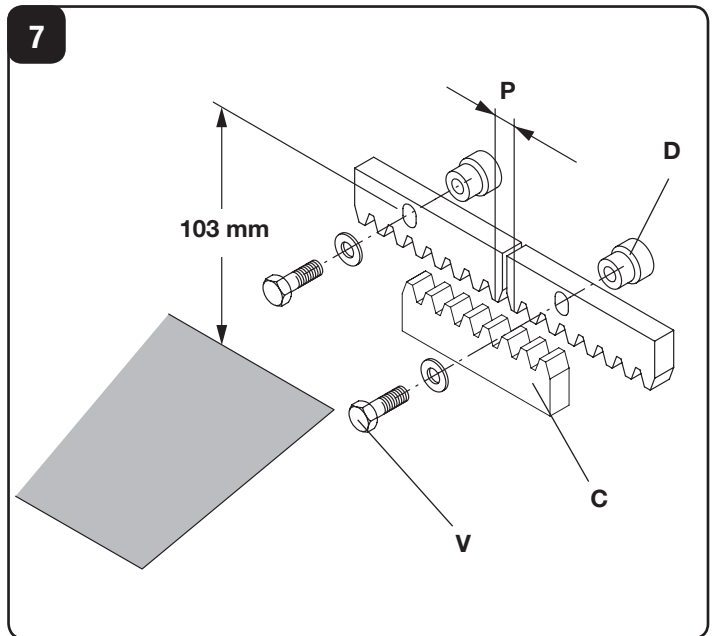
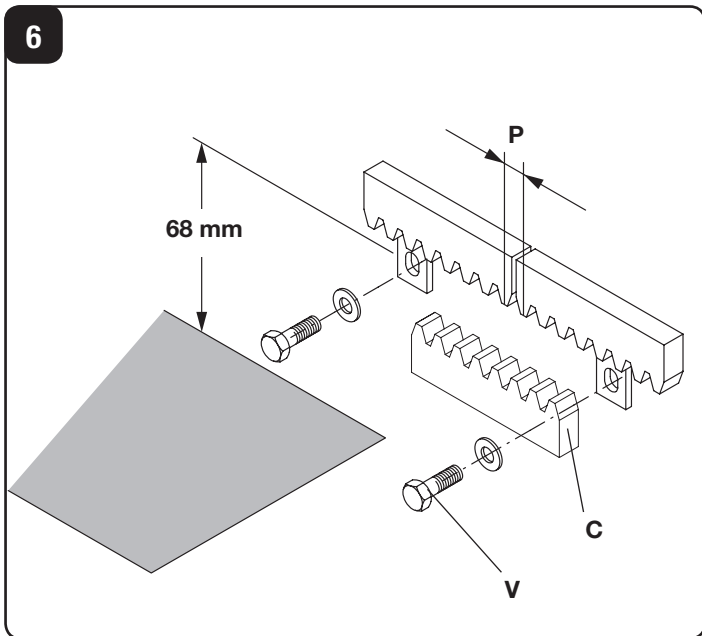
BULL 424 BULL 624



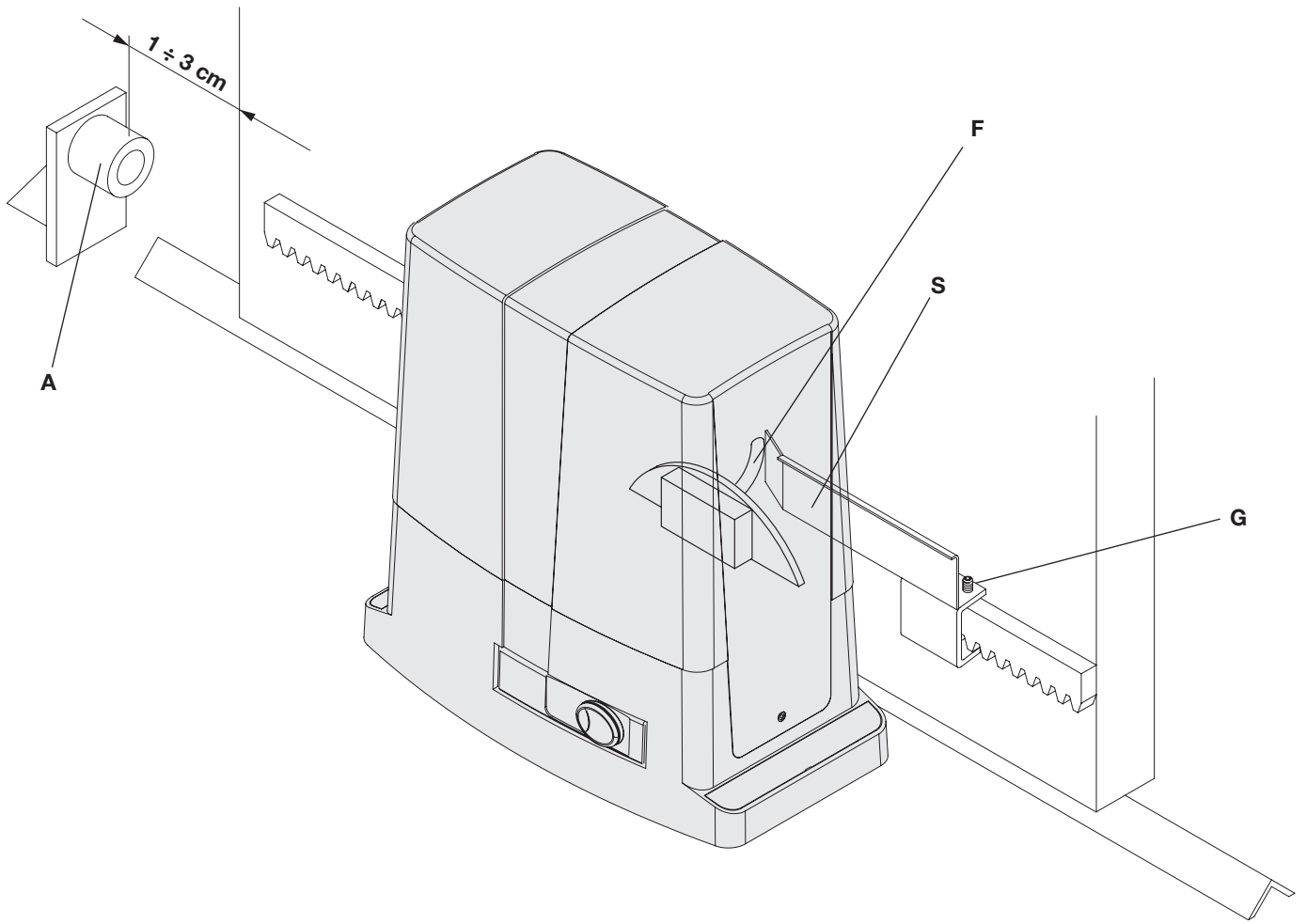
BENINCA[®]
TECHNOLOGY TO OPEN



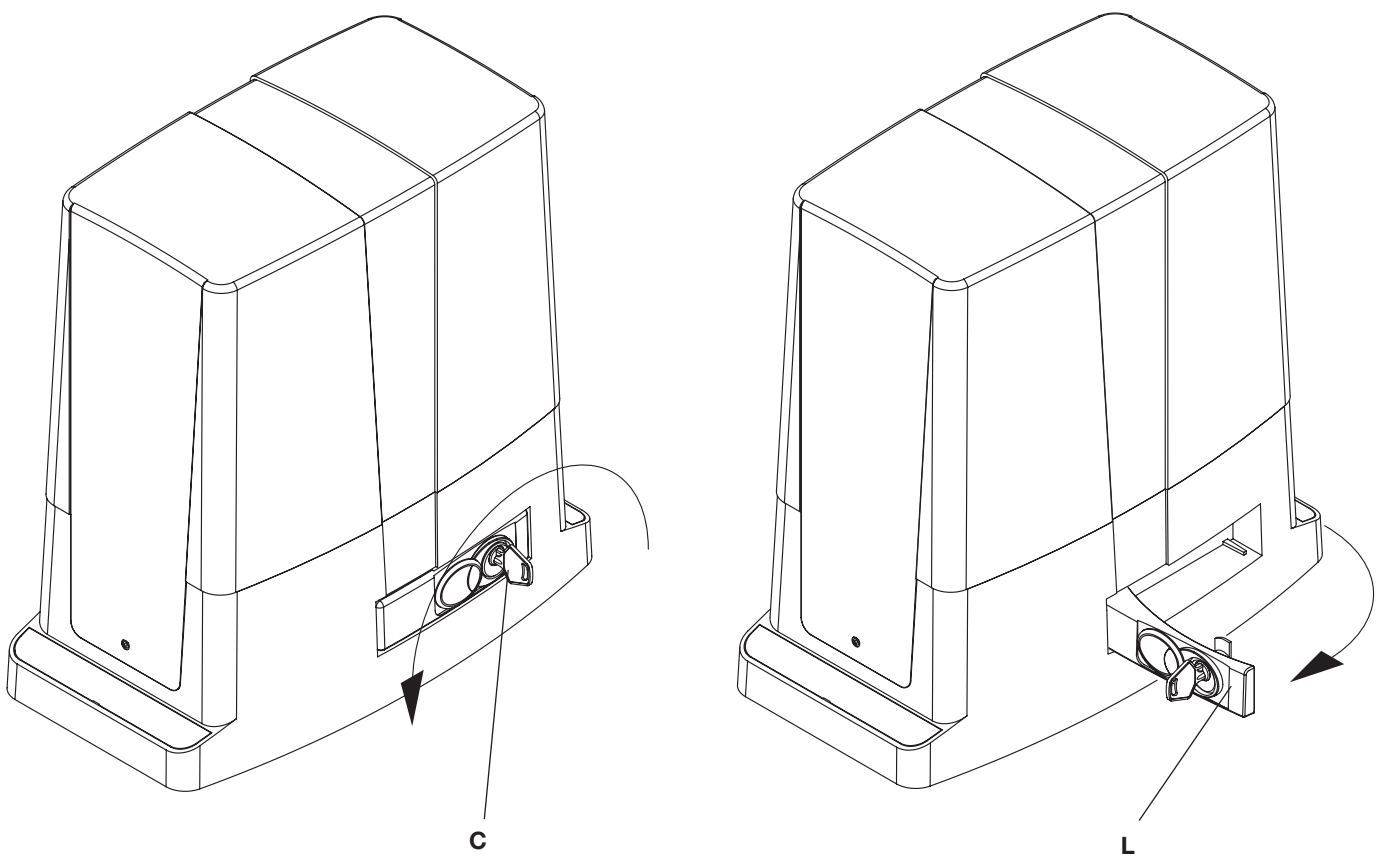




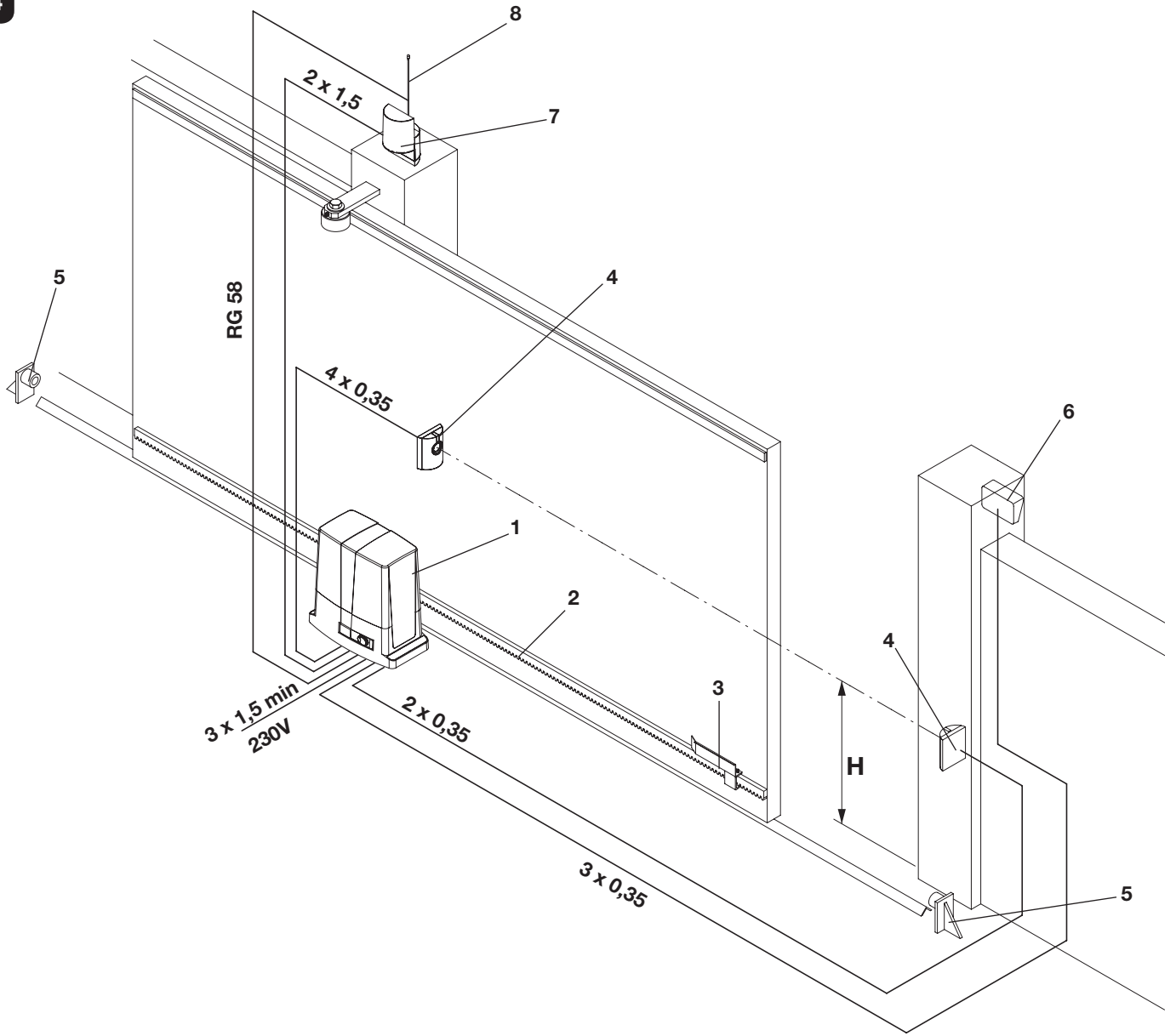
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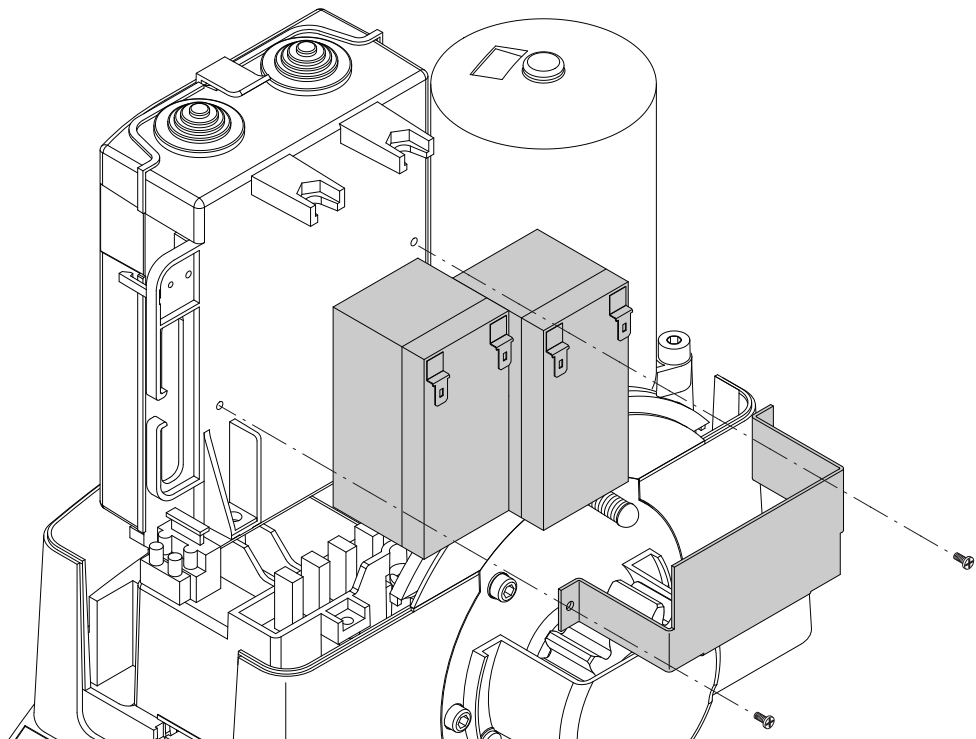
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15



EC Declaration of Conformity regarding machines (Directive 89/392 CE, Annex II B) - No servicing

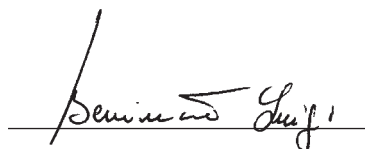
Manufacturer: **Automatismi Benincà SpA.**
Address: Via Capitello, 45 - 36066 Sandrigo (VI) - Italia

We herewith declare that: the automatic system for sliding gates, **BULL 424 - 624** model.

- is intended to be incorporated into a machine or assembled together with other devices to form a machine in compliance with the EC Directive 98/37, as amended;
- therefore, is not in every respect complying with this Directive;
- is complying with provisions set forth by the following other EC Directive:
EC Low voltage Directive (73/23/EEC, 93/68/EEC).
EC Directive of Electromagnetic Compatibility (89/336/EEC, 93/68/EEC)

Moreover, we herewith declare that the system shall not be put into service until the machine in which the same will be incorporated or of which it will become a component, is acknowledged compliant with the EC Directive 98/73 and applicable national legislation and a related declaration of conformity is drawn up. In other words, no servicing shall be carried out until the system under this declaration does not form one single final machine with other components.

Benincà Luigi, Legal responsible.
Sandrigo, 08/04/2008.



WARNING

The product shall not be used for purposes or in ways other than those for which the product is intended for and as described in this manual. Incorrect uses can damage the product and cause injuries and damages.

The company shall not be deemed responsible for the non-compliance with a good manufacture technique of gates as well as for any deformation, which might occur during use.

Keep this manual for further use.

Qualified personnel, in compliance with regulations in force, shall install the system.

Packaging must be kept out of reach of children, as it can be hazardous. For disposal, packaging must be divided the various types of waste (e.g. carton board, polystyrene) in compliance with regulations in force.

The installer must supply all information on the automatic, manual and emergency operation of the automatic system and supply the end user with instructions for use.



An omnipolar switch/section switch with remote contact opening equal to, or higher than 3mm must be provided on the power supply mains.. Make sure that before wiring an adequate differential switch and an overcurrent protection is provided.

Pursuant to safety regulations in force, some types of installation require that the gate connection be earthed.

During installation, maintenance and repair, cut off power supply before accessing to live parts.

Descriptions and figures in this manual are not binding. While leaving the essential characteristics of the product unchanged, the manufacturer reserves the right to modify the same under the technical, design or commercial point of view without necessarily update this manual.

INTRODUCTION

Congratulations on your choice of a BULL gear motor. All items included in Benincà's wide product range stem from twenty year of our experience in the sector of automatic systems, always striving to find new materials and advanced technologies.

For this reason, nowadays we are able to offer you extremely reliable products that, thanks to their power, efficiency and long-lasting features, entirely meet the end user's requirements.

All our products are covered by a guarantee. Furthermore, an R.C. insurance policy signed with a primary insurance company, covers any injuries or damages caused by manufacturing faults.

GENERAL INFORMATION

This automatic system, with 24VDC single-phase power supply for sliding gates, is available in the following versions:

BULL 424 for gates with maximum weight equal to 350kg

BULL 624 for gates with maximum weight equal to 600kg

BULL is a monobloc system featuring a refined design and reduced dimensions. The motor and an irreversible reduction system, manufactured with high resistant materials, are housed in an aluminium container. BULL is equipped with spring limit switches. The customised key emergency release allows to open and close the gate in case of power failure.

Anti-crash safety is ensured by an electronic device (encoder and amperometric sensor) which detects any obstacle present.

PRELIMINARY CHECKS

For a good operation of the automatic system for sliding gates, the gate or door shall meet the following features:

- the track and relevant wheels must feature correct sizes and must undergo adequate maintenance (in order to avert excessive friction during the sliding of the gate).
- during operation, the door shall not excessively oscillate.
- a mechanical stopper (according to regulations in force) shall limit the opening and closing movements.

SPECIFICATIONS

	BULL 424	BULL 624
Power supply	230Vac 50Hz	
Power supply, motor	24Vdc	
Power drawn	80 W	120 W
Current drawn	0,4 A	0,5 A
Torque	12 Nm	20 Nm
Work jogging	80% (intensive use)	
Protection level	IP54	
Insulation Class	F	
Operating temperature	-20°C / +70°C	
Gate max. weight	350kg	600kg
Rack module	M4	
Opening speed	12 m/min	10 m/min
Noise	<70 dB	
Lubrication	CASTROL OPTITEMP LP2	
Weight	9 kg	10 kg

INSTALLATION

FIG.1

Overall dimensions of the gear motor expressed in mm.

POSITIONING OF THE FOUNDATION PLATE

FIG.2-3-4-5

It is very important to keep to dimension X shown in Fig.2. This value depends on the type of rack used:

X = 52 mm for rack in nylon

X = 49 mm for rack in iron, 12x30mm

Preset a corrugated tube (Fig.2 -A) for the passage of power supply cables and connection wires for the accessories.

Check that, at the end of the fitting, the foundation plate is perfectly parallel with respect to the wing.

Fit the system with screw anchors on the bottom of the cement (Fig.3).

Drill 4 holes, diam.10mm, by using the foundation plate as drilling template.

Tightly anchor the foundation plate to ground through the 4 "T" steel screw anchors and the 4 "B" threaded bars, M8x150mm and corresponding "D" nuts and "R" washers.

Alternative fitting systems are available on the market, e.g. anchoring with retaining expansion band (Fig.3 -T2) to be inserted in the hole with some hammer strokes.

Fitting to be cemented (Fig.4)

In this case, after providing an adequate foundation hole, bend the threaded bars as shown in Fig.4.

Submerge the bars in cement, paying attention to the level of the plate.

Wait that the cement hardens.

Fig. 5 shows the completed fitting plate.

Regardless of the type of fitting, check that the threaded bars are firmly anchored to ground and that they protrude for at least 24mm (44 mm for raised installation).

FITTING OF THE RACK

FIG.6-7-8

Rack in nylon (Fig.6).

Position the rack at a height of 68 mm from the centre line of the fixing slot provided on the base on which the foundation plate will be fitted. At that height, drill a hole on the gate and provide for a M6 threading.

Keep to the P tooth pitch, even from a section of rack and another. To this purpose, it could be useful to join another section of rack (Part. C)

Rack in Fe 12x30mm (Fig.7).

Position the spacers D by welding them or fitting them with screws to the gate, at 103 mm height from the centre line of the fixing slot provided on the base on which the foundation plate will be fitted. Fix the rack by following points 4.3 and 4.4.

Keep to the P tooth pitch, for all sections of the rack. To this purpose, it could be useful to connect another section of rack (Part. C)

Then fix the rack with V screws, taking care, once the actuator is installed, that 1-mm backlash is left between the rack and the tow wheel (see Fig.8). To this purpose, use the slots on the rack.

POSITIONING AND ANCHORING OF THE ACTUATOR

FIG.9-10

Position the gear motor on the foundation plate with the gear centred with respect to the rack.

Release the automatic system and check that the gear be correctly positioned along the entire stroke of the rack. If required, adjust the alignment by using the special slots.

Fix the gear motor to the base by firmly tightening the 4 nuts D and inserting the R.

Apply the two screw covers C.

If the rack is already installed in a position which is higher than the pinion, the plate can be raised (20 mm maximum) by moving the nuts and the washers under the plate, as shown in Fig.10.

If the connecting cables already present make it difficult to fix the standard plate, the optional plate BULL P3 (Fig. 11) can be used, thus allowing to raise the actuator installation by about 34 mm and facilitating the passage of cables.

WARNING

The RC product insurance policy, which covers any injuries or damages to objects caused by manufacturing defects, requires the use of Benincà's original accessories.

POSITIONING OF THE LIMIT SWITCH BRACKETS

FIG.12

Manually open the gate and leave a clearance from 1 to 3cm according to the weight of the gate between the main door and the mechanical stopper A. Fix the bracket to the limit switch S by using the grains G, so that the limit switch microswitch F is pressed. The same operation should be repeated with gate in the closing phase.

N.B.: The limit switch bracket should be positioned so that the gate can be stopped without hitting the mechanical stopper.

MANUAL OPERATION

FIG.13

Should a power failure or malfunction occurs, to manually operate the gate proceed as follows:

- After inserting the customised key C, turn it anti-clockwise and pull the lever L.
- The gear motor is unlocked and the gate can be moved by hand.
- To return to the normal operating mode, close the lever L again and manually activate the gate until it is geared.

WIRE DIAGRAM

FIG.14

For the wire connections of the system and to adjust the operating modes, please refer to the Instruction Manual of the control unit.

In particular, the anti-crash device (encoder) should be adjusted according to regulations in force.

Please remember that the device should be earthed by means of the appropriate terminal.

Fig.10 shows wiring for a standard installation. Before proceeding to wiring, check that the type of cables used is consistent with those required for accessories.

Dimension H stands for the installation height of photocells. A clearance between 40 and 60 cm is advisable.

Key of components:

- 1 Gear motor with incorporated BULL control unit
- 2 M4 rack, Nylon/Fe
- 3 Limit switch brackets
- 4 Photocells
- 5 Mechanical stoppers
- 6 Key selector or digital keyboard
- 7 Flashing light
- 8 Antenna

BUFFER BATTERIES

FIG.15

An optional kit of buffer batteries BULL24.CB is available. This permits the operation of the system also in case of power failure.

The batteries can be installed inside the gear motor, fixed through a bracket on the rear of the container of the control unit, as shown in Fig.14.

For further information, please see instructions supplied with the product.

SAFETY MEASURES

- Do not stand within the gate movement area.
- Children must not play with controls and near the gate.
- In the event of malfunctions, do not attempt to repair the failure but contact the specialised personnel.

MANUAL AND EMERGENCY MANOEUVRE

In the event of power failure or malfunction, to manually operate the gate proceed as follows:

- After inserting the customized key C, turn it anti-clockwise and pull the lever L.
- The geared motor is unlocked and the gate can be moved by hand.
- To return to the normal operating mode, close the lever L again and manually activate the gate until it is geared.

MAINTENANCE

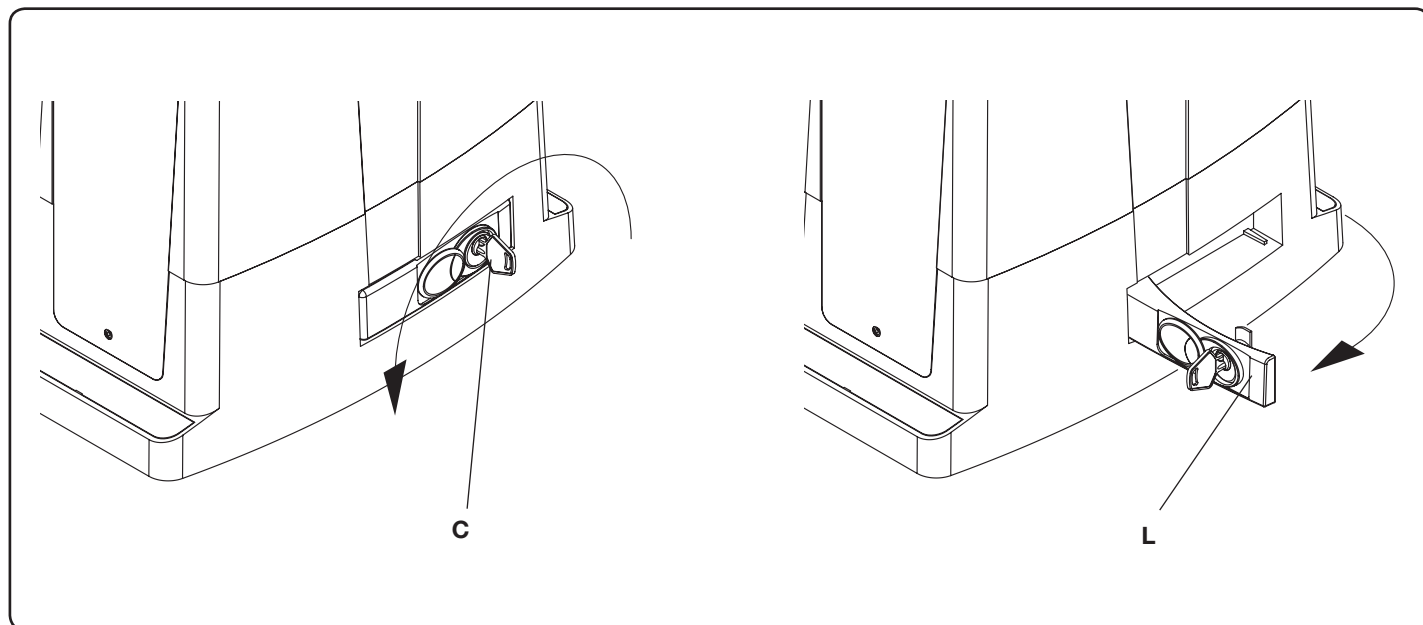
- Every month check the good operation of the emergency manual release.
- It is mandatory not to carry out extraordinary maintenance or repairs as accidents may be caused. These operations must be carried out by qualified personnel only.
- The operator is maintenance free but it is necessary to check periodically if the safety devices and the other components of the automation system work properly. Wear and tear of some components could cause dangers.

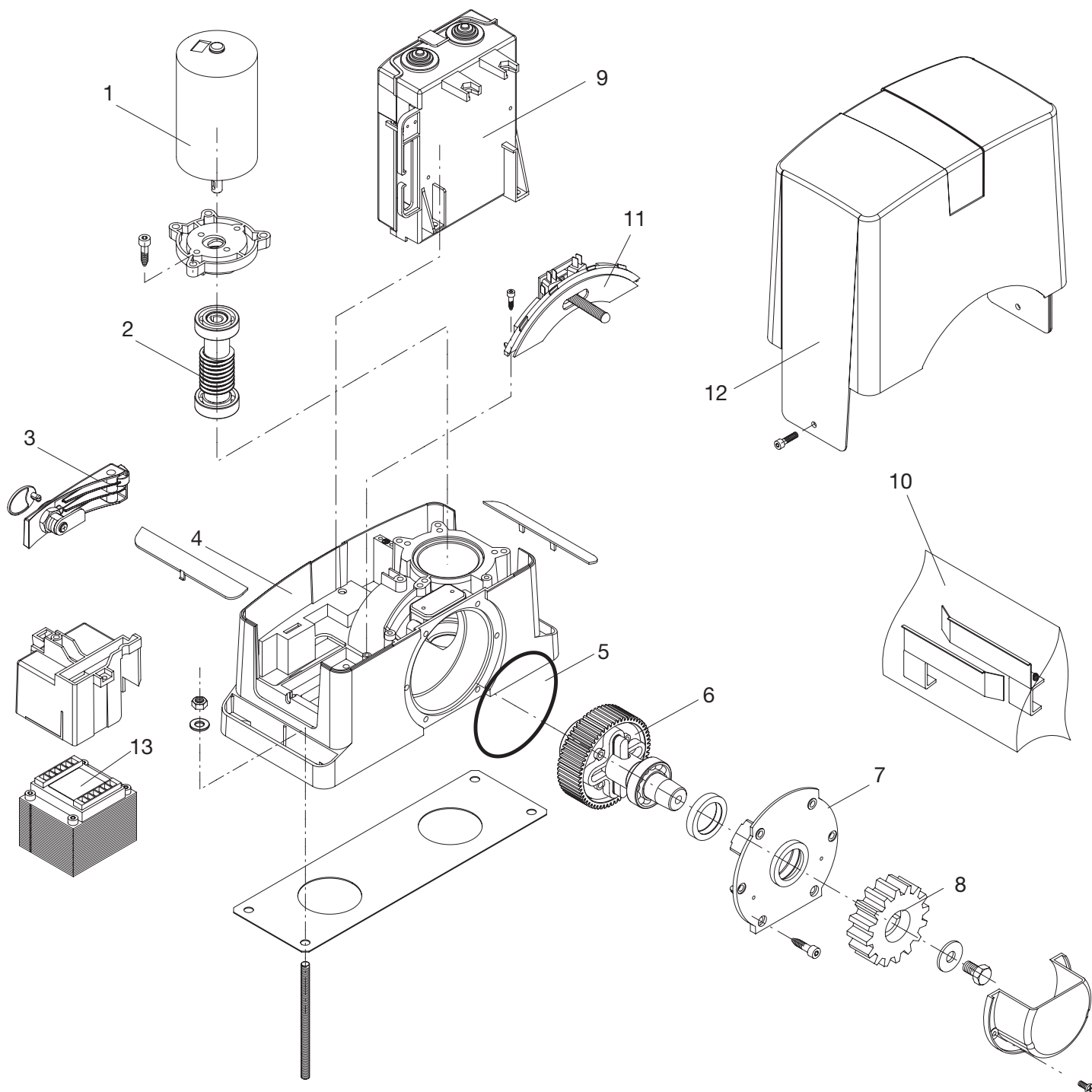
WASTE DISPOSAL

If the product must be dismantled, it must be disposed according to regulations in force regarding the differentiated waste disposal and the recycling of components (metals, plastics, electric cables, etc.). For this operation it is advisable to call your installer or a specialised company.

WARNING

All Benincá products are covered by insurance policy for any possible damages to objects and persons caused by construction faults under condition that the entire system be marked CE and only Benincá parts be used.





Ref.	BULL 424 Code	Note
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2	9686418	
3	9686328	
4	9686420	
5	9686421	
6	9686422	
7	9686424	
8	9686414	
9	9686425	
10	9686426	
11	9686329	
12	9686427	
13	9686177	

Ref.	BULL 624 Code	Note
1	9686417	
2	9686419	
3	9686328	
4	9686420	
5	9686421	
6	9686423	
7	9686424	
8	9686414	
9	9686425	
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11	9686329	
12	9686427	
13	9686177	