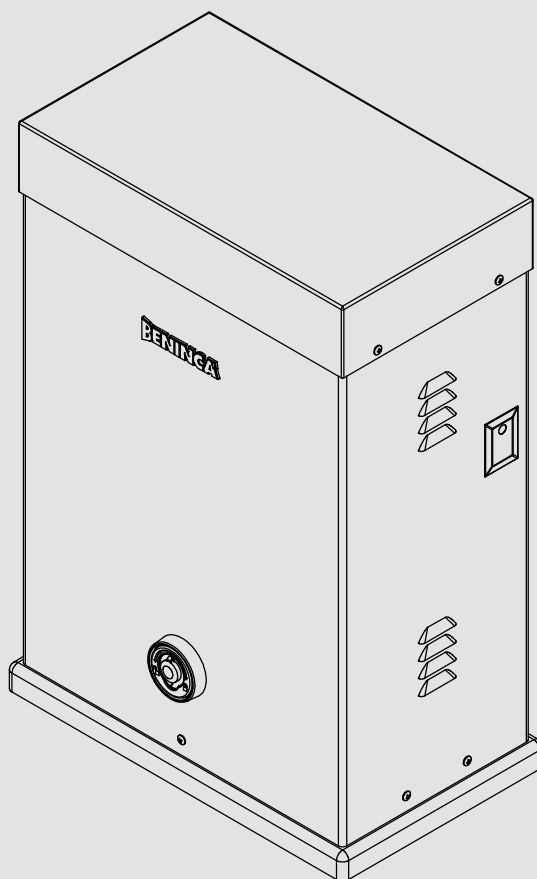
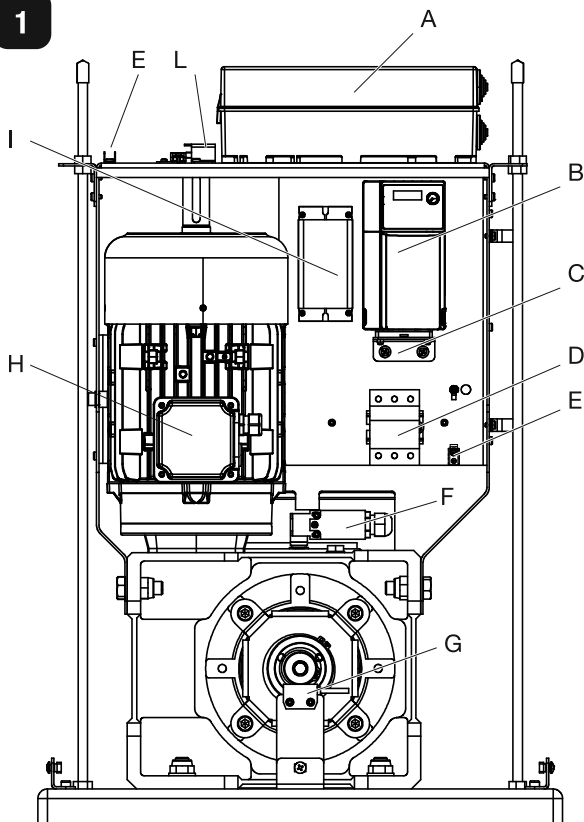


BUFFALO 160 OTI



Manuale di installazione, uso e manutenzione
Installation, User and Maintenance Manual
Handbuch für Installation, Betrieb und Wartung
Manuel d'installation, d'utilisation et d'entretien
Manual de instalación, uso y mantenimient
Instrukcja instalacji, obsługi i konserwacji

BENINCA[®]
TECHNOLOGY TO OPEN



BUFFALO 160 OTI

BUFFALO 160 OTI

- A Centrale di comando incorporata
- B Inverter
- C Ventola raffreddamento
- D Morsetteria con porta fusibili
- E Morsetto GND messa a terra
- F Finecorsa elettromeccanico
- G Sensore di sicurezza apertura carter
- H Morsetteria motore
- I Resistenza di frenatura
- L Encoder motore

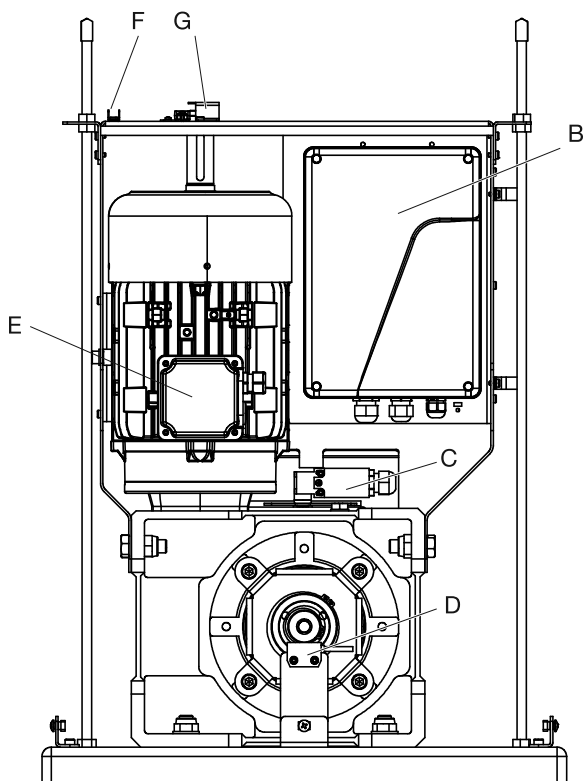
- A Built-in control unit
- B Inversor
- C Ventilador de refrigeración
- D Terminal block with fuse holder
- E GND earth terminal
- F Electromechanical limit switch
- G Cover opening safety sensor
- H Motor terminal box
- I Braking resistor
- L Motor encoder

- A Eingebautes Steuergerät
- B Wechselrichter
- C Kühlgebläse
- D Klemmleiste mit Sicherungshalter
- E Erdungsklemme GND
- F Elektromechanischer Endschalter
- G Sicherheitssensor für die Kurbelgehäuseöffnung
- H Motor-Klemmenblock
- I Bremswiderstand
- L Motor-Geber

- A Unité de contrôle intégrée
- B Onduleur
- C Ventilateur de refroidissement
- D Bornier avec porte-fusible
- E Borne de terre GND
- F Interrupteur de fin de course électromécanique
- G Capteur de sécurité d'ouverture du carter
- H Bornier du moteur
- I Résistance de freinage
- L Encodeur moteur

- A Unidad de control integrada
- B Inversor
- C Ventilador de refrigeración
- D Bloque de terminales con portafusibles
- E Terminal de tierra GND
- F Final de carrera electromecánico
- G Sensor de seguridad de apertura del cárter
- H Bloque de terminales del motor
- I Resistencia de frenado
- L Codificador del motor

- A Wbudowana jednostka sterująca
- B Falownik
- C Wentylator chłodzący
- D Blok zacisków z uchwytem bezpiecznika
- E Zacisk uziemienia GND
- F Elektromechaniczny wyłącznik krańcowy
- G Czujnik bezpieczeństwa otwarcia skrzyni korbowej
- H Listwa zaciskowa silnika
- I Rezystor hamowania
- L Enkoder silnika



BUFFALO 160 OTI SC

BUFFALO 160 OTI SC

- A Centrale di comando esterna BUFFALO DRIVE
- B Box morsettiere di collegamento
- C Finecorsa elettromeccanico
- D Sensore di sicurezza apertura carter
- E Morsetteria motore
- F Connettore GND messa a terra
- G Encoder motore

- A External control unit BUFFALO DRIVE
- B Connection terminal box
- C Electromechanical limit switch
- D Cover opening safety sensor
- E Motor terminal box
- F Ground GND connector
- G Motor encoder

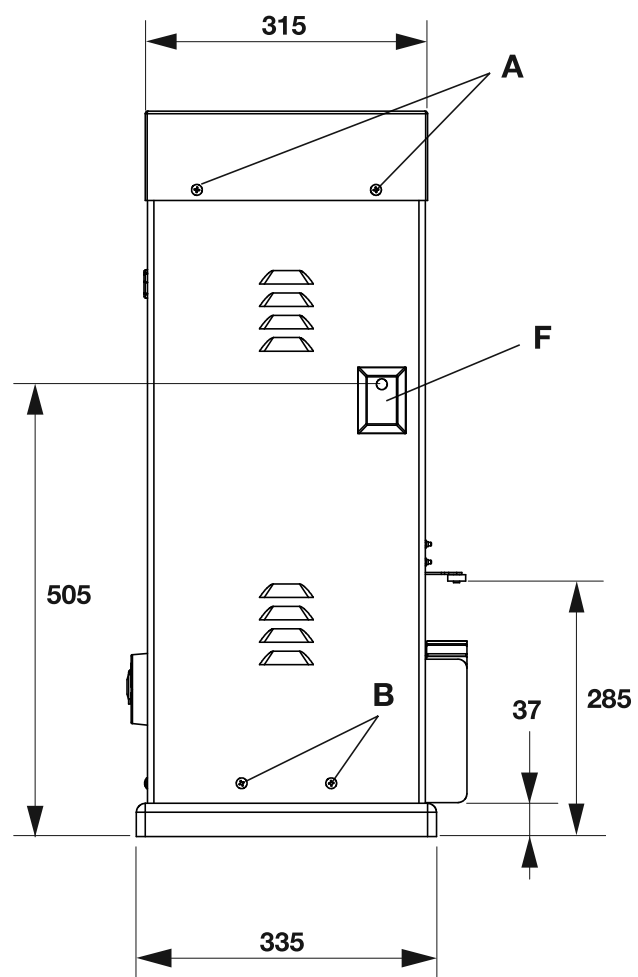
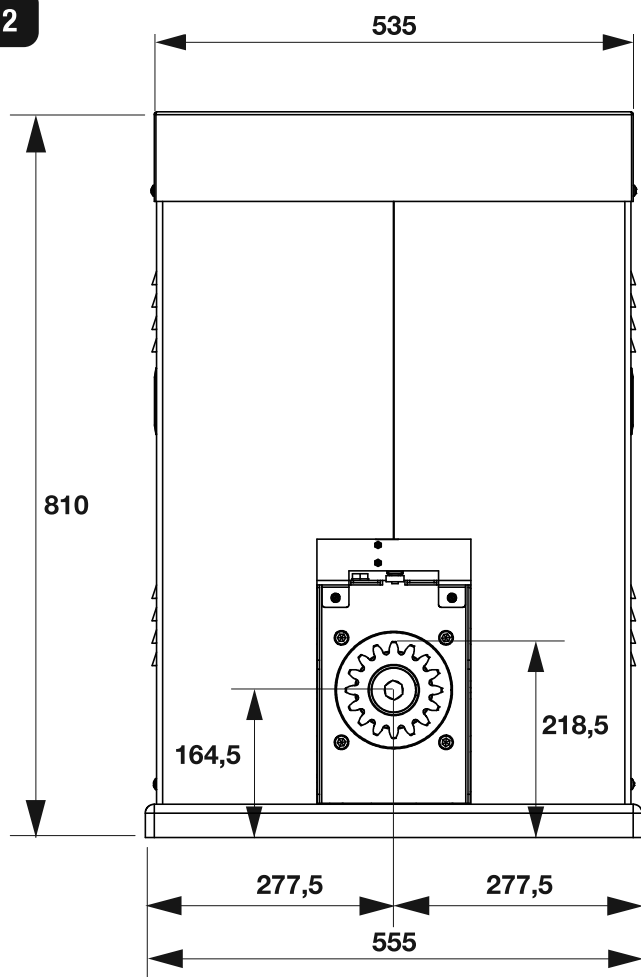
- A Externes Steuergerät BUFFALO DRIVE
- B Anschlussklemmkasten
- C Elektromechanischer Endschalter
- D Sicherheitssensor für die Kurbelgehäuseöffnung
- E Motor-Klemmenkasten
- F Erdungsanschluss GND
- G Motor-Geber

- A Unité de commande externe BUFFALO DRIVE
- B Boîte à bornes de raccordement
- C Interrupteur électromécanique de fin de course
- D Capteur de sécurité d'ouverture du carter
- E Boîte à bornes du moteur
- F Connecteur de mise à la terre GND
- G Encodeur moteur

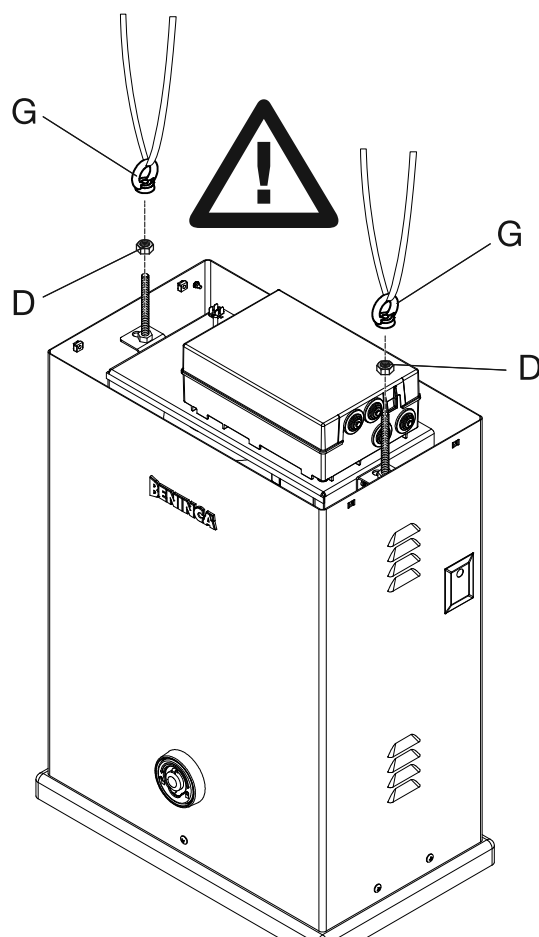
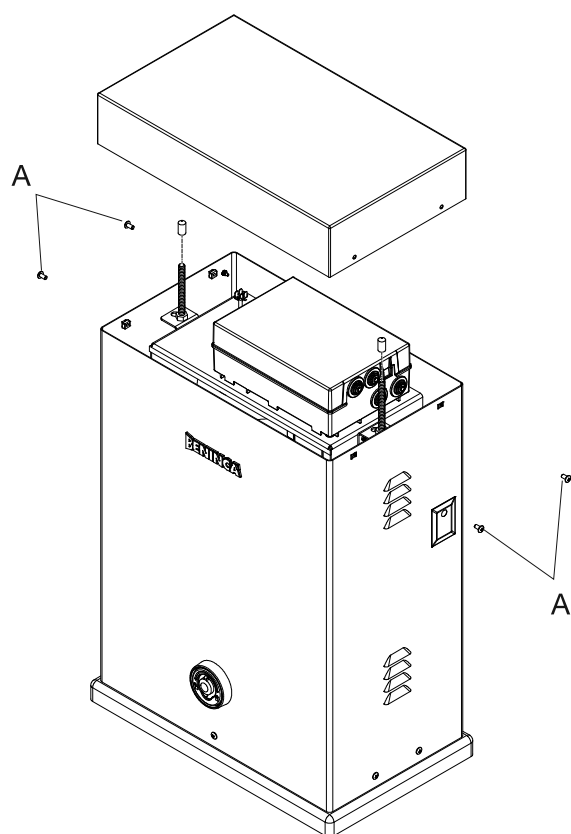
- A Unidad de control externa BUFFALO DRIVE
- B Caja de bornes de conexión
- C Final de carrera electromecánico
- D Sensor de seguridad de apertura del cárter
- E Caja de bornes del motor
- F Conector tierra GND
- G Codificador del motor

- A Zewnętrzna jednostka sterująca BUFFALO DRIVE
- B Skrzynka zacisków przyłączeniowych
- C Elektromechaniczny wyłącznik krańcowy
- D Czujnik bezpieczeństwa otwarcia skrzyni korbowej
- E Skrzynka zaciskowa silnika
- F Złącze uziemienia GND
- G Enkoder silnika

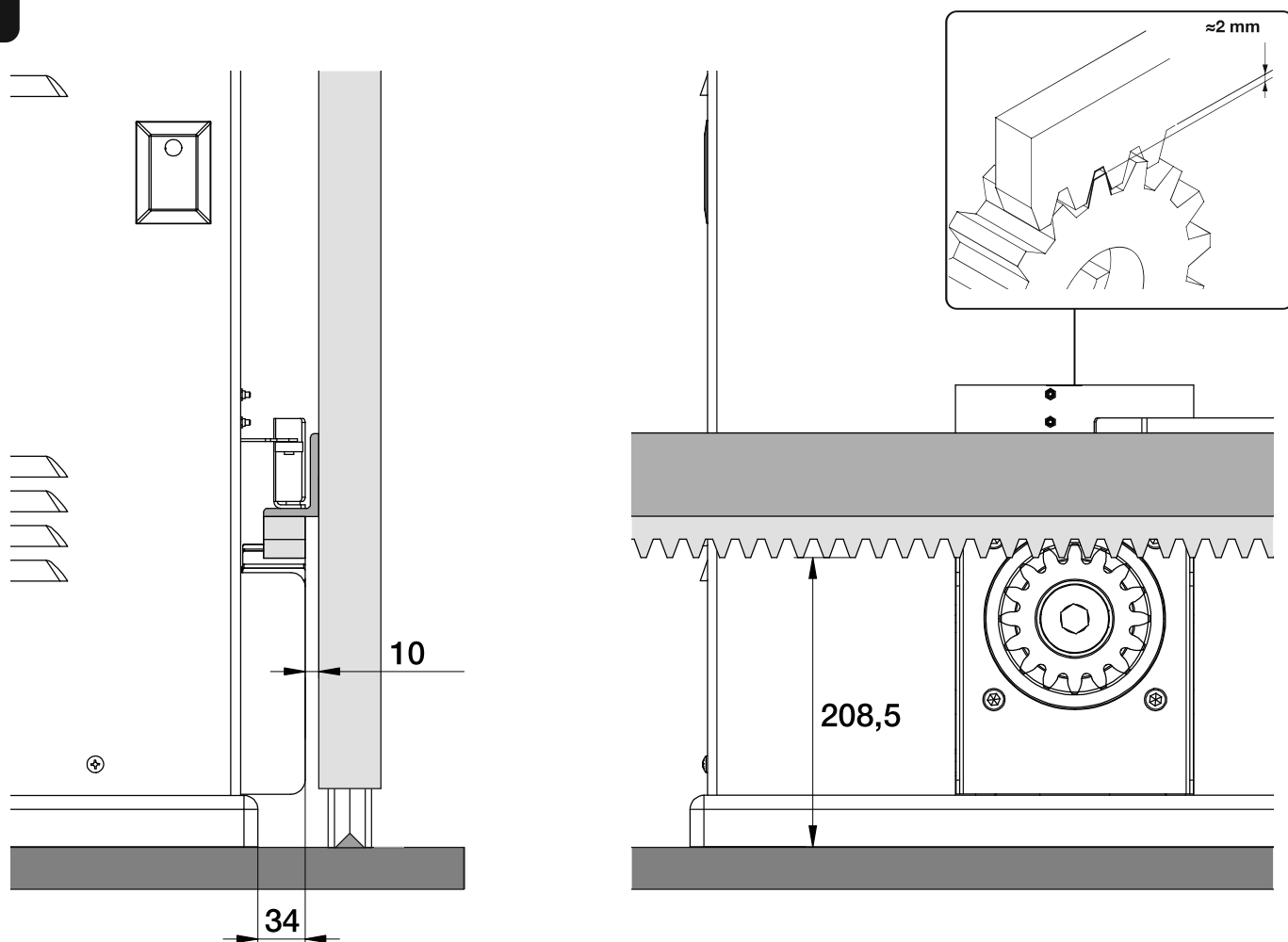
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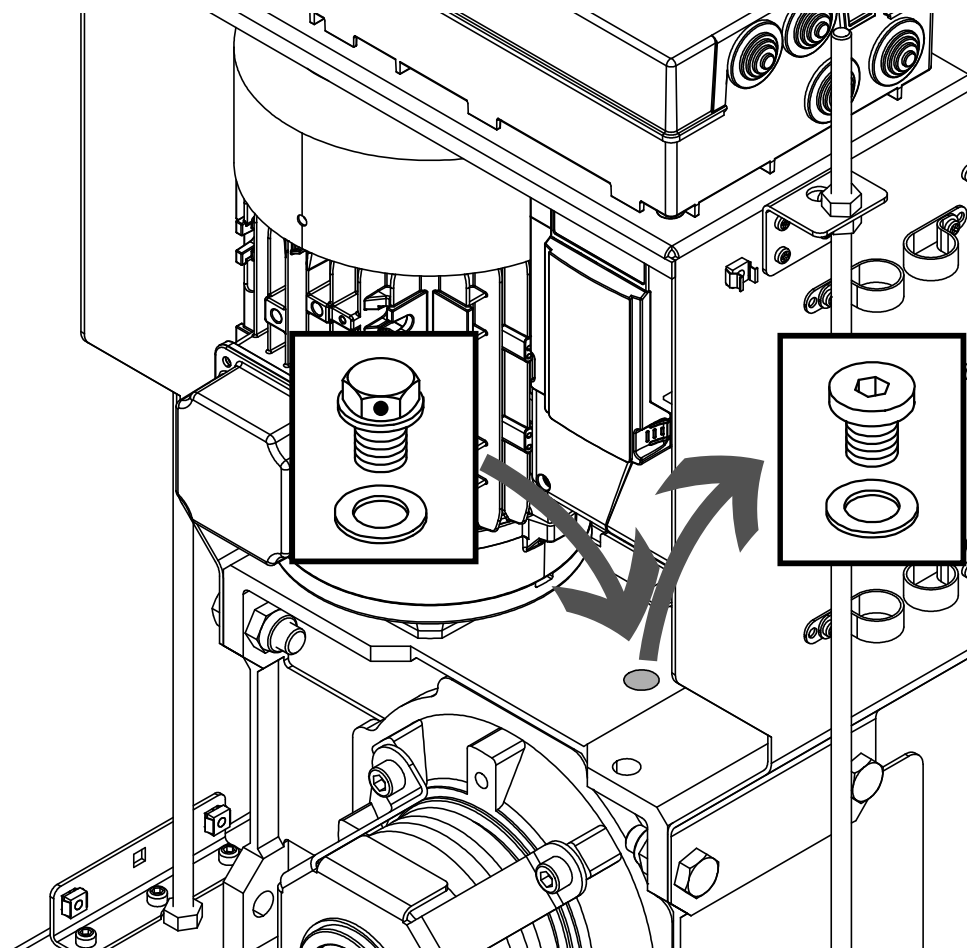
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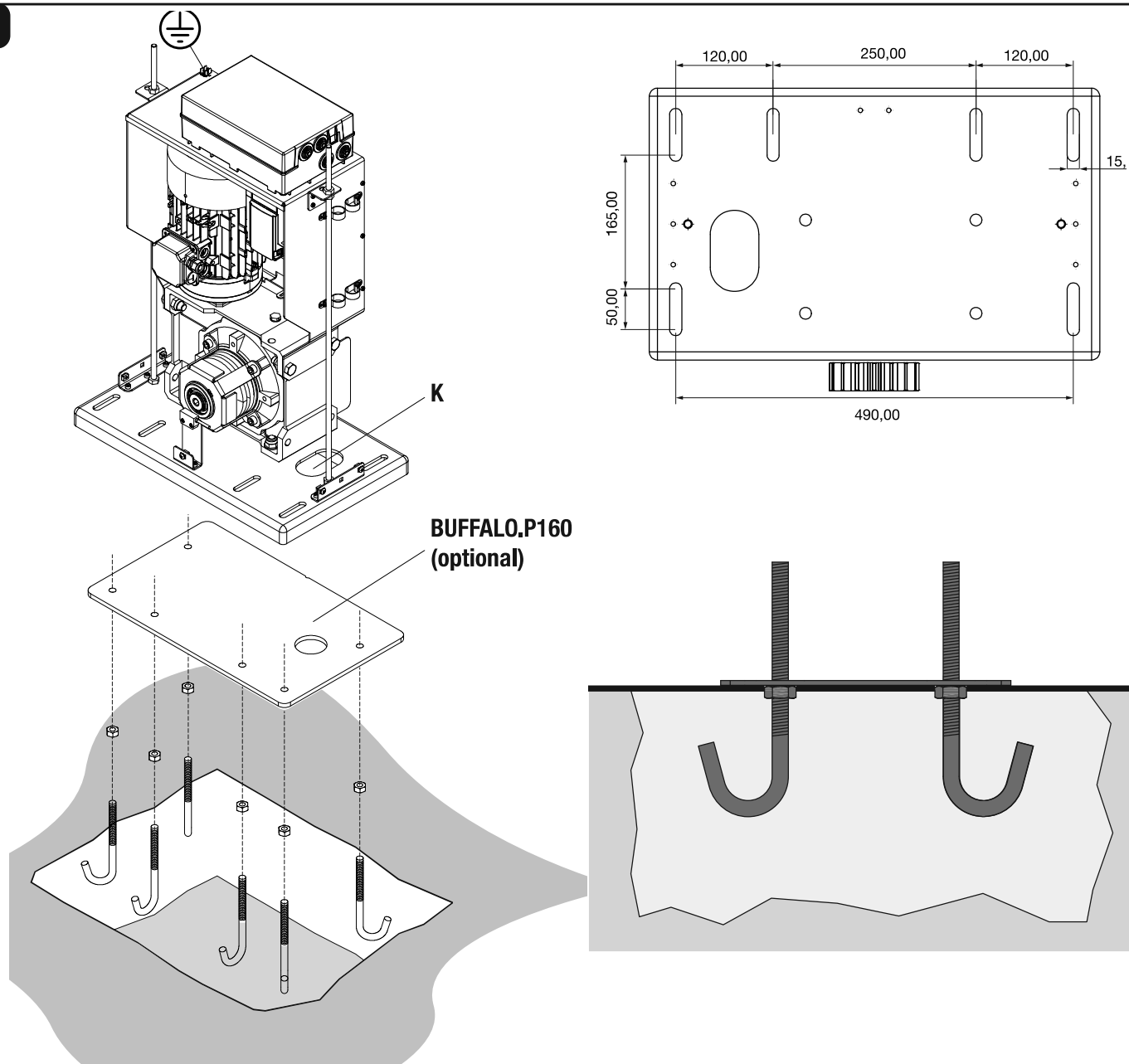
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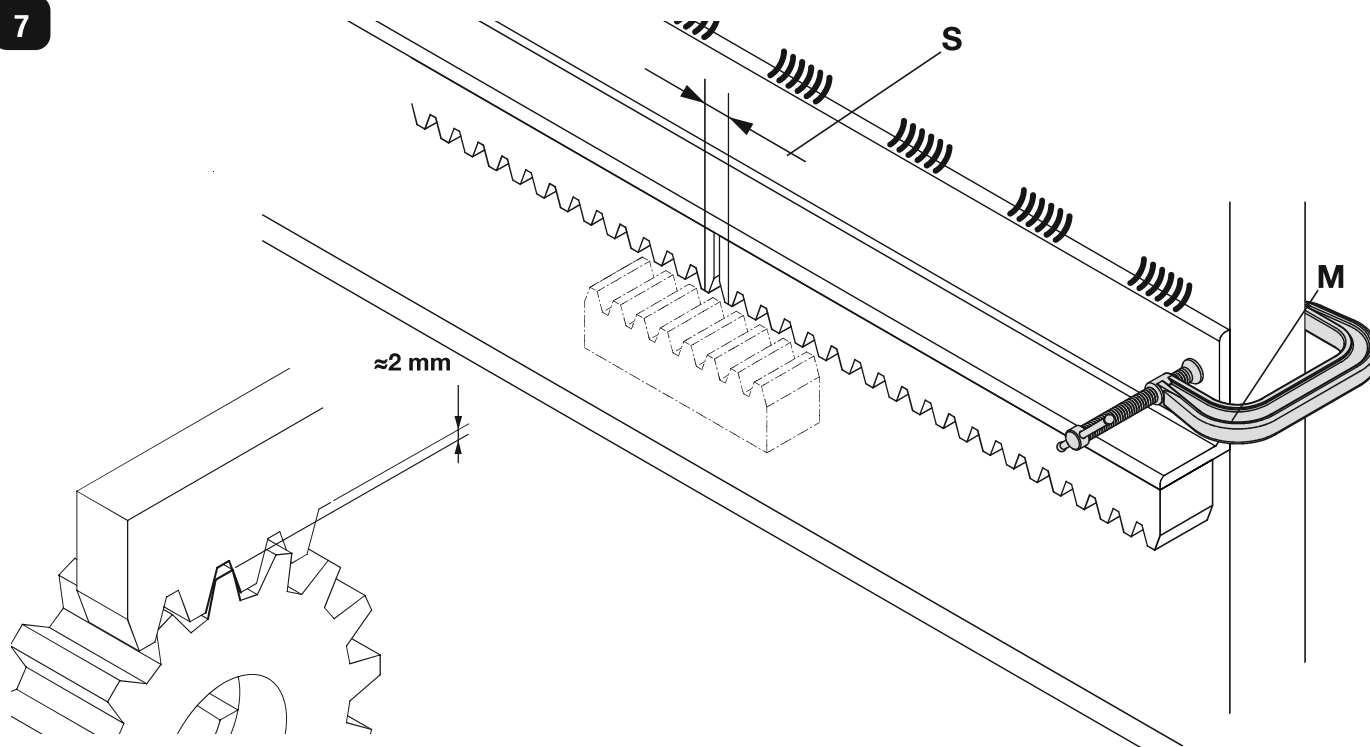
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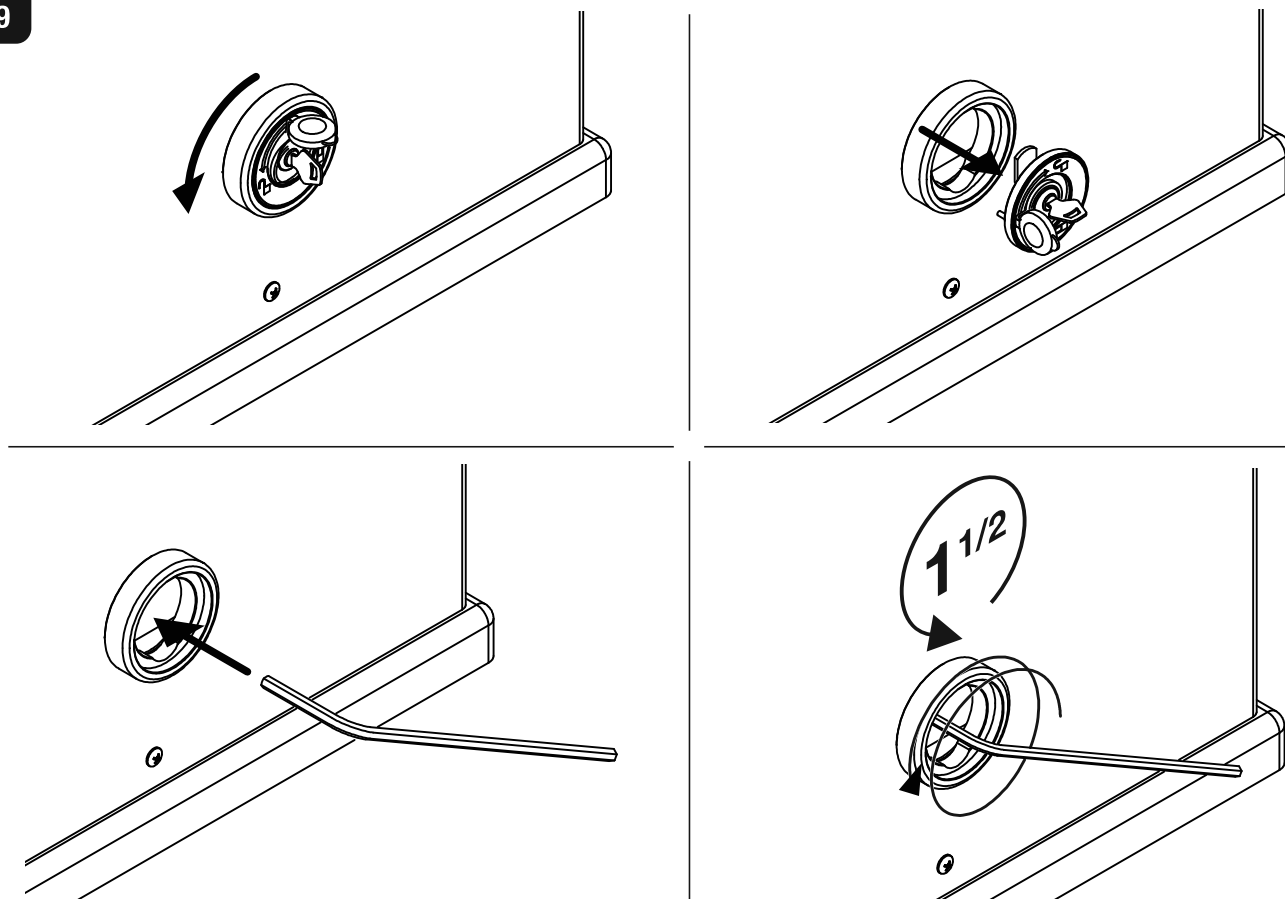
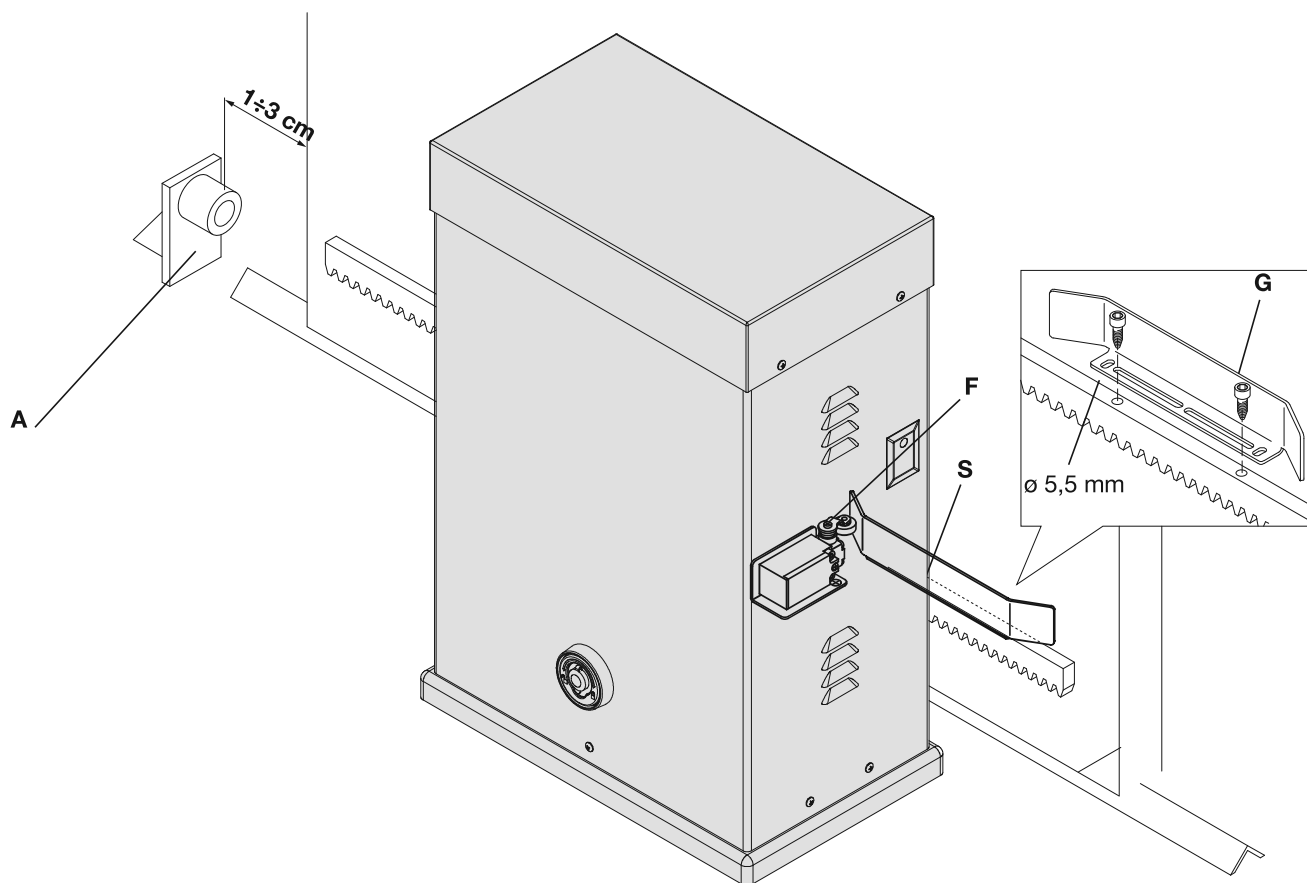


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7





Technical drawing of the motor assembly showing the motor, control box, and pump unit. The drawing includes labels for "GND" (Ground) and "230 Vac 50/60Hz" (AC power supply).



GENERAL INFORMATIONS

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.

INSTALLER GUIDE

This manual has been especially written to be use by qualified fitters.

Installation must be carried out by qualified personnel (professional installer, according to EN 12635), in compliance with Good Practice and current code.

Make sure that the structure of the gate is suitable for automation.

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.

GENERAL WARNINGS

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.

Do not allow children to play with the fixed control devices of the product.

Keep the remote controls out of reach of children.

This product is not to be used by persons (including children) with reduced physical, sensory or mental capacity, or who are unfamiliar with such equipment, unless under the supervision of or following training by persons responsible for their safety.

Apply all safety devices (photocells, safety edges, etc.) required to keep the area free of impact, crushing, dragging and shearing hazard.

Bear in mind the standards and directives in force, Good Practice criteria, intended use, the installation environment, the operating logic of the system and forces generated by the automated system.

Installation must be carried out using safety devices and controls that meet standards EN 12978 and EN 12453.

Only use original accessories and spare parts, use of non-original spare parts will cause the warranty planned to cover the products to become null and void.

All the mechanical and electrical parts composing automation must meet the requirements of the standards in force and outlined by CE marking.

ELECTRICAL SAFETY

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.

Also disconnect buffer batteries, if any are connected.

The electrical installation and the operating logic must comply with the regulations in force.

The leads fed with different voltages must be physically separate, or they must be suitably insulated with additional insulation of at least 1 mm.

The leads must be secured with an additional fixture near the terminals.

During installation, maintenance and repair, interrupt the power supply before opening the lid to access the electrical parts

Check all the connections again before switching on the power.

The unused N.C. inputs must be bridged.

* 16A Circuit breaker

WASTE DISPOSAL

As indicated by the symbol shown, it is forbidden to dispose this product as normal urban waste as some parts might be harmful for environment and human health, if they are disposed of incorrectly.

Therefore, the device should be disposed in special collection platforms or given back to the reseller if a new and similar device is purchased.

An incorrect disposal of the device will result in fines applied to the user, as provided for by regulations in force.

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.

GENERAL INFORMATION

Automatic system with 230 Vac, single-phase power supply, for industrial use sliding gates of 16000 kg max weight.

BUFFALO 160 OTI is equipped with:

- anti-crash electronic device (encoder)
- electronic braking.
- three-phase inverter, which allows to achieve the performance of a three-phase motor, while maintaining the simplicity of a single-phase connection.

SPECIFICATIONS

	BUFFALO 160 OTI
Mains power supply	230 Vac 50/60Hz
Motor power supply	Three-phase 230 Vac
Consumption	8 A
Thrust	12666 N (Z16)
Operating jogging	Intensive use
Protection level	IP44
Operating time	-20°C / +50°C
Gate max weight	16000 kg
Rack module	M6 Z 16
Opening speed	8,4 m/min*
Noise	<70 dB
Lubrication	BISON OIL (0.3L)
Weight	125 kg
* adjustable from 7 to 19 m/min	

PRELIMINARY CHECKS

For a good operation of the automatic system for sliding gates, the gate/door to be automated shall feature the following characteristics:

- the guide track and related carriers should be adequately sized and subject to maintenance (in order to avert excessive friction during the gate sliding).
- during operation, no excessive oscillations should be reported to the gate/door.
- the opening and closing stroke should be limited to a mechanical stop (according to the current safety regulation).

These preliminary checks are MANDATORY. It is expressly FORBIDDEN to use the BUFFALO automatic system on doors and gates not in good conditions or that have not undergone a correct maintenance.

AVAILABLE VERSIONS

2 versions are available:

BUFFALO 160 OTI

equipped with built-in control unit.

BUFFALO 160 OTI.SC

prepared for connection to external IP55 control unit mod BUFFALO DRIVE.

Fig. 1 shows the differences between the two versions.

The installation method of the two versions does not differ except for the wiring of the control unit to the geared motor.

INSTALLATION

OVERALL DIMENSIONS

Figure 2 shows the overall dimensions of the gearmotor expressed in mm.

Remove the 4 screws 'B' (Fig.2) to completely remove the cover and access all the parts that make up the automation. If you only wish to access the control unit, simply remove the 4 screws 'A', removing the upper part of the cover casing. The motor casing also has provisions for the installation of photocells (F).

HANDLING

Given its considerable weight, it is expressly **FORBIDDEN TO MOVE THE BUFFALO** geared motor **MANUALLY**.

After removing the 4 screws 'A' (Fig.3) lift the cover, then access the two threaded bars, protected by plastic caps. Attach 2 eyebolts 'G' for belts supplied to the bars, lock them with locknuts 'D' and move the gearmotor using a suitable lifting device (e.g. lifting trolley or mechanical arm).

EXHAUST SCREW

Note: Once the gearmotor has been installed, remove the locking screw shown in Fig.3 and replace it with the screw fitted with a vent hole.

WARNING!

The gearmotor is fitted with a safety microswitch which disconnects the mains power supply to the motor when the lower cover is removed or the emergency release is performed.

HOW TO FIT THE GEAR MOTOR

Place the gear motor on the foundation plate, as indicated in Figure 5, by inserting the cables "I" in the special slots "F". Introduce the 4 grub screws M12x70 "K" in the four threaded holes V. The grub screws must lay on the foundation plate. The gear motor can be lifted from the foundation plate by using the gains K.

Before locking the grub screws K, by using the washer H and nuts W, insert the blocking plates Q, as indicated in Figure 6. The plates Q are ESSENTIAL to ensure the gear motor stability on the supporting plate.

Fix the gear motor to the base, by using the washers R, the threaded washers G and nuts D.

The threaded holes allow for the horizontal movement of the gear motor, which is required to gear/ungear the pinion to the rack.

HOW TO FIT THE RACK

Temporarily fit the rack by using clamps, for example. Check that the system is perfectly flat, then fit the rack to the gate with various welding points of by using adequate screws. Keep to the tooth pitch P, even from the rack spaces. To this purpose, it might be useful to match another piece of rack (Fig. 8 - Detail C).

Lastly fix the rack with screws V, making sure that, once the actuator is installed, around 2 mm backlash is left between the rack and the drive wheel (see Fig. 9).

HOW TO POSITION THE LIMIT SWITCH BRACKETS

Manually open the gate, leaving 1 – 3 cm space, according to the weight of the gate, between the gate/door and the mechanical stopper A (Fig. 10).

Then fix the bracket of the limit switch S in order that the micro-switch F of the limit switch is kept pressed.

After drilling two holes of $\varnothing$ 5.5mm, use the two screws G supplied.

Repeat this operation with closed gate/door.

NOTE: The limit switch bracket should be positioned in order to allow that the gate/door stops its movement without hitting the mechanical stopper.

MANUAL OPERATION

In the event of a power failure or breakdown, proceed as follows to manually operate the sash, referring to Figure 11:

- Open the lock protection cap, insert the supplied custom key and turn it 90° anticlockwise.
- Remove the lock assembly, insert the hexagonal key provided, and turn (approximately 1 1/2 turns) counterclockwise as far as it will go.
- The gearmotor is now unlocked and the sash can be moved manually.
- To re-establish normal operation, reinsert the hexagonal key and turn it clockwise for approximately 1 1/2 turns.
- Re-insert the lock assembly, paying attention to the anti-rotation tooth which must be inserted into the hole on the gearmotor assembly.
- Turn the key clockwise, remove it and close the protective cap again.
- Check that the gearmotor clutch is properly tightened by performing a few complete manoeuvres.

CONNECTION TO GROUND (EARTH)

As regards the COMPULSORY earthing, a special Faston 4-pin connector fitted onto the central support (Fig. 12 – GND) is supplied. Ground connections of the mains, the upper removable side and the lower side can be connected to this Faston.

To allow an easy removal of the sides, they are not supplied pre-cabled to the connector. The installer shall provide for their connection, by using the already equipped with Faston terminal.

As regards the ground connection of the power supply line refer to instructions in the control unit.

WIRE DIAGRAM

Figure 13 shows the cables to the preset for the installation of the gear motor and the main accessories.

As regards the wire connection of the automatic system and the adjustment of the operating modes, see the instruction manual of the control unit.

Namely, the calibration of the anti-crash device sensitivity (encoder) should be carried out in compliance with regulations in force.

Before introducing the cables, check the type of cabling required for the accessories actually used.

Key of components:

- 1 Gear motor with BUFFALO built-in control unit.
- 2 Rack
- 3 Limit switch brackets
- 4 Photocells
- 5 Mechanical stoppers
- 6 Key selector or digital keypad
- 7 Flashing light
- 8 Antenna

Note: The removable side of the BUFFALO gear motor comes already preset for the mounting of the FTC.S photocells.

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 OPERATION

In the event of power failure or faults, the gate can be manually operated as follows (Fig.1):

- Open the lock protection cap, insert the supplied custom key and turn it 90° anticlockwise.
- Remove the lock assembly, insert the hexagonal key provided, and turn (approximately 1 1/2 turns) counterclockwise as far as it will go.
- The gearmotor is now unlocked and the sash can be moved manually.
- To re-establish normal operation, reinsert the hexagonal key and turn it clockwise for approximately 1 1/2 turns.
- Re-insert the lock assembly, paying attention to the anti-rotation tooth which must be inserted into the hole on the gearmotor assembly.
- Turn the key clockwise, remove it and close the protective cap again.
- Check that the gearmotor clutch is properly tightened by performing a few complete manoeuvres

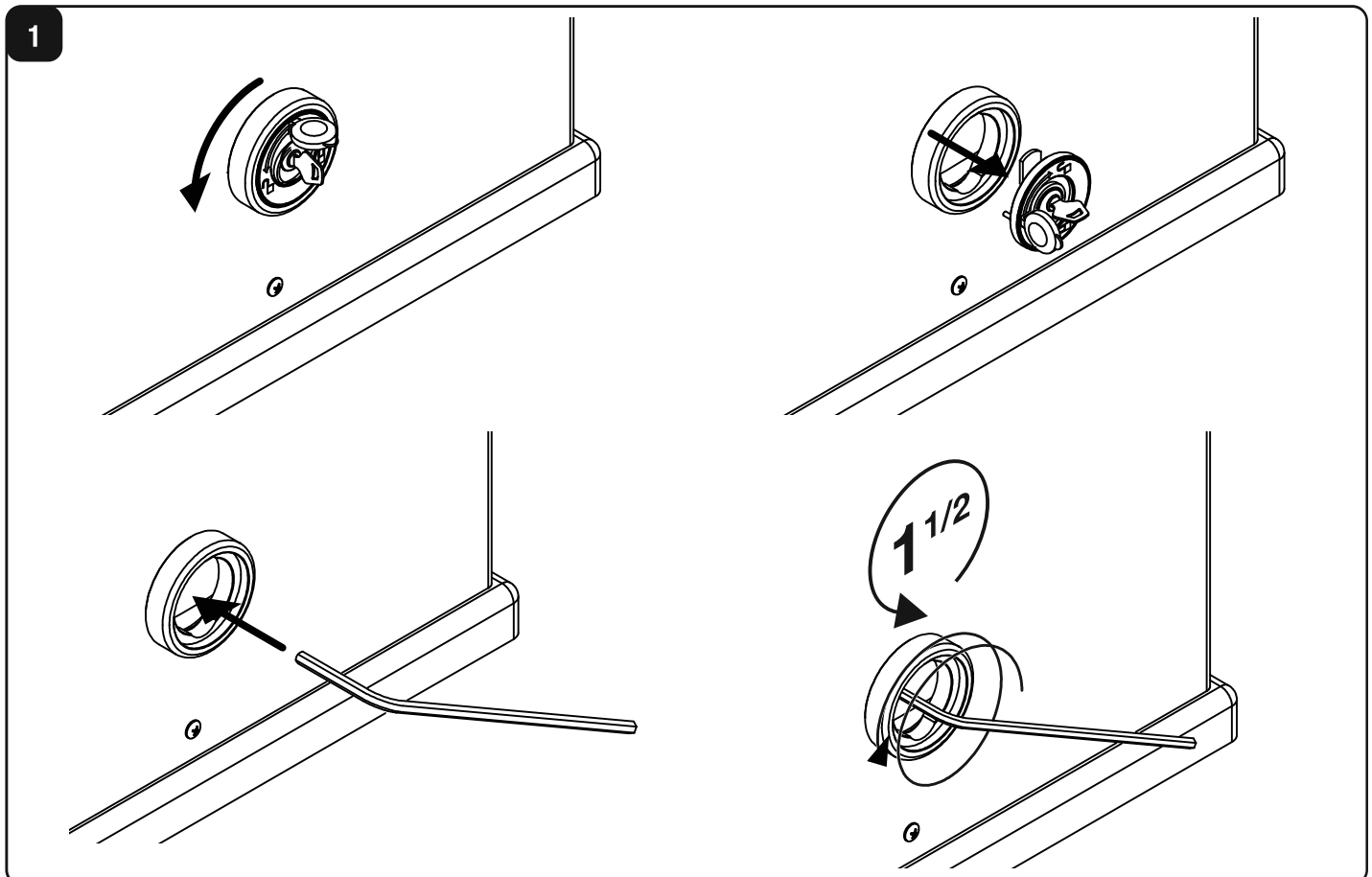
MAINTENANCE

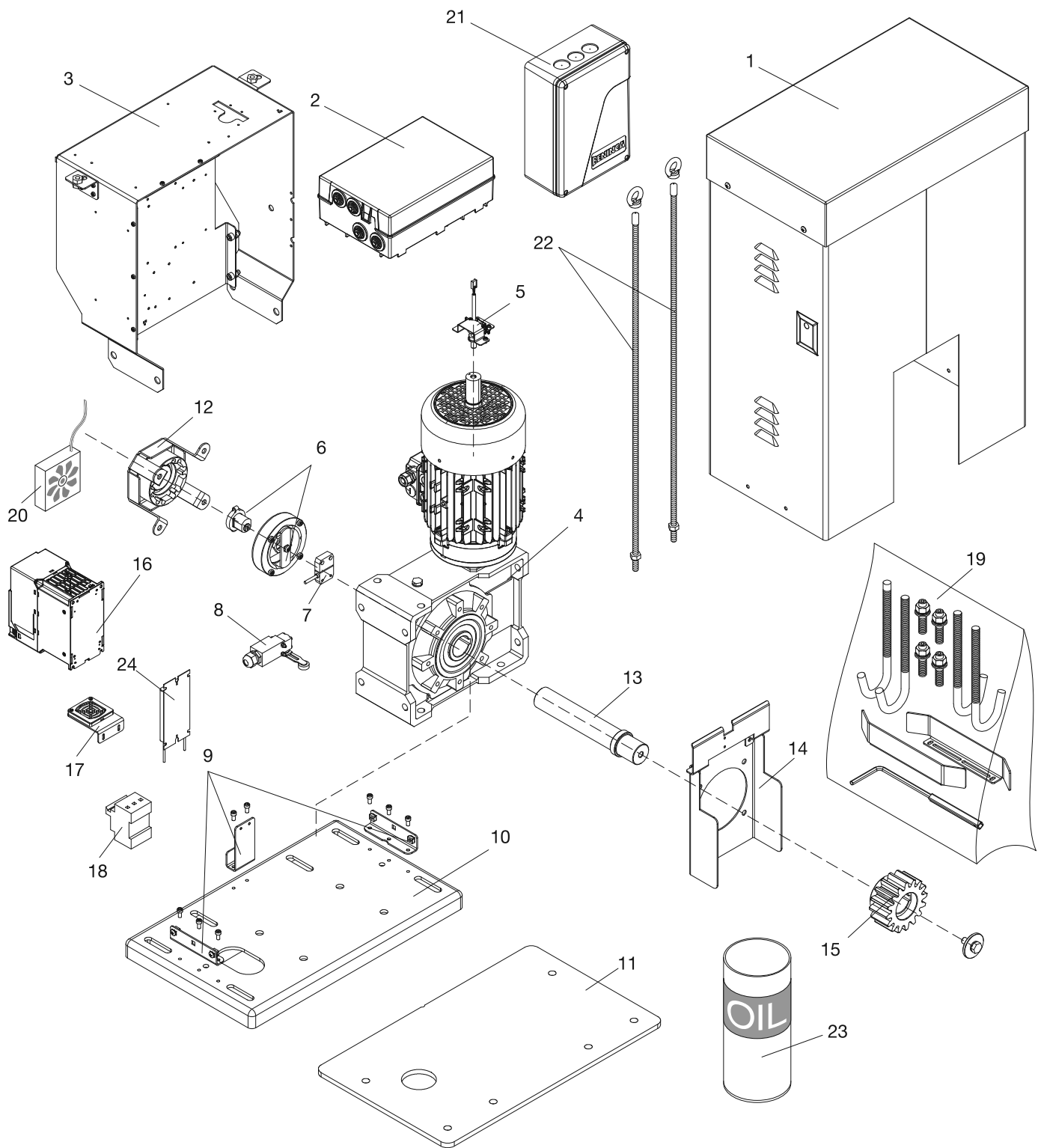
- Every month check the good operation of the emergency manual release.
- It is mandatory not to carry out extraordinary maintenance or repairs as accidents may be caused. These operations must be carried out by qualified personnel only.
- The operator is maintenance free but it is necessary to check 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



As indicated by the symbol shown, it is forbidden to dispose this product as normal urban waste as some parts might be harmful for environment and human health, if they are disposed of incorrectly. Therefore, the device should be disposed in special collection platforms or given back to the reseller if a new and similar device is purchased. An incorrect disposal of the device will result in fines applied to the user, as provided for by regulations in force.





BUFFALO 160 OTI		
Ref.	Code	Note
1	968606842	
2	968606843	
3	968606844	
4	968606841	
5	968606845	
6	9686551	
7	9686537	
8	9686538	
9	968606846	
10	968606847	

Ref.	Code	Note
11	962306837	optional
12	968606848	
13	968606850	
14	968606851	
15	968606852	
16	968606853	
17	968206854	
18	968603590	
19	968606855	
20	968606857	
21	968606858	160 OTI SC

Ref.	Code	Note
22	968606859	
23	9688110	
24	967806922	