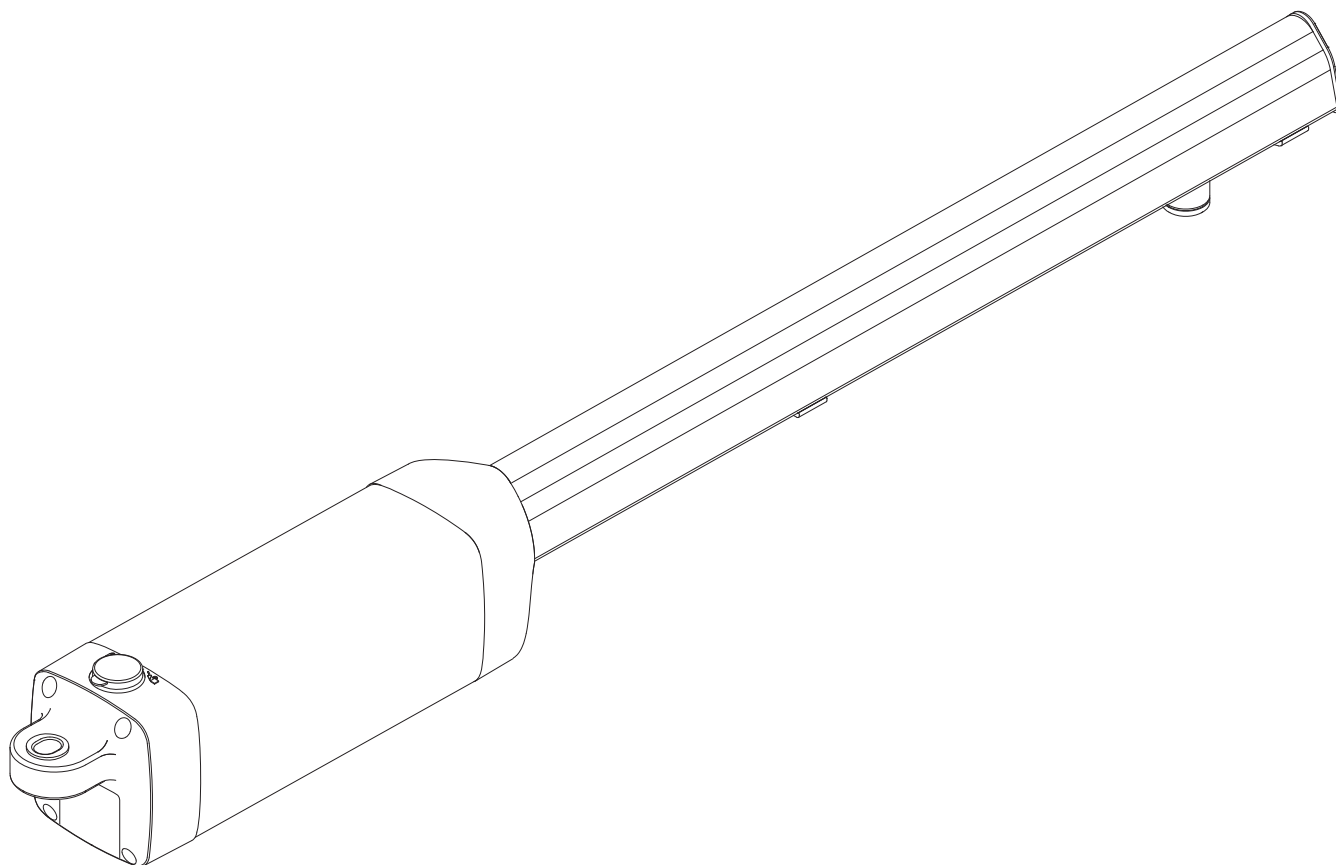


- I** AUTOMAZIONI A PISTONE PER CANCELLI A BATTENTE
- GB** ELECTROMECHANICAL PISTON FOR SWING GATES
- F** VERIN ELECTROMECHANIQUE POUR PORTAILS A VANTAUX
- D** ELEKTROM ECHANISCHER KOLBEN FÜR FLÜGELTORE
- E** PISTON ELECTROMECHANICO PARA CANCELAS DE BATIENTE
- P** AUTOMATIZAÇÕES DE PISTÃO PARA PORTÕES DE BATENTE



## PHOBOS N BT

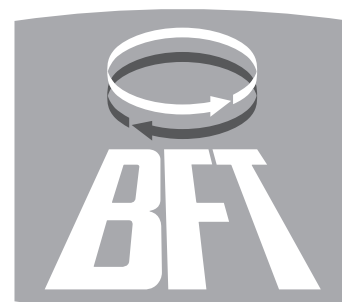


**ISTRUZIONI D'USO E DI INSTALLAZIONE**  
**INSTALLATION AND USER'S MANUAL**  
**INSTRUCTIONS D'UTILISATION ET D'INSTALLATION**  
**INSTALLATIONS-UND GEBRAUCHSANLEITUNG**  
**INSTRUCCIONES DE USO Y DE INSTALACION**  
**INSTRUÇÕES DE USO E DE INSTALAÇÃO**



**AZIENDA CON SISTEMA DI GESTIONE**  
**INTEGRATO CERTIFICATO DA DNV**  
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Via Lago di Vico, 44  
 36015 Schio (VI)  
 Tel.naz. 0445 696511  
 Tel.int. +39 0445 696533  
 Fax 0445 696522  
 Internet: [www.bft.it](http://www.bft.it)  
 E-mail: [sales@bft.it](mailto:sales@bft.it)



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Motoriduttore per cancelli a battente mod. / Gearmotor for swing gates mod. / Motoréducteur pour portails battants mod. /  
Getriebemotor für Drehtore Modell / Motorreductor para cancelas con batiente mod. / Motoredutor para portões de batente mod.

### PHOBOS N, PHOBOS NL, PHOBOS N BT, PHOBOS NL BT

- È costruito per essere incorporato in un macchinario che verrà identificato come macchina ai sensi della DIRETTIVA MACCHINE. / Has been produced to be incorporated into a machinery, which will be identified as a machine according to the MACHINERY DIRECTIVE. / A été construit pour l'incorporation successive dans un équipement qui sera identifié comme machine conformément à la DIRECTIVE MACHINES. / Dafür konstruiert wurde, in ein Gerät eingebaut zu werden, das als Maschine im Sinne der MASCHINEN-DIREKTIVE identifiziert wird. / Ha sido construido para ser incorporado en una maquinaria, que se identificará como máquina de conformidad con la DIRECTIVA MAQUINAS. / Foi construído para ser incorporado numa maquinaria, que será identificada como máquina em conformidade com a DIRECTIVA MÁQUINAS
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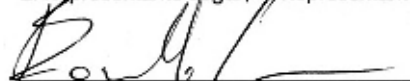
BASSA TENSIONE / LOW VOLTAGE / BASSE TENSION / NIEDERSpannung / BAJA TENSION / BAIXA TENSÃO  
73/23/CEE, 93/68/CEE (EN60335-1 ('02) + A11('04), EN60335-2-103) (e modifiche successive / and subsequent amendments / et modifications successives / und ihren nachfolgende Änderungen / e modificações sucessivas / y modificaciones sucesivas).

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ELECTROMAGNÉTICA 89/336/CEE, 91/263/CEE, 92/31/CEE, 93/68/CEE (EN61000-6-1, EN61000-6-2, EN61000-6-3,  
EN61000-6-4, EN55014-1, EN55014-2) (e modifiche successive / and subsequent amendments / et modifications successives /  
und ihren nachfolgende Änderungen / e modificações sucessivas / y modificaciones sucesivas).

- Si dichiara inoltre che è vietata la messa in servizio del prodotto, prima che la macchina in cui sarà incorporato, sia stata dichiarata conforme alle disposizioni della DIRETTIVA MACCHINE. / We also declare that it is forbidden to start the product before the machinery into which it will be incorporated is declared in compliance with the prescriptions of the MACHINERY DIRECTIVE. / Nous déclarons en outre que la mise en service du produit est interdite, avant que la machine où il sera incorporé n'ait été déclarée conforme aux dispositions de la DIRECTIVE MACHINES. / Es wird außerdem erklärt, daß die Inbetriebnahme des Produkts verboten ist, solange die Maschine, in die es eingebaut wird, nicht als mit den Vorschriften der MASCHINEN-DIREKTIVE konform erklärt wurde. / Se declara, además, que está prohibido instalar el producto antes de que la máquina en la que se incorporará haya sido declarada conforme a las disposiciones de la DIRECTIVA MAQUINAS / Declaramos, além disso, que é proibido instalar o produto, antes que a máquina em que será incorporada, tenha sido declarada conforme às disposições da DIRECTIVA MÁQUINAS

SCHIO, 20/11/2006

Il Rappresentante Legale / The legal Representative  
Le Représentant Légal / Der gesetzliche Vertreter  
El Representante Legal / O Representante legal

  
(GIANCARLO BONOLLO)

Nel ringraziarVi per la preferenza accordata a questo prodotto, la ditta è certa che da esso otterrete le prestazioni necessarie al Vostro uso. Leggete attentamente l'opuscolo "Avvertenze" ed il "Libretto istruzioni" che accompagnano questo prodotto in quanto forniscono importanti indicazioni riguardanti la sicurezza, l'installazione, l'uso e la manutenzione. Questo prodotto risponde alle norme riconosciute della tecnica e della disposizioni relative alla sicurezza. Confermiamo che è conforme alle seguenti direttive europee: 89/336/CEE, 73/23/CEE (e loro modifiche successive).

### 1) GENERALITÀ

Pistone elettromeccanico progettato per automatizzare cancelli di tipo residenziale.

Il motoriduttore mantiene il blocco in chiusura ed apertura senza necessità di elettroserratura. L'attuatore è provvisto di limitatore di coppia elettronico. Deve essere comandato da un quadro comandi elettronico dotato di regolazione di coppia.

Il funzionamento a fine corsa è regolato da due finecorsa magnetici.

L'attuatore è provvisto di un sistema di rilevamento ostacoli secondo le normative EN12453 e EN 12445.

Sono disponibili i seguenti accessori opzionali:

#### - Kit batteria tampone mod. BT BAT

Consente il funzionamento dell'automazione anche se manca per un breve periodo l'alimentazione di rete.

### 2) SICUREZZA

L'automazione, se installata ed utilizzata correttamente, soddisfa il grado di sicurezza richiesto.

Tuttavia è opportuno osservare alcune regole di comportamento per evitare inconvenienti accidentali.

- Prima di usare l'automazione, leggere attentamente le istruzioni d'uso e conservarle per consultazioni future.
- Tenere bambini, persone e cose fuori dal raggio d'azione dell'automazione, in particolare durante il funzionamento.
- Non lasciare radiocomandi o altri dispositivi di comando alla portata dei bambini onde evitare azionamenti involontari dell'automazione.
- Non contrastare volontariamente il movimento dell'anta.
- Non modificare i componenti dell'automazione.
- In caso di malfunzionamento, togliere l'alimentazione, attivare lo sblocco di emergenza per consentire l'accesso e richiedere l'intervento di un tecnico qualificato (installatore).
- Per ogni operazione di pulizia esterna, togliere l'alimentazione di rete.
- Tenere pulite le ottiche delle fotocellule ed i dispositivi di segnalazione luminosa. Controllare che rami ed arbusti non disturbino i dispositivi di sicurezza (fotocellule).
- Per qualsiasi intervento diretto all'automazione, avvalersi di personale qualificato (installatore).
- Annualmente far controllare l'automazione da personale qualificato.
- **L'attivazione dello sblocco manuale potrebbe causare movimenti incontrollati della porta in presenza di guasti meccanici oppure se la porta non è in equilibrio.**
- **Esaminare frequentemente l'installazione se presenta sbilanciamenti o segni di danni meccanici a "cavi e supporti". Non utilizzare l'automatismo se necessita di interventi di riparazione.**

### 3) MANOVRA DI EMERGENZA

Ogni operatore è dotato di sblocco a chiave. Alzato il tappo copriserratura (fig. 1), inserire la chiave di sblocco in dotazione e ruotare di 90° in senso orario.

Spingere manualmente l'anta per aprire il cancello. Per ripristinare il funzionamento motorizzato, ruotare la chiave al contrario e rimettere il tappo di copertura.

### 4) MANUTENZIONE E DEMOLIZIONE

La manutenzione dell'impianto va fatta eseguire regolarmente da parte di personale qualificato.

Se il cavo di alimentazione è danneggiato esso deve essere sostituito dal costruttore o dal suo servizio assistenza tecnica o comunque da persona con qualifica simile, in modo da prevenire ogni rischio.

I materiali costituenti l'apparecchiatura e il suo imballo vanno smaltiti secondo le norme vigenti. **Le pile non devono essere disperse nell'ambiente.**

### AVVERTENZE

**Il buon funzionamento dell'operatore è garantito solo se vengono rispettati i dati riportati in questo manuale. La ditta non risponde dei danni causati dall'inosservanza delle norme di installazione e delle indicazioni riportate in questo manuale.**

**Le descrizioni e le illustrazioni del presente manuale non sono impegnative. Lasciando inalterate le caratteristiche essenziali del prodotto, la Ditta si riserva di apportare in qualunque momento le modifiche che essa ritiene convenienti per migliorare tecnicamente, costruttivamente e commercialmente il prodotto, senza impegnarsi ad aggiornare la presente pubblicazione.**

Thank you for buying this product, our company is sure that you will be more than satisfied with the product's performance. The product is supplied with a "Warnings" leaflet and an "Instruction booklet". These should both be read carefully as they provide important information about safety, installation, operation and maintenance. This product complies with the recognised technical standards and safety regulations. We declare that this product is in conformity with the following European Directives: 89/336/EEC and 73/23/EEC (and subsequent amendments).

### 1) GENERAL OUTLINE

Electromechanical piston designed to automate residential gates.

The gearmotor keeps the gate locked on closing and on opening, without needing an electric lock for leaves up to 3 m long. For leaves ranging between 3m and 5m long, the electric lock becomes indispensable. The operator is provided with an electronic torque limiter. It must be controlled by an electronic control panel provided with torque setting. **The end-of-stroke operation is controlled by two magnetic limit devices. The operator is provided with an obstacle detection system complying with EN12453 and EN 12445 standards.**

The following optional accessories are available on request:

#### - Buffer battery kit mod. BT BAT

Allows operation of the automation even when there is no mains power supply for a short period of time.

### 2) SAFETY

If correctly installed and used, this automation device satisfies the required safety level standards.

However, it is advisable to observe some practical rules in order to avoid accidental problems.

- Before using the automation device, carefully read the operation instructions and keep them for future reference.
- Keep children, people and things outside the automation working area, particularly during its operation.
- Keep radio control or other control devices out of children's reach, in order to avoid any unintentional automation activation.
- Do not intentionally oppose the leaf movement.
- Do not modify the automation components.
- In case of malfunction, disconnect the power supply, activate the emergency release to have access to the automation and request the assistance of a qualified technician (installer).
- Before proceeding to any outside cleaning operation, disconnect the power supply.
- Keep the photocell optical components and light signal devices clean.
- Check that the safety devices (photocells) are not obscured by branches or shrubs.
- For any direct assistance to the automation system, request the help of a qualified technician (installer).
- Have qualified personnel check the automation system once a year.
- **Manual release activation could cause the door to be subject to uncontrolled movements in the case where any mechanical faults are present or the door is not balanced.**
- **Inspect the installation frequently if it shows any unbalance or signs of mechanical damage to "cables and supports". Do not use the operator if it needs to be repaired.**

### 3) EMERGENCY MANOEUVRE

All controllers feature a key release mechanism. After lifting the lock cover (fig. 1), insert the release key supplied and turn it clockwise by 90°.

Push the leaf manually to open the gate. To reset the motorised operation, turn the key in the opposite direction and refit the cover.

### 4) MAINTENANCE AND DEMOLITION

**The maintenance of the system should only be carried out by qualified personnel regularly.**

If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service, or else by a suitably qualified person, in order to prevent any risk. The materials making up the set and its packing must be disposed of according to the regulations in force. **Batteries must be properly disposed of.**

### WARNINGS

**Correct controller operation is only ensured when the data contained in the present manual are observed. The company is not to be held responsible for any damage resulting from failure to observe the installation standards and the instructions contained in the present manual.**

**The descriptions and illustrations contained in the present manual are not binding. The Company reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.**

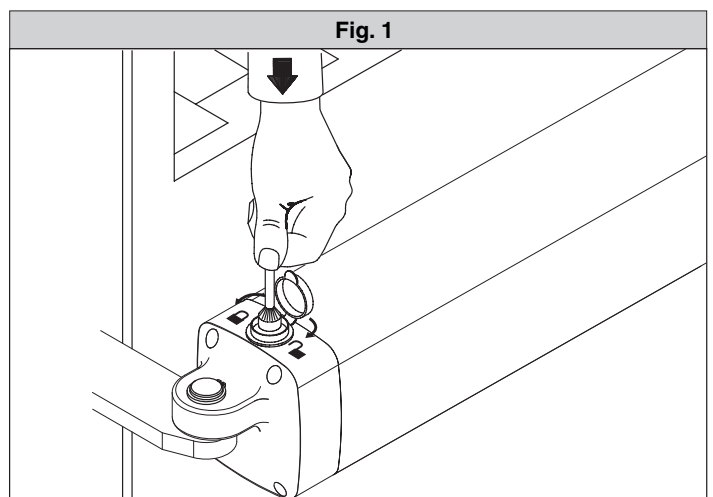


Fig. 1

Thank you for buying this product, our company is sure that you will be more than satisfied with the product's performance. The product is supplied with a "Warnings" leaflet and an "Instruction booklet". These should both be read carefully as they provide important information about safety, installation, operation and maintenance. This product complies with the recognised technical standards and safety regulations. We declare that this product is in conformity with the following European Directives: 89/336/EEC and 73/23/EEC (and subsequent amendments).

### 1) GENERAL SAFETY

**WARNING! An incorrect installation or improper use of the product can cause damage to persons, animals or things.**

- The "Warnings" leaflet and "Instruction booklet" supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.
- Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.
- Keep the instructions together with the technical brochure for future reference.
- This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.
- The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.
- Do not install the product in explosive atmosphere.
- The construction components of this product must comply with the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments. As for all non-EEC countries, the above-mentioned standards as well as the current national standards should be respected in order to achieve a good safety level.
- The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.
- The installation must comply with the provisions set out by the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments.
- Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.
- Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3,5 mm.
- Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.
- Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.
- Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing.
- Position at least one luminous signal indication device (blinker) where it can be easily seen, and fix a Warning sign to the structure.
- The Company declines all responsibility with respect to the automation safety and correct operation when other manufacturers' components are used.
- Only use original parts for any maintenance or repair operation.
- Do not modify the automation components, unless explicitly authorised by the company.
- Instruct the product user about the control systems provided and the manual opening operation in case of emergency.
- Do not allow persons or children to remain in the automation operation area.
- Keep radio control or other control devices out of children's reach, in order to avoid unintentional automation activation.
- The user must avoid any attempt to carry out work or repair on the automation system, and always request the assistance of qualified personnel.
- Anything which is not expressly provided for in the present instructions, is not allow.
- Installation must be carried out using the safety devices and controls prescribed by the EN 12978 Standard.
- Check that the stated temperature range is compatible with the place where the operator is to be installed.
- If present, the hold button (hold-to-run control) must be fitted within

sight of the door but away from the moving parts, at a height of 1.5 m, and must not be accessible to the public.

- If the operator is fitted at a height lower than 2.5 m, you must guarantee an adequate degree of protection for the electrical and mechanical parts.
- Make sure that squashing is avoided between the moving parts and surrounding fixed parts. Fit all the safety devices (photocells, safety edges etc.) required to protect the area from any danger of squashing, drawing in and shearing.
- After completing the installation, ensure that the motor is set correctly and that the protection and release systems operate correctly.

### 2) GENERAL OUTLINE

Electromechanical operator designed to automate residential-type gates.

The gearmotor keeps the gate locked on closing and on opening, without needing an electric lock for leaves up to 3 m long. For leaves ranging between 3m and 5m long, the electric lock becomes indispensable.

The operator is provided with an electronic torque limiter. It must be controlled by an electronic control panel provided with torque setting.

The end-of-stroke operation is controlled by two magnetic limit devices.

The operator is provided with an obstacle detection system complying with EN12453 and EN 12445 standards.

The following optional accessories are available on request:

#### - Buffer battery kit mod. PHOBOS-BT BAT

Allows operation of the automation even when there is no mains power supply for a short period of time.

### 3) TECHNICAL SPECIFICATIONS

#### 3.1) PHOBOS N BT

Power supply:	24V $\overline{---}$
Motor revolutions:	2500 min <sup>-1</sup>
Absorbed power:	40 W
Absorbed current:	1.5 A
Push and pull force:	2000 N (~200 kg)
Working stroke:	295 mm
Stem speed:	20 mm/s approx.
Impact reaction:	Torque limiter aboard Libra control board
Limit devices:	Magnetic, incorporated and adjustable
Manual manoeuvre:	CLS release key
No. of manoeuvres in 24hours:	60 manoeuvres
Maximum leaf length:	1800 mm
Max. leaf weight:	2500 N (~250 kg)
Environmental conditions:	from -20 °C to +50 °C
Protection level:	IP X4
Dimensions:	See fig.1
Controller weight:	50N (~5kg)
Lubrication:	permanent grease

#### 3.2) BATTERY KIT BT BAT

Charging voltage:	27.2V $\overline{---}$
Charging current:	130mA
Outside temperature when values were measured:	25°C
Battery capacity:	2x (12V 1.2Ah)
Flat battery protection threshold:	20.4V $\overline{---}$
Battery charging time:	12/14 hrs

### 4) INSTALLATION OF THE ACTUATOR

#### 4.1) Preliminary checks

Check that:

- The gate structure is sufficiently sturdy.
- Also make sure that the actuator pushes against the leaf reinforced section.
- The leaves move manually and without effort all along their stroke.
- If the gate has not been recently installed, check the wear condition of all components.
- Repair or replace faulty or worn parts.  
The automation reliability and safety are directly influenced by the state of the gate structure.
- Fit the magnet-holder "M" by inserting it into the front bracket "F" until a click is heard (as from Fig.7).

The diagram in fig. 2 should be used as a reference for installation and consult the table for the distances in mounting the gate post.

The diagram in fig. 2 uses the following legend:

P Gate post rear fastening bracket

F	Front leaf fastening bracket
a-b	"P" bracket installation value
C	Distance between fixing points (C = 705 mm)
D	Gate length
X	Distance from gate axis to the edge of the post
Z	Always over 45 mm (b - X)
kg	max. weight of leaf
$\alpha^\circ$	leaf opening in degrees

#### 4.2) How to read the installation distance tables (Fig.2)

Select "a" and "b" according to the angle in degrees  $\alpha^\circ$  that the gate has to open. The optimum "a" and "b" values for  $92^\circ$  opening at constant speed are highlighted.

If there is too large a difference between "a" and "b", the leaf will not travel smoothly and the pushing or pulling force will fluctuate during its stroke. To respect the opening speed and ensure the controller operates correctly, it is best to keep the difference between "a" and "b" as low as possible. The table has been worked out for a 20-mm thick medium-size gate. Always check that there is no possible collision between the gate and the operator.

#### 4.3) Off-standard installations.

Fig. 3 shows an installation with a recess when there is not sufficient space between the leaf and perimeter wall.

When the leaf position does not provide for a value of "b" present in the table, change the length of the bracket or make a recess in the gate-post (Fig. 5).

#### 4.4) Anchoring the attachments to the gate-post.

Fix the bracket "P" (fig. 6) to the gate-post with a good welding.

In the same way, weld the "F" bracket to the gate (or fix it with 4 M8 screws), making sure that the operator to be fitted is positioned parallel with the gate movement plane, fig.7. The bracket "F" should be welded in the same way to the gate taking care that the actuator can then be mounted perfectly horizontal to the line of travel of the gate fig. 7.

- If the gate-post is in brick, the plate "PF" must be set soundly into the post using adequately sized cramps "Z" welded to the back of the plate (fig. 8).
- If the gate-post is in stone and the gate is small, the plate "PF" can be mounted with four metal expansion plugs "T" (fig. 9). If a larger gate is being installed it would be better to use a corner plate "PF" (fig. 10).

Fit the rear bracket pin as in Fig.6.

#### 4.5) Anchoring the attachments to the gate leaf.

Fixing bracket "F" must be fixed at a distance of 705 mm from attachment P in Fig.6.

**IMPORTANT: the front bracket must be fitted with the bush collar protruding UPWARDS (Fig.4 Ref.A).**

#### 4.6) Power supply cable (Fig.12)

The board power supply cable must be of the H 05 RN-F type or equivalent. The equivalent cable must guarantee:

- permanent outside use
- rated voltage of 300/500 V
- maximum temperature on the cable surface of  $+50^\circ\text{C}$
- minimum temperature of  $-25^\circ\text{C}$

Moreover, it must have a minimum section of  $3 \times 1.5 \text{ mm}^2$  and, for the cable to hold correctly, it must be provided with an external sheath of  $\varnothing = 7.1$  to  $9.6 \text{ mm}$ . Insert the cable into O ring "K" (Fig.12), strip it by about 40 mm and connect the cables to the terminal bar (see diagram S).

Position the cable sheath so that O ring "K" is inserted in its housing in the base and, leaving the sheath protrude by about  $J=5 \text{ mm}$  (as shown in Fig.12), close the hatch and fix it by means of the 3 screws.

#### 4.7) Operator fitting

Position the operator on the brackets and fix everything as indicated in Fig. 6 and 7.

In the case of gates moving over a slope (opening towards the inside with an upward sloping driveway), the operator allows the gate to oscillate with respect to the horizontal axis, for the maximum values indicated in fig.7.

#### 5) GROUND GATE STOPS

For the controller to operate correctly the gate stop "B" must be used both in opening and closing, as shown in fig. 11.

#### 6) THE ELECTRICAL PLANT SET-UP (fig. 13).

Lay out the electrical installation (fig. 13) with reference in force for electrical installation.

The mains power supply connections must be kept totally separate from the service connections (photocells, electric edges, control devices etc.). Connect the control and safety devices in compliance with the previously mentioned electrical installation standards.

Fig.13 shows the number of connections and the cross section for power supply cables having a length of approximately 100 metres; in case of longer cables, calculate the cross section for the true automation load. When the auxiliary connections exceed 50-metre lengths or go through critical disturbance areas, it is recommended to decouple the control and safety devices by means of suitable relays.

The main automation components are (fig.13):

- I** Type-approved omnipolar circuit breaker with at least 3,5 mm contact opening, provided with protection against overloads and short circuits, suitable for cutting out automation from the mains. If not already installed, place a type-approved differential switch with a 0.03A threshold in the circuit just before the automation system.
- Qr** Control panel and incorporated receiver.
- S** Key selector
- AL** Blinker tuned in with antenna
- M** Controller
- Fte** Pair of outside photocells (transmitters)
- Fre** Pair of outside photocells (receivers)
- Fti** Pair of inside photocells with column (transmitters)
- Fri** Pair of inside photocells with column (receivers)
- T** 1-2-4 channel transmitter

#### RG58 Antenna cable

The connection between the operator and the control panel should be carried out using three cables, identified as follows:

Fig. 17 shows the wiring diagram of the **LIBRA** control unit.

Should the opening or closing direction be incorrect, it is possible to invert the connections of motor + and motor - on the control board.

The first command after an interruption of the power supply should be an opening manoeuvre.

All metal masses in the housings of equipment and automation must be earthed.

#### 7) ADJUSTING THE PUSHING FORCE

**WARNING:** Check that the impact force value measured at the points established by the EN 12445 standard is lower than that specified in the EN 12453 standard.

The pushing force is calibrated by means of the torque regulator in the control unit. The optimum torque must allow a complete opening or closing cycle with the minimum force necessary. An excessive torque can reduce the anti-crush safety. In the other case, an insufficient torque can impede the manoeuvres. Consult the control unit's instruction manual.

#### 8) LIMIT DEVICE ADJUSTMENT

End-of-stroke adjustment is carried out by correctly positioning the limit devices (FC1 and FC2 in Fig. 1).

##### 8.1) Closing limit device adjustment (Fig. 14):

Carry out a closing manoeuvre to check that limit device activation is correct; if the leaf stops before the required closing position, slightly move the limit device towards the head cap; if, on the contrary, the leaf meets the ground closing stop and the operator starts to reverse, slightly move the limit device towards the operator body. **After completing the adjustment, fix screw A.**

**ATTENTION!** To avoid braking the limit switch cable, tighten screw A keeping the wire B well tightened (as shown in Fig.14A).

##### 8.2) Opening limit device adjustment (Fig. 15):

Carry out an opening manoeuvre to check the exact limit activation point; if the leaf stops before the required opening point, slightly move the limit device towards the operator body; if, on the contrary, the leaf reaches the opening ground stop plate and the operator reverses its movement, slightly move the limit device towards the rod end. **After completing the adjustment, fix screw A.** Limit device activation takes place about 5 mm between the magnetic limit device tip and the nut screw end.

N.B. When using the **LIBRA** control board, remember to slightly anticipate the intervention of the limiting devices because the stem, after intercepting the limiting devices, continues to move for a further 1-2 mm. (100 ms).

In this way a perfect strike of the leaves against the ground supports is guaranteed.

### 9) MANUAL OPENING

All controllers feature a key release mechanism. After lifting the lock cover (fig.16), insert the release key supplied and turn it clockwise by 90°. Push the leaf manually to open the gate. To reset the motorised operation, turn the key in the opposite direction and refit the cover.

### 10) CHECKING THE AUTOMATION

Before considering the automation completely operational, the following checks must be made with great care:

- Check that all the components are firmly anchored.
- Control all the safeties work properly (i.e. photocells, pneumatic skirt, etc.).
- Check the emergency manoeuvre control.
- Check the opening and closing manoeuvres using the controls.
- Check the control unit's electronic logic in normal (or customised) operation.

### 11) USE OF THE AUTOMATION

Since the automation may be remote controlled either by radio or a Start button, it is essential that all safeties are checked frequently.

Any malfunction should be corrected immediately by a qualified specialist. Keep children at a safe distance from the field of action of the automation.

### 12) THE CONTROLS

With the automation the gate has a power driven opening and closing. The controls can come in various forms (i.e. manual, remote controlled, limited access by magnetic badge, etc.) depending on needs and installation characteristics. For details on the various command systems, consult the specific instruction booklets.

Anyone using the automation must be instructed in its operation and controls.

### 13) MAINTENANCE

When carrying out maintenance operation on the controller, disconnect it from the mains power supply. The actuator does not require periodical maintenance operations.

- Check the safety devices of the gate and automation.
- Periodically check the pushing force and correct the value of the electric torque in the control board if necessary.
- In case of unsolved operation failures, disconnect the unit from the mains power supply and ask for the intervention of qualified personnel (installer).

When the unit is out of order, activate the manual release to perform manual opening and closing manoeuvres.

### 14) NOISE

The aerial noise produced by the gearmotor under normal operating conditions is constant and does not exceed 70dB(A).

### 15) SCRAPPING

Materials must be disposed of in conformity with the current regulations.

In case of scrapping, the automation devices do not entail any particular risks or danger. In case of recovered materials, these should be sorted out by type (electrical components, copper, aluminium, plastic etc.).

### 16) DISMANTLING

When the automation system is disassembled to be reassembled on another site, proceed as follows:

- Disconnect the power supply and the entire electrical installation.
- Remove the gearmotor from its fixing base.
- Disassemble the control panel, if separate, and all installation components.
- In the case where some of the components cannot be removed or are damaged, they must be replaced.

### 17) TROUBLES AND SOLUTIONS

#### 17.1) Incorrect operation of gearmotor

- a) Check for the presence of power supply to the gearmotor using a suitable instrument after opening or closing commands have been given.

- b) If the moving direction of the leaf is opposite to the right one, invert the motor running connections (motor +red/ motor - black).

- c) Should the gate stop and hit the ground stopping device and the actuator reverse its moving direction, it means that the limiting devices have not been adjusted correctly. If this happens on the opening stopping device, move the opening limiting device towards the hinge of the gate until the correct position is found (see adjustment of the limiting devices).

If, on the contrary, this happens on the closing stopping device, move the closing limiting device towards the stem plug until the correct position is found (see adjustment of the limiting devices).

#### 17.2) Incorrect operation of the electrical accessories

All control and safety devices can cause, in case of failure, malfunctioning or stoppage of the automation.

To identify the failure, it is advised to disconnect all the devices of the automation one by one until the one causing the problem is found.

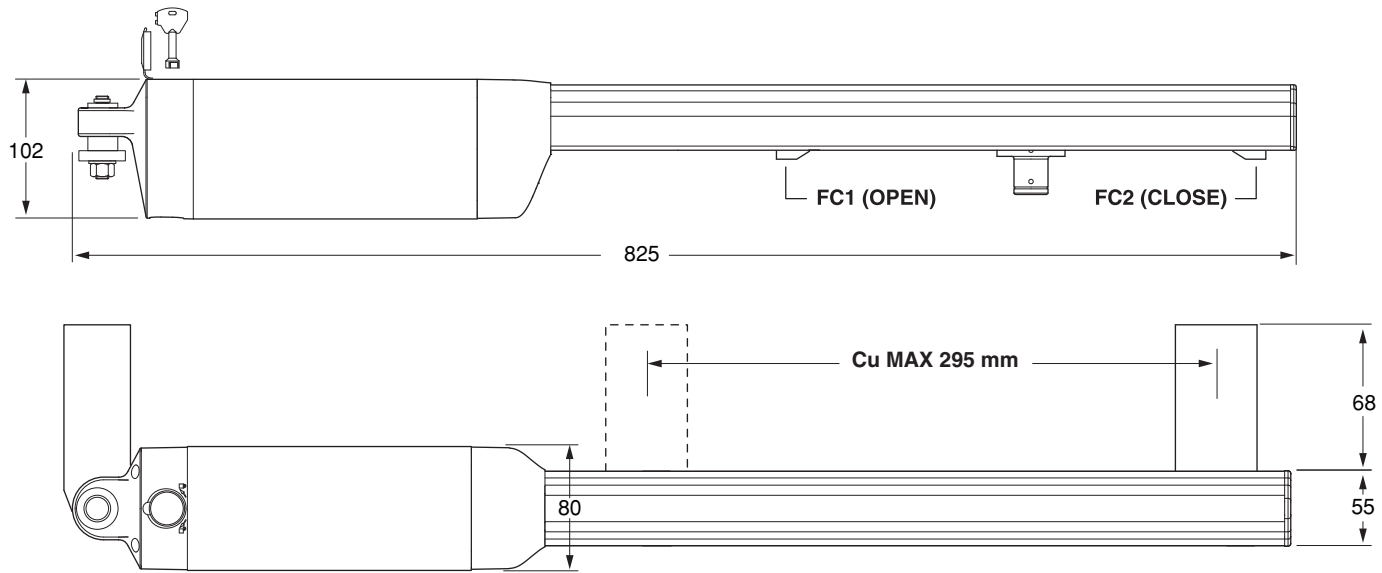
After fixing or replacing the defective device, reset all the devices previously disconnected. Refer to the relevant instruction manual for all the devices installed on the automation.

### WARNINGS

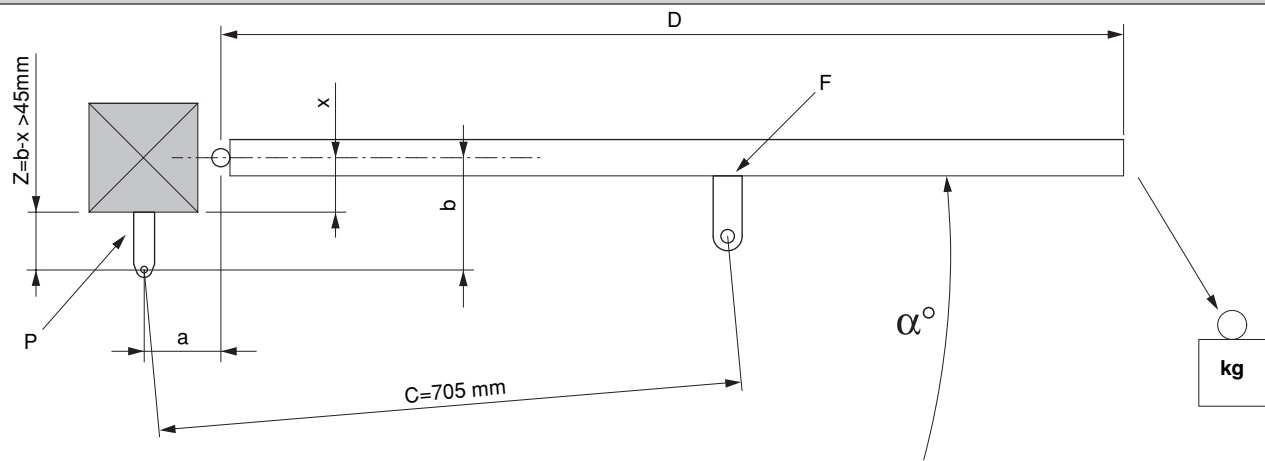
**Correct controller operation is only ensured when the data contained in the present manual are observed. The company is not to be held responsible for any damage resulting from failure to observe the installation standards and the instructions contained in the present manual.**

**The descriptions and illustrations contained in the present manual are not binding. The Company reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.**

**Fig. 1**



**Fig. 2**



a(mm) \ b(mm)	100	110	120	130	140	150	160	170	180
100					120	109	104	99	96
110					114	105	100	96	93
120					107	100	97	93	
130				110	101	96	92	90	
140				102	96	92	89		
150			104	96	92	89	85		
160			97	91	88	85			
170		98	91	87	84	82			
180		90	86	83	81				
190	90	85	82	79					
200	84	84	78						
210	79	77							

*Installazioni consigliate / Recommended installation  
 Installations conseillées / Empfohlene Installationen  
 Instalaciones aconsejadas / Instalações Aconselhadas*

Fig. 3

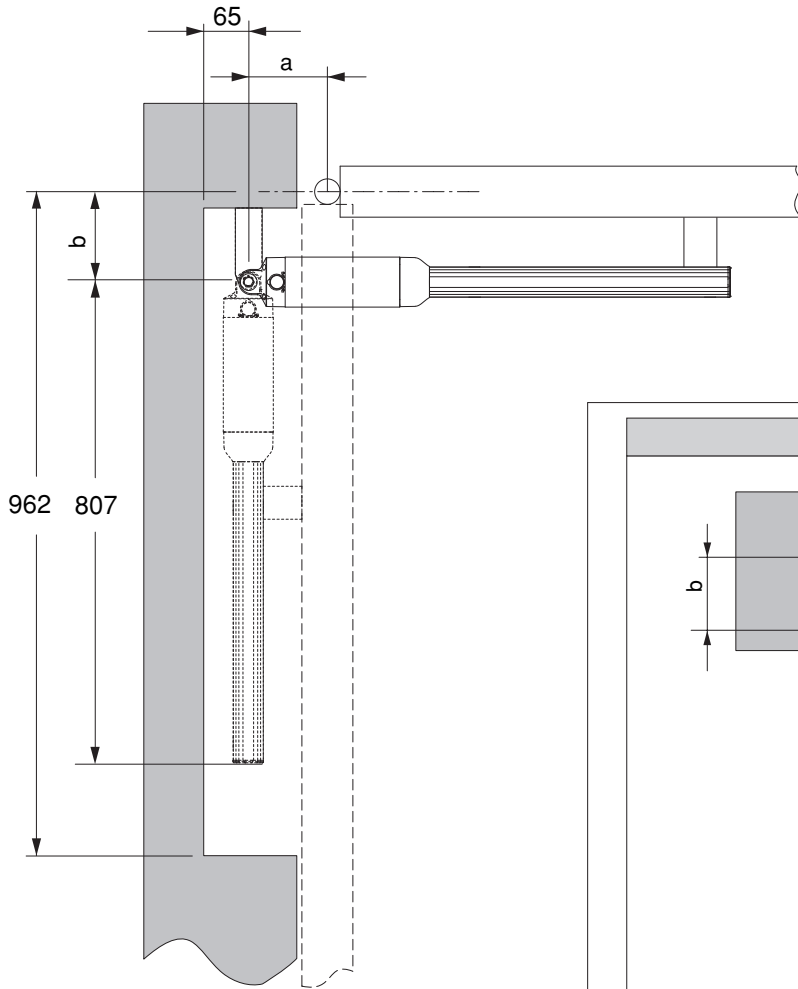


Fig. 4

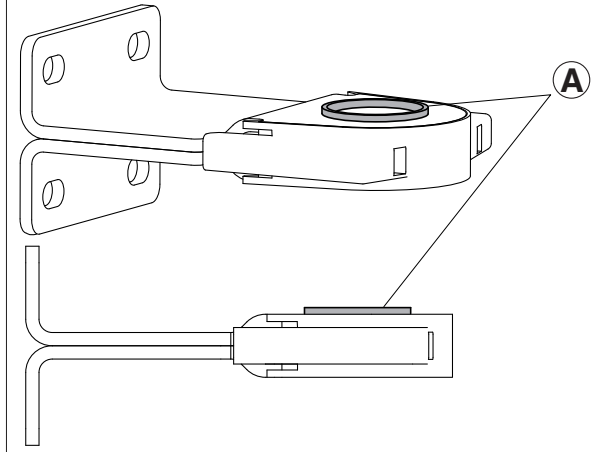


Fig. 5

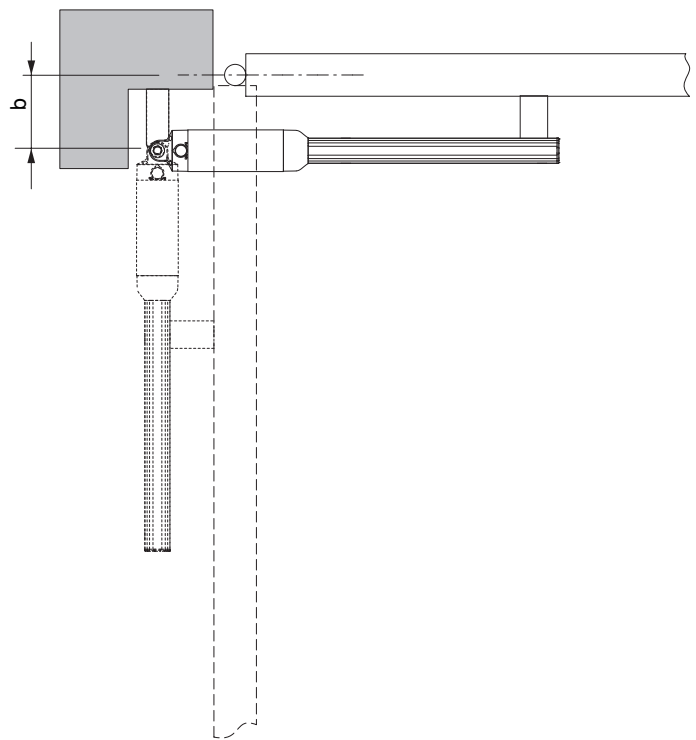


Fig. 6

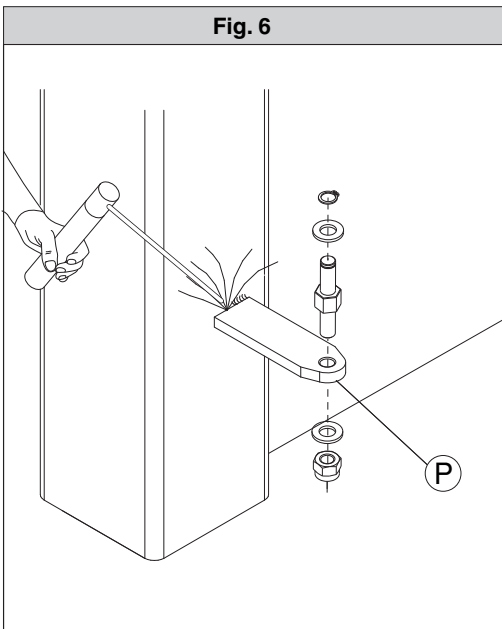
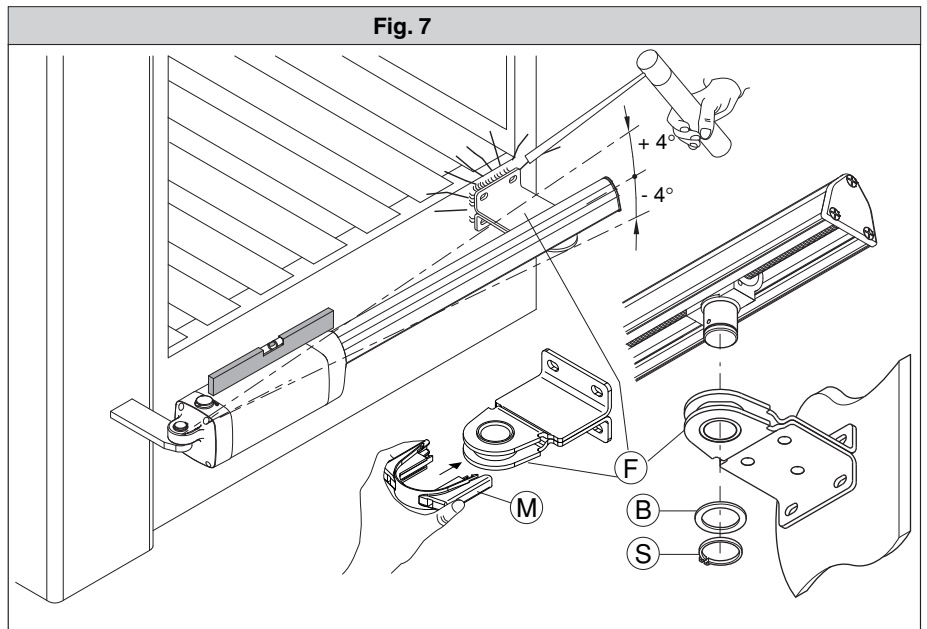


Fig. 7





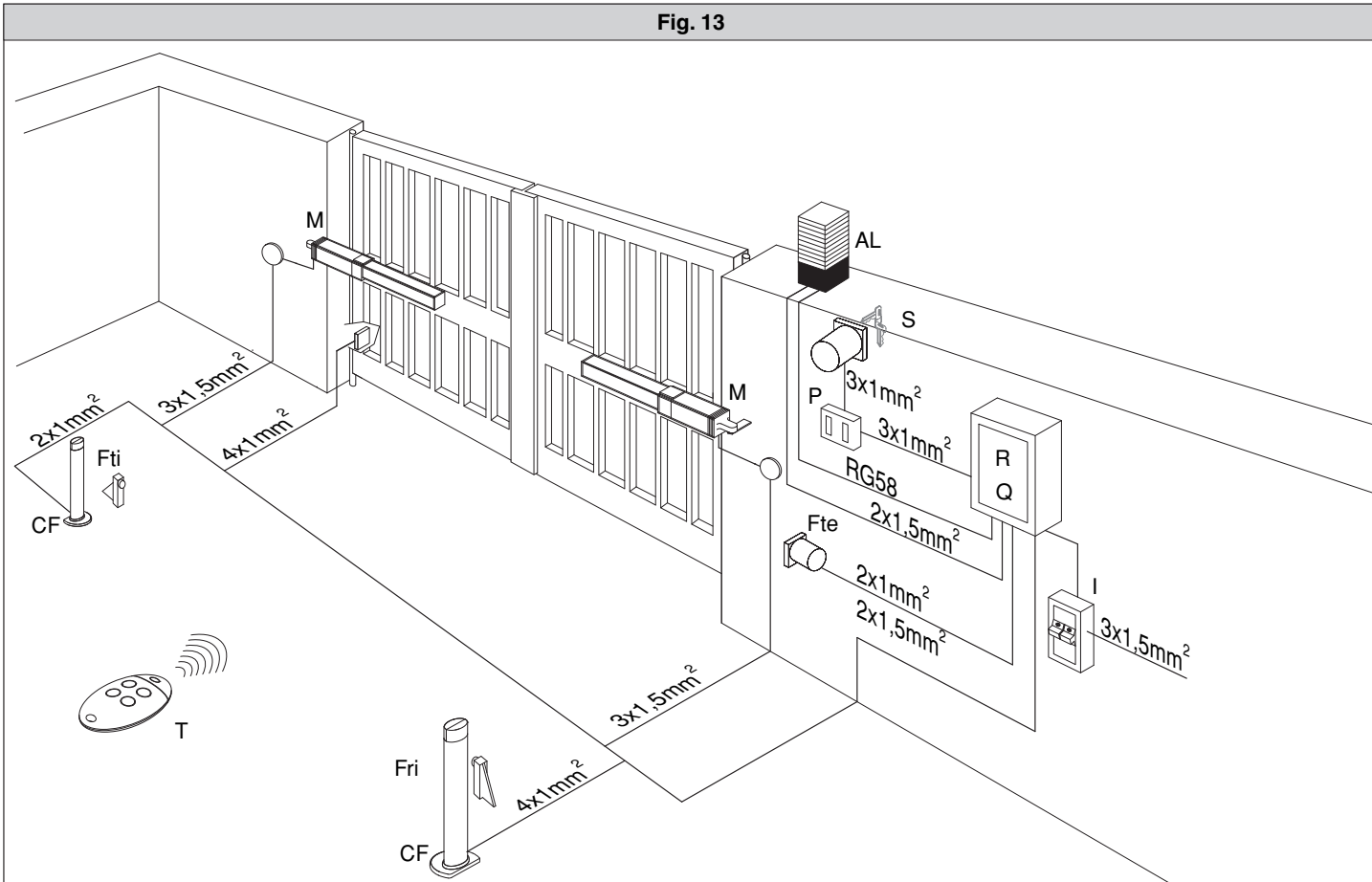
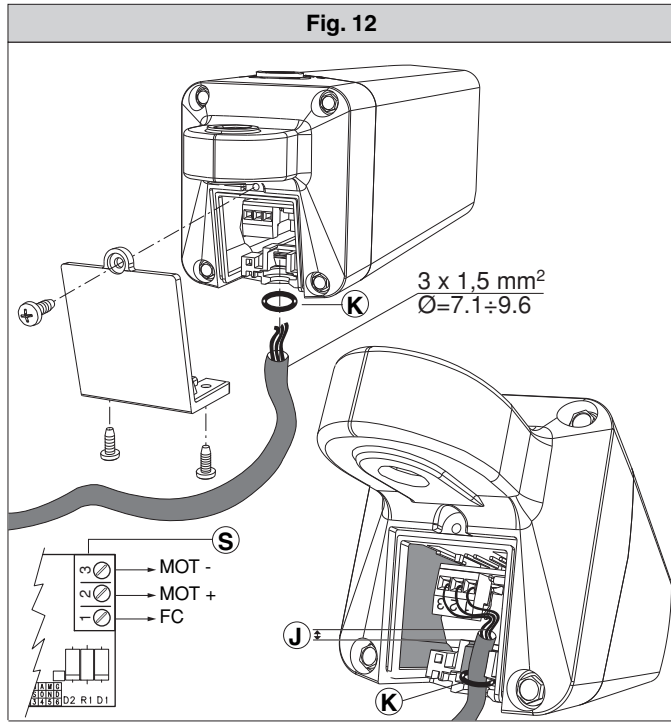
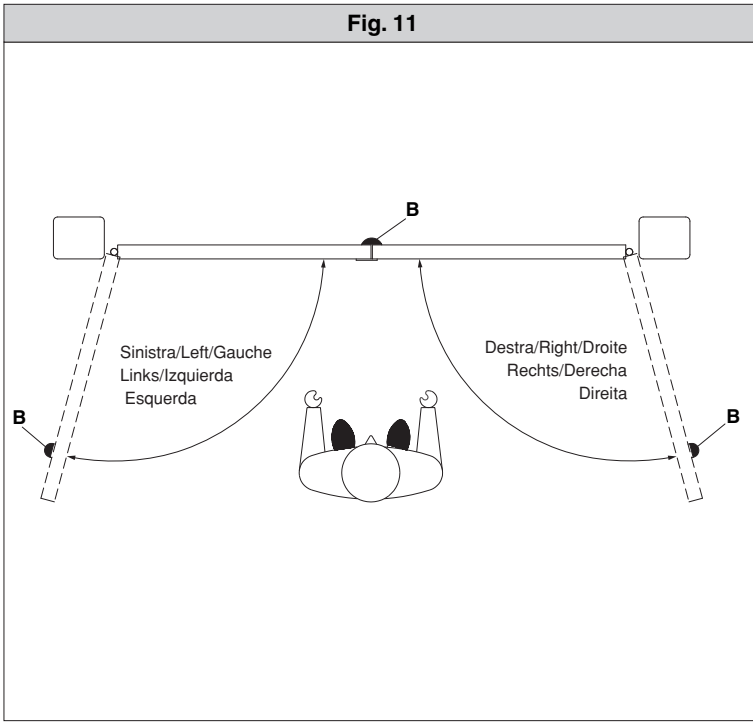
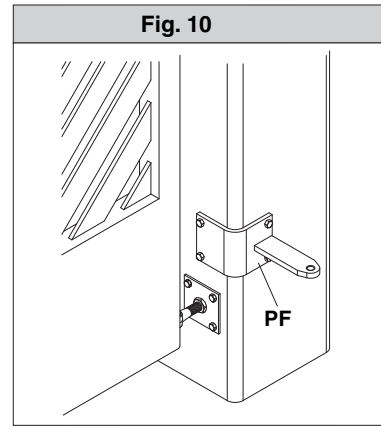
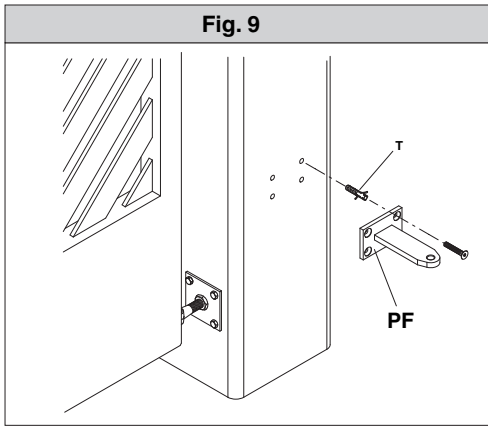
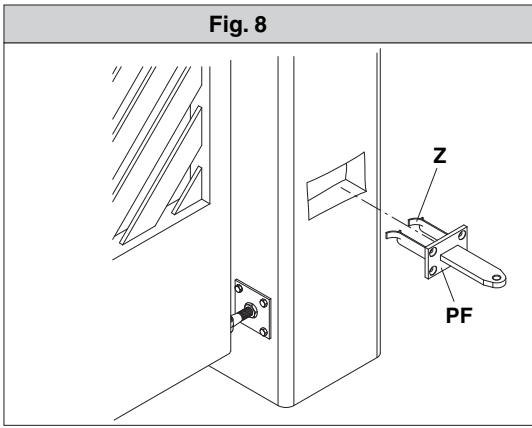


Fig. 14

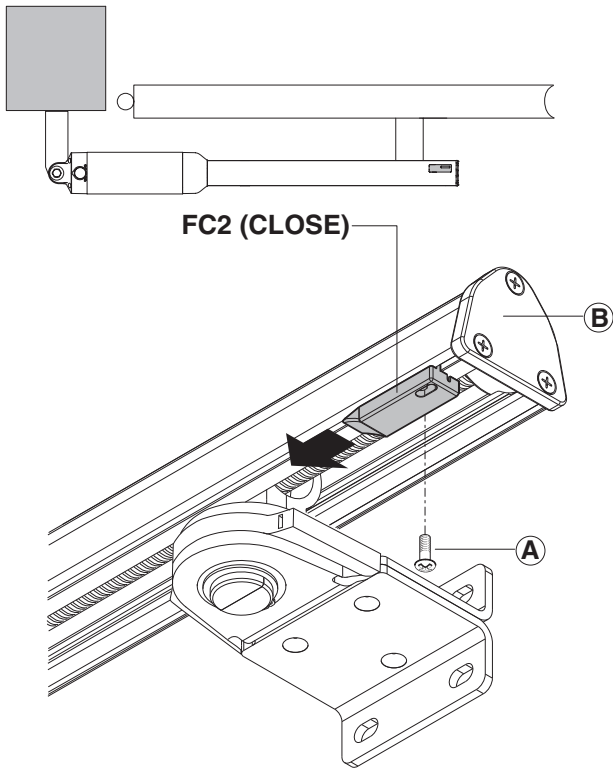


Fig. 15

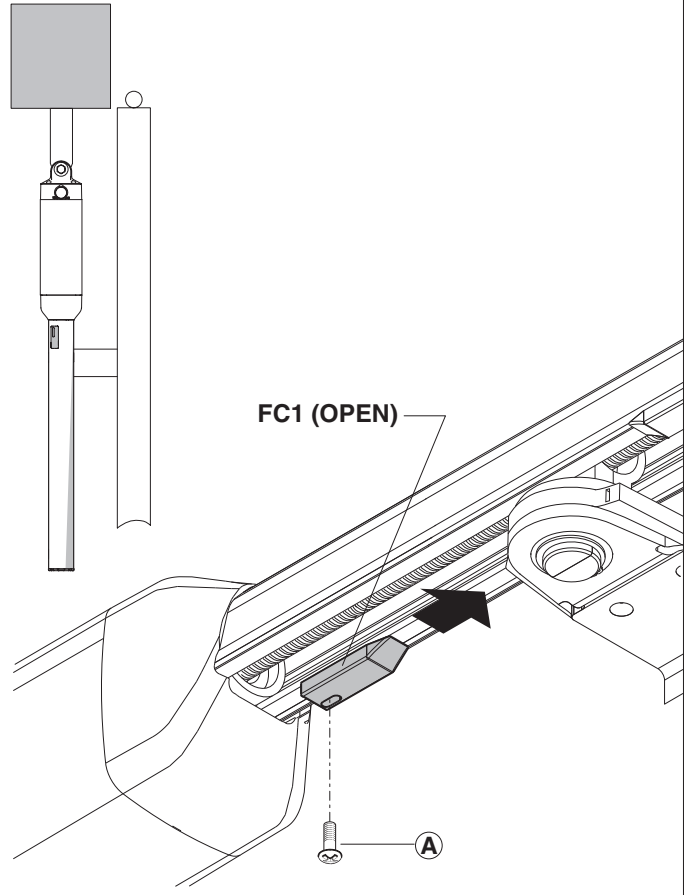


Fig. 14A

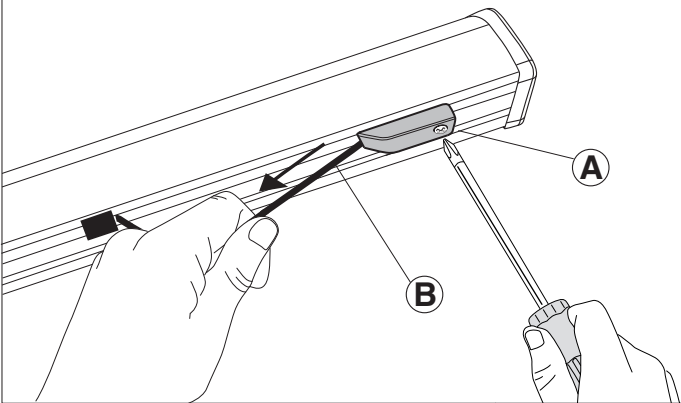


Fig. 16

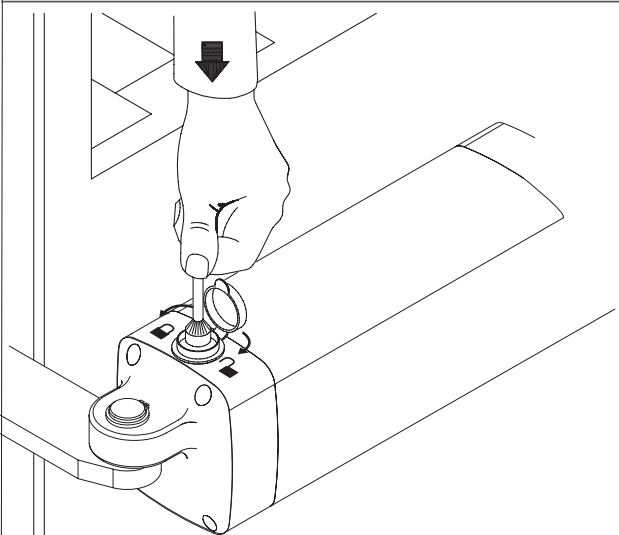


Fig. 17

