

BFt BT A40 Single Swing Gate Opener Complete Kit Instruction Manual

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PHOBOS B T A25
PHOBOS B T A40
PISTON AUTOMATIONS FOR SWING GATES
INSTALLATION MANUAL



COMPANY WITH MANAGEMENT SYSTEM
INTEGRATED CERTIFIED BY DNV
= UNI EN ISO 9001:2008 =
UNI EN ISO 14001:2004

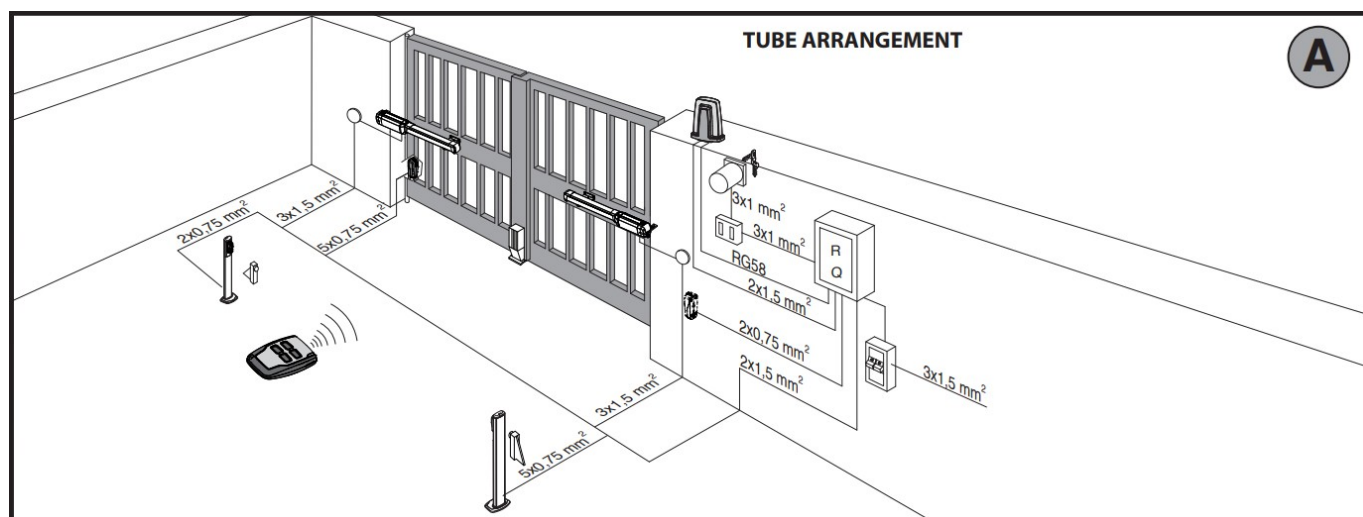
Caution! Read "Warnings" inside carefully!

QUICK INSTALLATION

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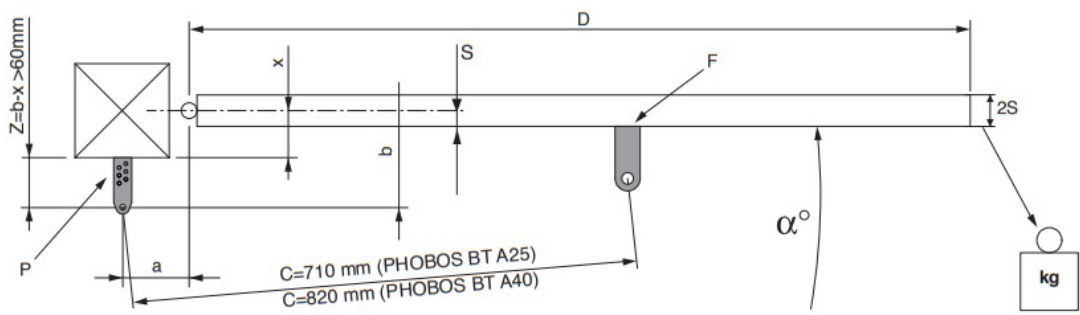
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TUBE ARRANGEMENT



INSTALLATION DIAGRAM

B



1

S (mm)	PHOBOS BT A25		PHOBOS BT A40	
	125 kg (~ 1250 N)	250 kg (~ 2500 N)	125 kg (~ 1250 N)	250 kg (~ 2500 N)
	b (mm)		b (mm)	
20	100 ÷ 120	130 ÷ 210	130 ÷ 160	170 ÷ 260
30	100 ÷ 130	140 ÷ 210	130 ÷ 170	180 ÷ 260
40	100 ÷ 140	150 ÷ 210	130 ÷ 180	190 ÷ 260
50	100 ÷ 150	160 ÷ 210	130 ÷ 190	200 ÷ 260

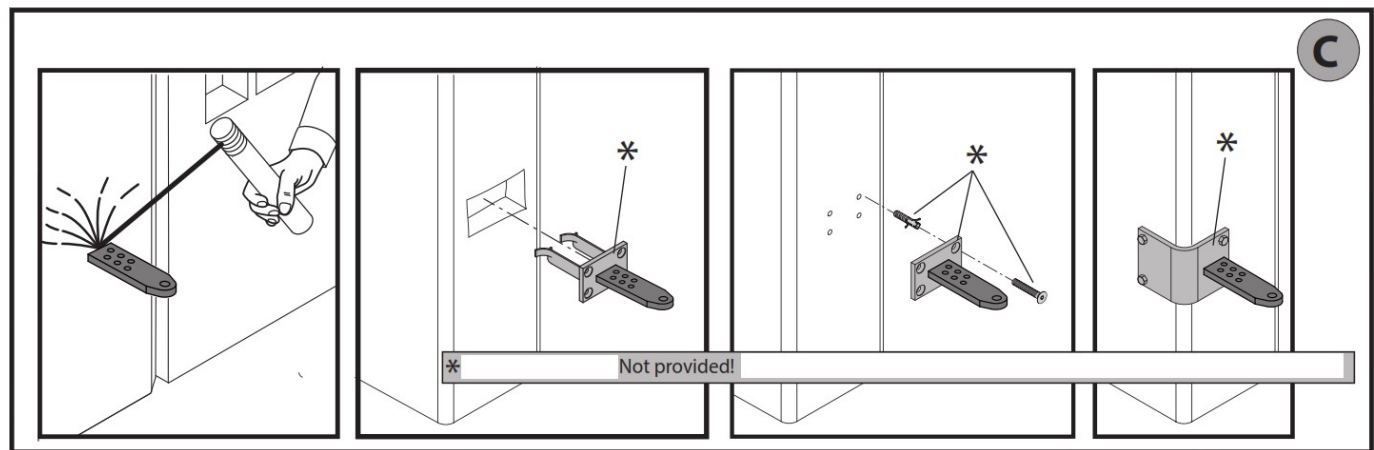
2 PHOBOS BT A25

b \ a	100	110	120	130	140	150	160	170
100				114	116	108	102	97
110				112	108	103	98	95
120				111	105	99	95	
130			107	105	100	95	92	
140			105	100	95	92		
150		105	100	95	92			
160		101	95	92	89			
170	101	93	91	89				
180	92	90	88					
190	90	87						
200	87							α°

3 PHOBOS BT A40

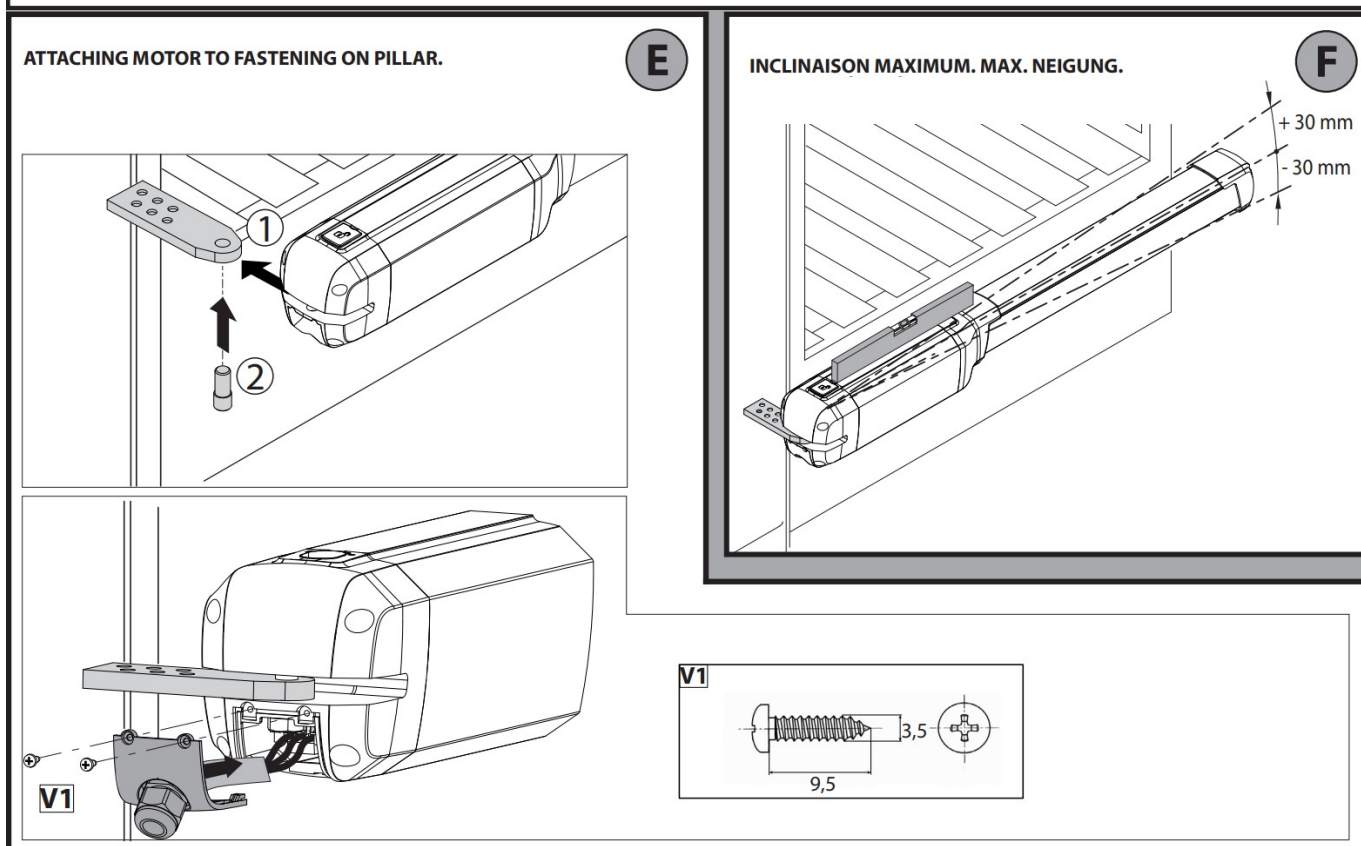
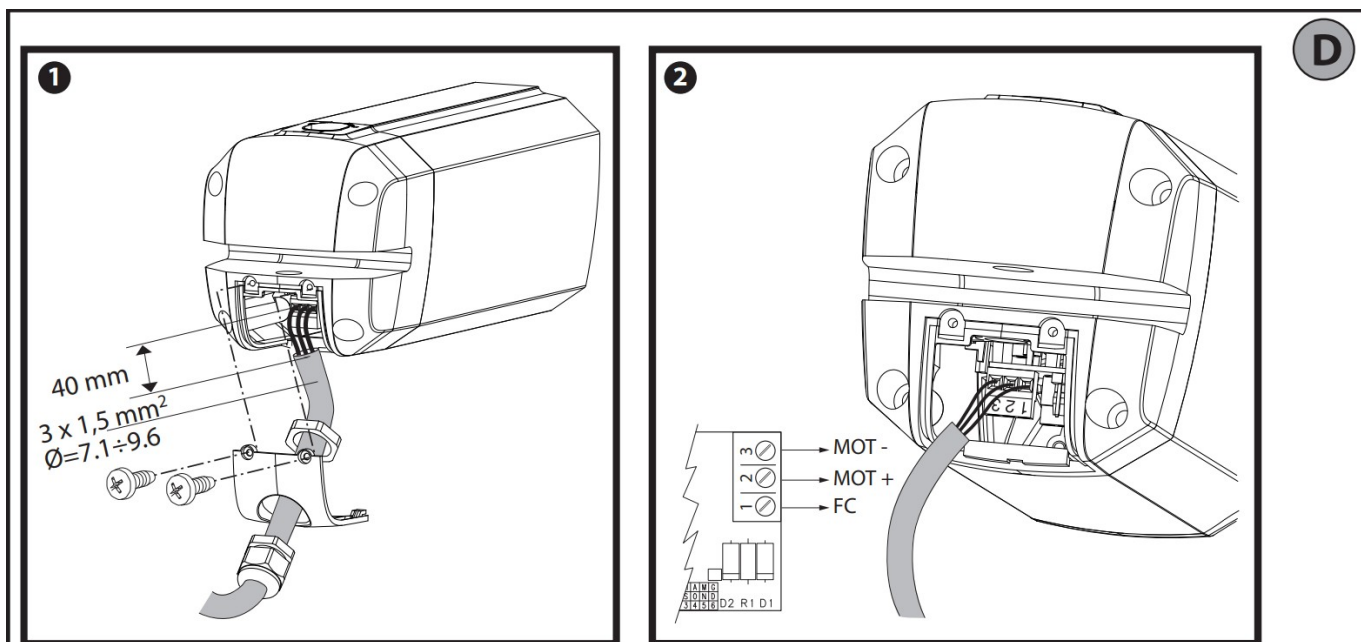
b \ a	100	110	120	130	140	150	160	170	180	190	200	210	220	230
130	100	104	107	110	113	116	119	121	124	123	114	109	104	101
140	100	103	106	109	112	115	118	120	122	116	110	107	102	98
150	99	102	105	108	111	114	117	119	120	112	106	102	98	95
160	98	101	105	107	110	113	115	116	114	109	103	99	96	
170	97	100	104	107	109	112	114	113	109	105	100	96	93	
180	97	100	103	106	108	111	113	109	105	100	97	93		
190	97	100	102	105	107	109	112	106	101	96	93			
200	97	99	101	104	106	106	106	100	97	93				
210	96	98	101	103	106	104	103	97	92					
220	96	98	101	103	105	101	97	93						
230	96	98	101	103	105	97	93							
240	95	97	99	99	96	92								
250	95	97	97	95	91									
260	95	97	95	91										α°

FASTENING OF FITTINGS TO PILLAR

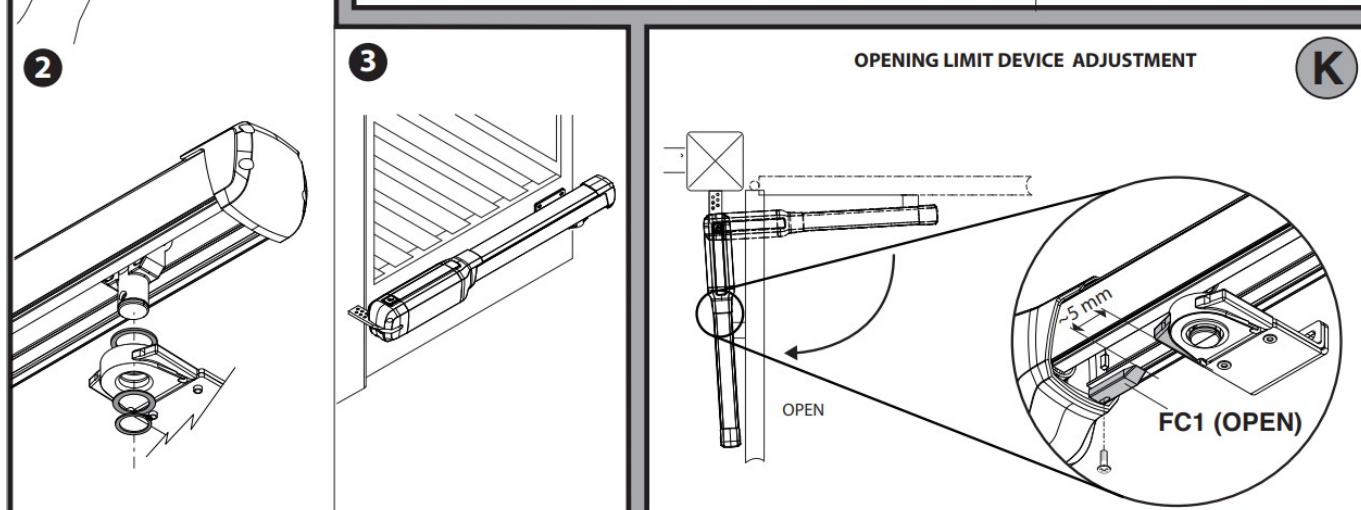
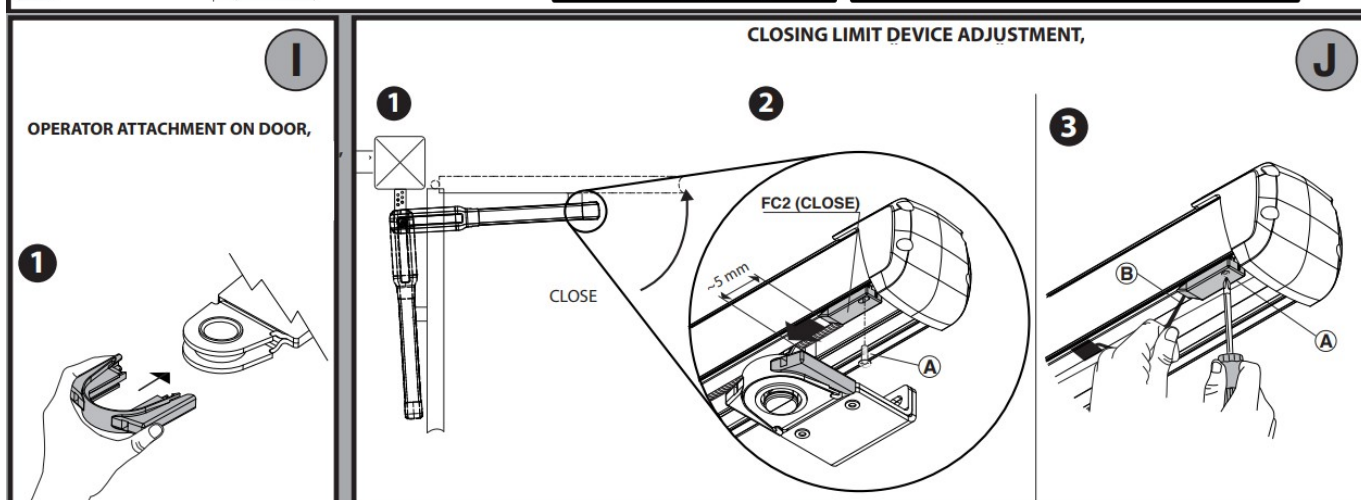
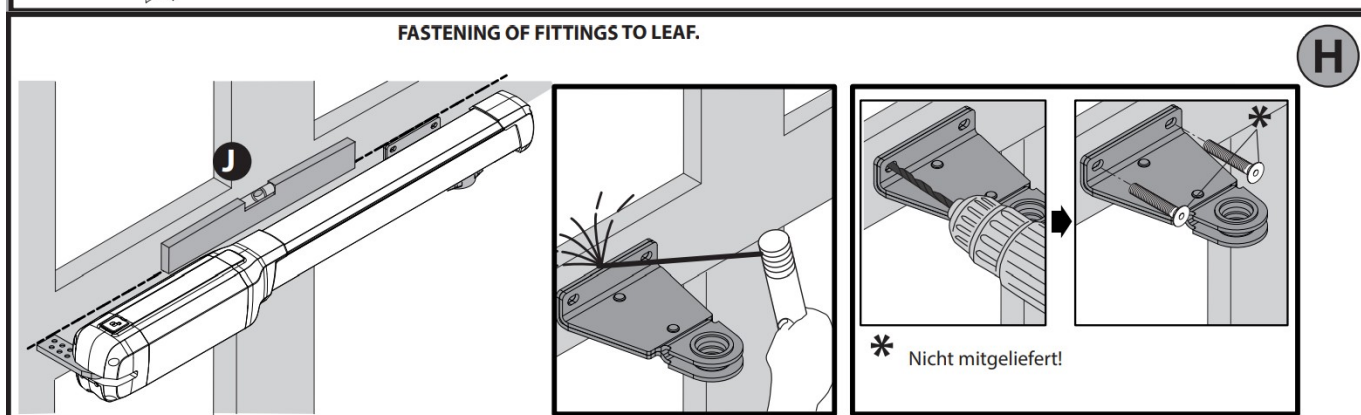
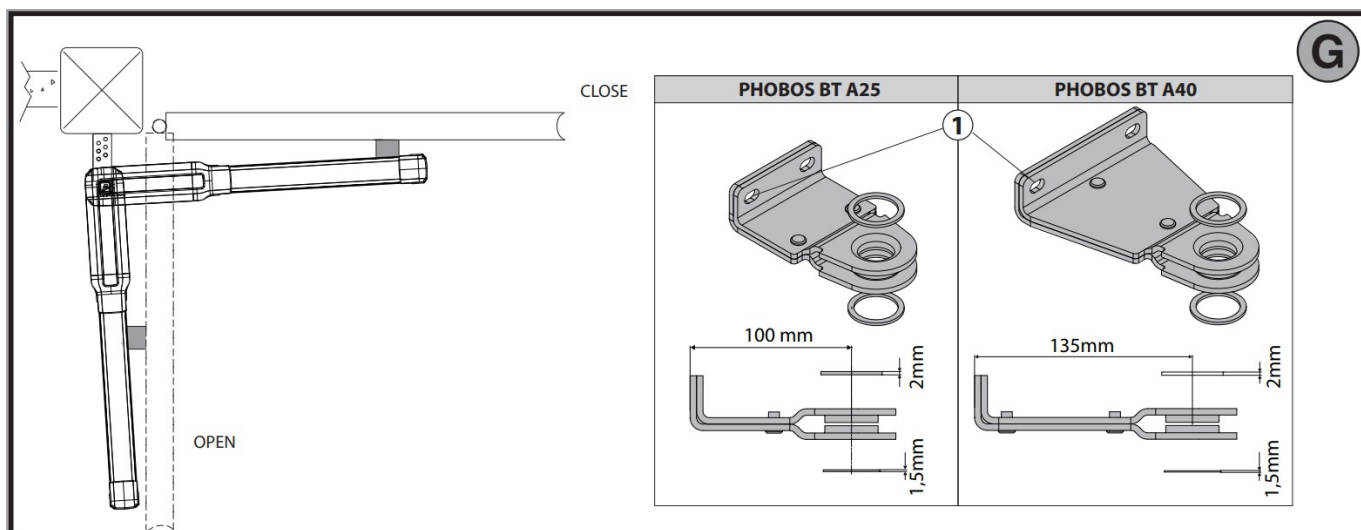


C

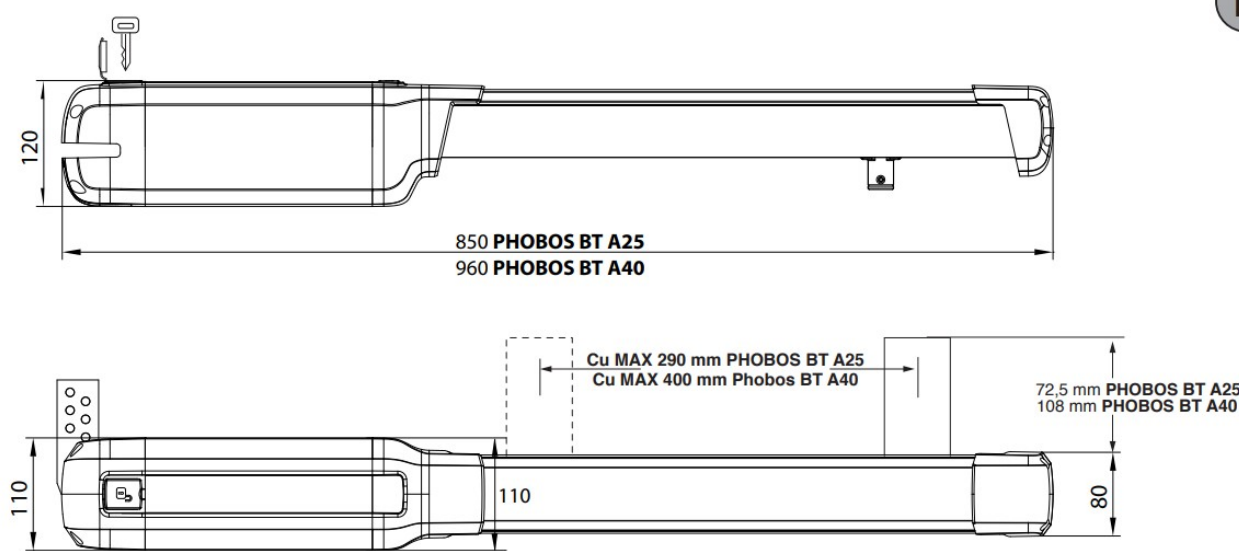
POWER CABLE



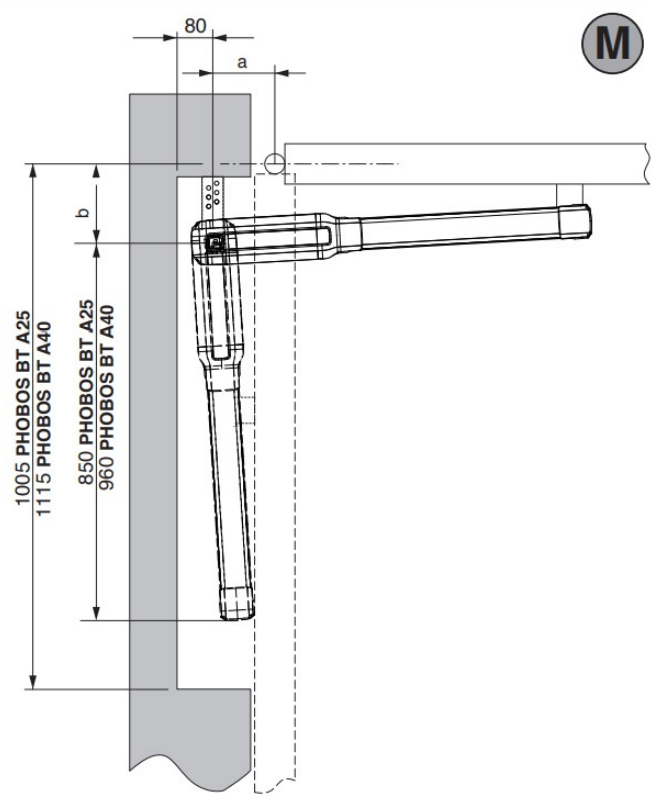
CORRECT INSTALLATION



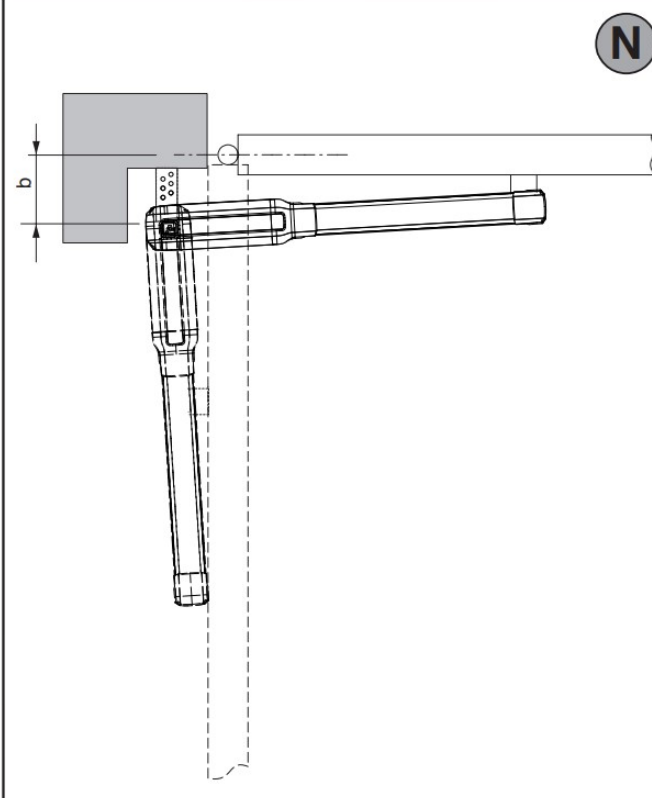
L



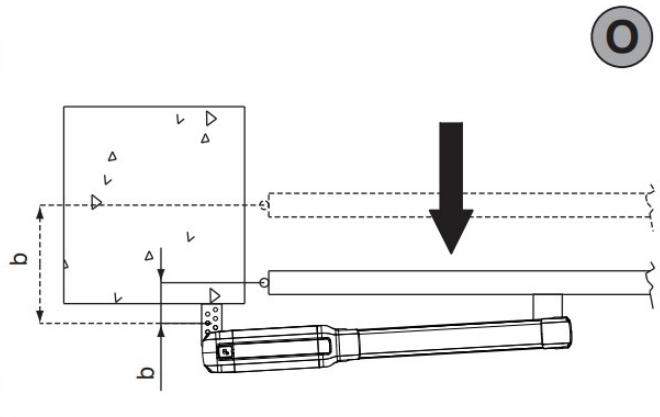
M



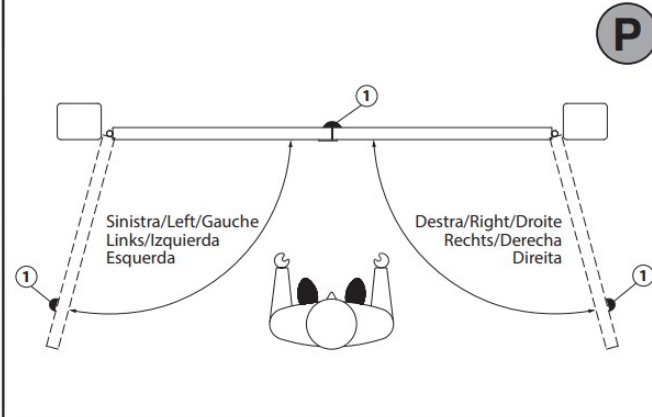
N



O



P



INSTALLER WARNINGS

WARNING! Important safety instructions. Carefully read and comply with all the warnings and instructions that come with the product as incorrect installation can cause injury to people and animals and damage to property. The warnings and instructions give important information regarding safety, installation, use and maintenance. Keep hold of instructions so that you can attach them to the technical file and keep them handy for future reference.

GENERAL SAFETY

This product has been designed and built solely for the purpose indicated herein. Uses other than those indicated herein might cause damage to the product and create a hazard.

- The units making up the machine and its installation must meet the requirements of the following European Directives, where applicable: 2004/108/EC, 2006/95/EC, 2006/42/EC, 89/106/EC, 99/05/EC and later amendments. For all countries outside the EEC, it is advisable to comply with the standards mentioned, in addition to any national standards in force, to achieve a good level of safety.
- The Manufacturer of this product (hereinafter referred to as the "Firm") disclaims all responsibility resulting from improper use or any use other than that for which the product has been designed, as indicated herein, as well as for failure to apply Good Practice in the construction of entry systems (doors, gates, etc.) and for deformation that could occur during use.
- Installation must be carried out by qualified personnel (professional installer, according to EN 12635), in compliance with Good Practice and current code.
- Before installing the product, make all structural changes required to produce safety gaps and to provide protection from or isolate all crushing, shearing and dragging hazard areas and danger zones in general in accordance with the provisions of standards EN 12604 and 12453 or any local installation standards. Check that the existing structure meets the necessary strength and stability requirements.
- Before commencing installation, check the product for damage.
- The Firm is not responsible for failure to apply Good Practice in the construction and maintenance of the doors, gates, etc. to be motorized, or for deformation that might occur during use.
- Make sure the stated temperature range is compatible with the site in which the automated system is due to be installed.
- Do not install this product in an explosive atmosphere: the presence of flammable fumes or gas constitutes a serious safety hazard.
- Disconnect the electricity supply before performing any work on the system. Also disconnect buffer batteries, if any are connected.
- Before connecting the power supply, make sure the product's ratings match the mains ratings and that a suitable residual current circuit breaker and overcurrent protection device have been installed upline from the electrical system. Have the automated system's mains power supply fitted with a switch or omnipolar thermal-magnetic circuit breaker with a contact separation that provide full disconnection under overvoltage category III conditions.
- Make sure that upline from the mains power supply there is a residual current circuit breaker that trips at no more than 0.03A as well as any other equipment required by code.
- Make sure the earth system has been installed correctly: earth all the metal parts belonging to the entry system (doors, gates, etc.) and all parts of the system featuring an earth terminal.
- Installation must be carried out using safety devices and controls that meet standards EN 12978 and EN 12453.
- Impact forces can be reduced by using deformable edges.

- In the event impact forces exceed the values laid down by the relevant standards, apply electro-sensitive or pressure-sensitive devices.
- Apply all safety devices (photocells, safety edges, etc.) required to keep the area free of impact, crushing, dragging and shearing hazards. 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.
- Apply all signs required by current code to identify hazardous areas (residual risks). All installations must be visibly identified in compliance with the provisions of standard EN 13241-1.
- Once installation is complete, apply a nameplate featuring the door/gate's data.
- This product cannot be installed on leaves incorporating doors (unless the motor can be activated only when the door is closed).
- If the automated system is installed at a height of less than 2.5 m or is accessible, the electrical and mechanical parts must be suitably protected.
- Install any fixed controls in a position where they will not cause a hazard, away from moving parts. More specifically, hold-to-run controls must be positioned within direct sight of the part being controlled and, unless they are key operated, must be installed at a height of at least 1.5 m and in a place where they cannot be reached by the public.
- Apply at least one warning light (flashing light) in a visible position, and also attach a Warning sign to the structure.
- Attach a label near the operating device, in a permanent fashion, with information on how to operate the automated system's manual release.
- Make sure that, during operation, mechanical risks are avoided or relevant protective measures taken and, more specifically, that nothing can be banged, crushed, caught or cut between the part being operated and surrounding parts.
- Once installation is complete, make sure the motor automation settings are correct and that the safety and release systems are working properly.
- Only use original spare parts for any maintenance or repair work. The Firm disclaims all responsibility for the correct operation and safety of the automated system if parts from other manufacturers are used.
- Do not make any modifications to the automated system's components unless explicitly authorized by the Firm.
- Instruct the system's user on what residual risks may be encountered, on the control systems that have been applied and on how to open the system manually in an emergency. Give the user guide to the end user.
- Dispose of packaging materials (plastic, cardboard, polystyrene, etc.) in accordance with the provisions of the laws in force. Keep nylon bags and polystyrene out of reach of children.

WIRING

WARNING! For connection to the mains power supply, use: a multicore cable with a cross-sectional area of at least $5 \times 1.5 \text{ mm}^2$ or $4 \times 1.5 \text{ mm}^2$ when dealing with three-phase power supplies or $3 \times 1.5 \text{ mm}^2$ for single-phase supplies (by way of example, type H05 VV-F cable can be used with a cross-sectional area of $4 \times 1.5 \text{ mm}^2$). To connect auxiliary equipment, use wires with a cross-sectional area of at least 0.5 mm^2 .

- Only use pushbuttons with a capacity of 10A-250V or more.
- Wires must be secured with additional fastening near the terminals (for example, using cable clamps) in order to keep live parts well separated from safety extra low voltage parts.
- During installation, the power cable must be stripped to allow the earth wire to be connected to the relevant terminal, while leaving the live wires as short as possible. The earth wire must be the last to be pulled taut in

the event the cable's fastening device comes loose.

WARNING! safety extra low voltage wires must be kept physically separate from low voltage wires. Only qualified personnel (professional installer) should be allowed to access live parts.

CHECKING THE AUTOMATED SYSTEM AND MAINTENANCE

Before the automated system is finally put into operation, and during maintenance work, perform the following checks meticulously:

- Make sure all components are fastened securely.
- Check starting and stopping operations in the case of manual control.
- Check the logic for normal or personalized operation.
- For sliding gates only: check that the rack and pinion mesh correctly with 2 mm of play along the full length of the rack; keep the track the gate slides on clean and free of debris at all times.
- For sliding gates and doors only: make sure the gate's running track is straight and horizontal and that the wheels are strong enough to take the weight of the gate.
- For cantilever sliding gates only: make sure there is no dipping or swinging during operation.
- For swing gates only: make sure the leaves' axis of rotation is perfectly vertical.
- For barriers only: before opening the door, the spring must be decompressed (vertical boom).
- Check that all safety devices (photocells, safety edges, etc.) are working properly and that the anti-crush safety device is set correctly, making sure that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.
- Impact forces can be reduced by using deformable edges.
- Make sure that the emergency operation works, where this feature is provided.
- Check opening and closing operations with the control devices applied.
- Check that electrical connections and cabling are intact, making extra sure that insulating sheaths and cable glands are undamaged.
- While performing maintenance, clean the photocells' optics.
- When the automated system is out of service for any length of time, activate the emergency release (see "EMERGENCY OPERATION" section) so that the operated part is made idle, thus allowing the gate to be opened and closed manually.
- If the power cord is damaged, it must be replaced by the manufacturer or their technical assistance department or other such qualified person to avoid any risk .
- If "D" type devices are installed (as defined by EN12453), connect in unverified mode, foresee mandatory maintenance at least every six months
- The maintenance described above must be repeated at least once yearly or at shorter intervals where site or installation conditions make this necessary.

WARNING!

Remember that the drive is designed to make the gate/door easier to use and will not solve problems as a result of defective or poorly performed installation or lack of maintenance



SCRAPPING

Materials must be disposed of in accordance with the regulations in force. Do not throw away your discarded equipment or used batteries with household waste. You are responsible for taking all your waste electrical and electronic equipment to a suitable recycling centre.

DISMANTLING

If the automated system is being dismantled in order to be reassembled at another site, you are required to:

- Cut off the power and disconnect the whole electrical system.
- Remove the actuator from the base it is mounted on.
- Remove all the installation's components.
- See to the replacement of any components that cannot be removed or happen to be damaged.

THE DECLARATION OF CONFORMITY CAN BE VIEWED ON THIS WEBSITE: www.bft.it IN THE PRODUCT SECTION.

Anything that is not explicitly provided for in the installation manual is not allowed.

The operator's proper operation can only be guaranteed if the information given is complied with. The Firm shall not be answerable for damage caused by failure to comply with the instructions featured herein.

While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed opportune to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

INSTALLATION MANUAL

2) GENERAL INFORMATION

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.

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:

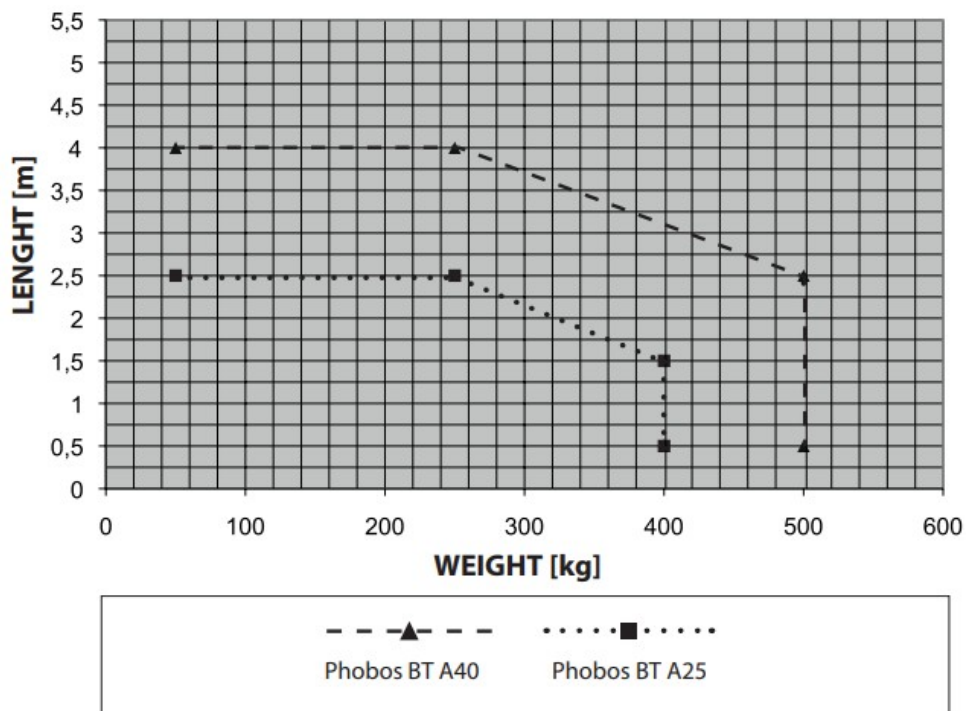
– Buffer battery kit mod. BT BAT

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

3) TECHNICAL SPECIFICATIONS

Power supply	24V 
Max. Absorbed power	40 W
Absorbed current	1,5 A
Push and pull force	2500 N (~250 kg)
Stem speed	15 mm/s approx.
Impact reaction	Torque limiter aboard control board
Limit devices	Magnetic, incorporated and adjustable
Manual manoeuvre	Personalized release key
Environmental conditions	– 20°C a +55°C
Type of use	semi-intensive
Maximum leaf length without electric lock	2 m PHOBOS BT A25
	3 m PHOBOS BT A40
Maximum leaf length with electric lock	2,5 m PHOBOS BT A25
	4 m PHOBOS BT A40
Max. leaf weight	4000 N (~400 kg) PHOBOS BT A25
	5000 N (~500 kg) PHOBOS BT A40
Protection level	IP X4
Controller weight	50N (~5kg) PHOBOS BT A25
	77N (~7,7kg) PHOBOS BT A40
Dimensions	See Fig. L
Lubrication	permanent grease

MAXIMUM LENGTH/DOOR WEIGHT



4) TUBE ARRANGEMENT Fig. A

Install the electrical system referring to the standards in force for electrical systems CEI 64-8, IEC 364, harmonization document HD 384 and other national standards.

5) INSTALLATION DIAGRAM Fig. B

P rear bracket fastening to pillar

F front fork fastening leaf

a-b distances for determining bracket "P" fastening point

C value of fastening centre-to-centre distance

D gate length

X distance from gate axis to corner of pillar

S half door thickness

Z value always greater than 45 mm ($b - X$)

kg max. weight of leaf

α° leaf opening angle

6) PILLAR FASTENINGS INSTALLATION DISTANCES Fig. B Rif. 2-3

6.1) How to read the installation distance tables

Select "a" and "b" according to the angle in degrees α° that the gate has to open.

The optimum "a" and "b" values for 92° 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 40 mm (PHOBOS BT A40), 20 mm (PHOBOS BT A25) thick medium-size gate. Always check that there is no possible collision between the gate and the operator.

7) FASTENING OF FITTINGS TO PILLAR Fig. C

8) POWER CABLE Fig. D

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

The equivalent cable must guarantee:

- permanent outside use
- maximum temperature on the cable surface of $+50^\circ \text{C}$

- minimum temperature of -25° C

If the motor vibrates but does not rotate, the problem may be:

- Incorrect wiring (see wiring diagram)
- If the leaf moves in the wrong direction, swap over the motor's start connections in the control unit.

The first command following a mains power outage should be open STOP LEAVES.

9) ATTACHING MOTOR TO FASTENING ON PILLAR Fig. E

10) MAXIMUM TILT Fig. F

11) CORRECT INSTALLATION Fig. G

Correct installation entails maintaining a rod stroke margin of approx. 5-10 mm to avoid possible trouble with operation.

IMPORTANT: THE FRONT BRACKET MUST BE FITTED WITH THE SLOTS FACING UP (FIG.G RIF.1).

12) FASTENING OF FITTINGS TO LEAF Fig. H

IMPORTANT: the front bracket must be fitted with the slots facing up (Fig. G Ref. 1). Line up the front and rear brackets as shown in Fig. H Ref. J.

13) OPERATOR ATTACHMENT ON DOOR Fig. I

14) CLOSING LIMIT DEVICE ADJUSTMENT Fig. J

ATTENTION! To avoid braking the limit switch cable, tighten screw A keeping the wire B well tightened (as shown in Fig. J Rif. 3).

15) OPENING LIMIT DEVICE ADJUSTMENT (Fig. K)

16) DIMENSIONS Fig. L

17) TIPS FOR SPECIAL INSTALLATIONS Fig. M, N, O.

With the leaf fully open, create a recess to accommodate the operator.

Fig. M gives the minimum dimensions of the recess for the various PHOBOS BT A25 – PHOBOS BT A40 models.

If distance "b" is greater than the values given in the installation tables:

- create a recess in the pillar Fig. N
- move the leaf so that it is flush with the pillar Fig. O.

18) LEAF STOPS AT GROUND LEVEL

For the actuator to work properly, it is advisable to use stops "Fig. P Rif. 1" to stop the leaves both when they are open and closed, as illustrated in Fig. P.

The leaf stops must prevent the actuator rod from reaching the end of its travel.

19) MANUAL OPENING (See USER GUIDE -FIG.Y-).

20) ELECTRIC LOCK

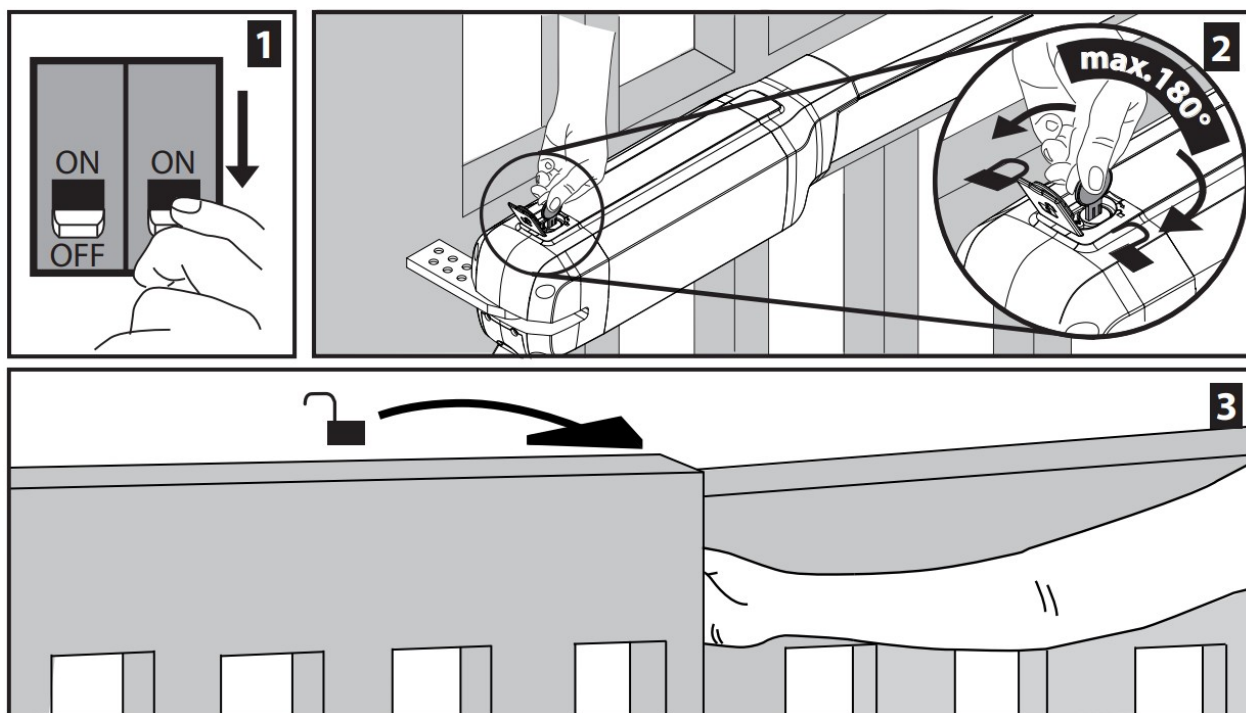
WARNING: In the case of leaves longer than 3m, it is indispensable to install a solenoid latch.

For electric lock connection, the optional board is required (refer to the appropriate instruction).

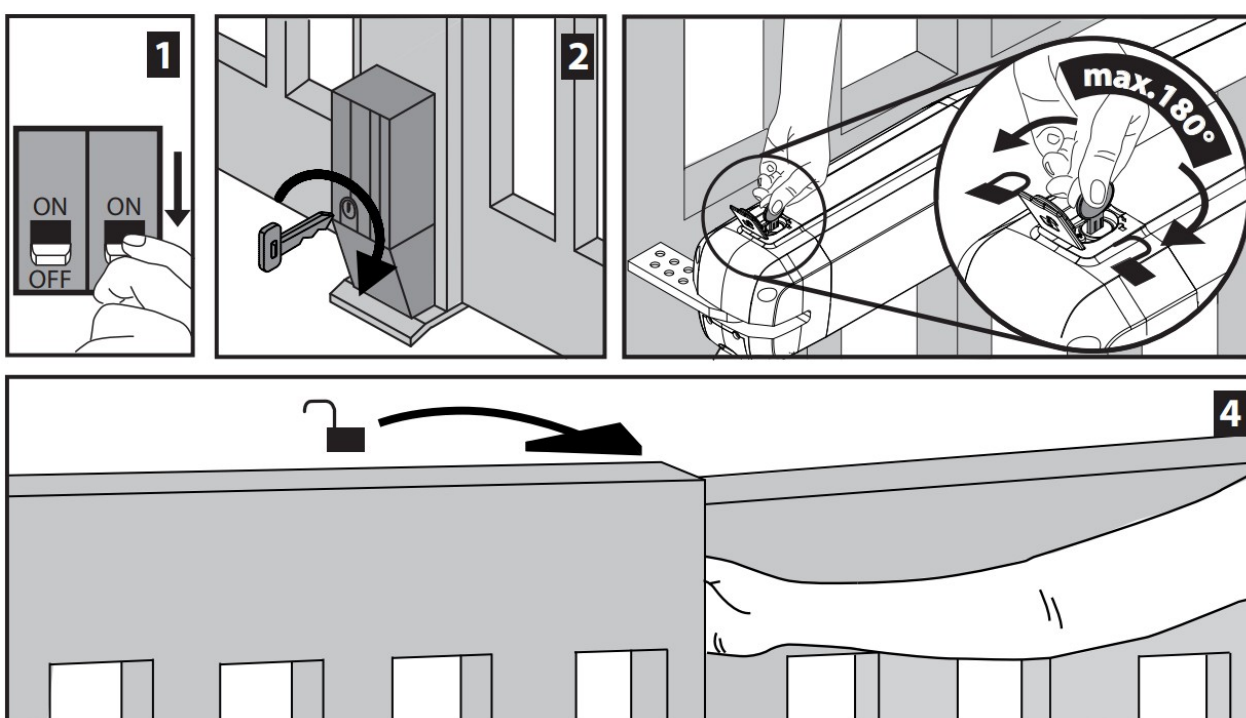
USER GUIDE: EMERGENCY OPERATION

FIG. Y

Without electric lock



With electric lock



PHOBOS BT A25 – PHOBOS BT A40





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BT A40 Single Swing Gate Opener Complete Kit, BT A40, Single Swing Gate Opener Complete Kit, Swing Gate Opener Complete Kit, Gate Opener Complete Kit, Opener Complete Kit, Complete Kit, Kit

References

- [🌐 Bft Automation | Sistemi di Automazione per gli Accessi](#)
- [User Manual](#)