Automatic Gate Openers

International registered trademark n. 804888

ENGLISH
FRANÇAIS

JOINT

HYDRAULIC OPERATOR FOR SWING GATES
OPERATEUR HYDRAULIQUE POUR PORTAILS A BATTANTS



SEA S.p.A.
Zona Industriale Sant'Atto - 64100 - Teramo - ITALY
Telephone: + 39 0 861 588341
www.seateam.com

67411932 REV. 05 - 05/2025

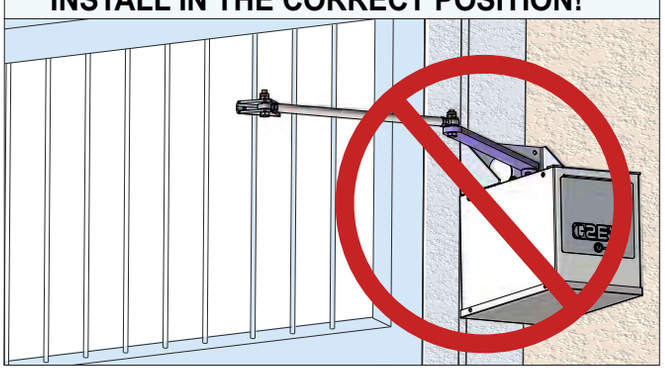
GATE ARRANGEMENTS

- *Check that the gate is in good running order before the installation*
- *The gate must be rigid and straight and must run smoothly throughout its travel*
- *The length of each leaf must comply with the max. length recommended for each model*
- *The weight of each leaf must comply with max. weight recommended for each model*
- *The hinges must be hardly anchored and must be able to support the torque of the operator; hinges should not have irregular movement or any friction during the whole movement of the leaf.*

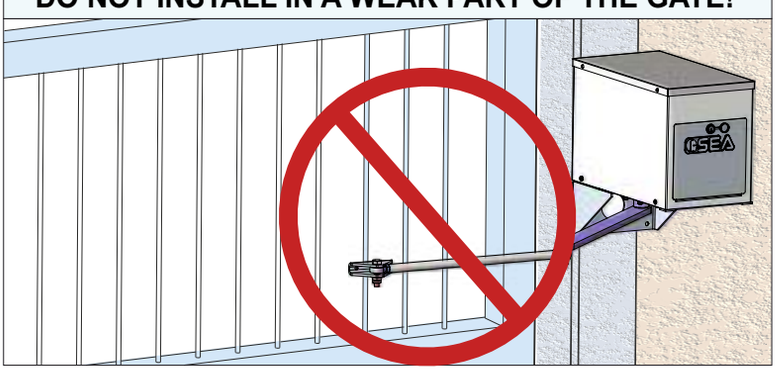
WARNINGS AND PRECAUTIONS

- *Install the operator in the correct position and on a sturdy part of the gate to avoid damages*
- *SEA operators are intended for vehicles use only. Provide separate pedestrians walkway*
- *Install the warning signs on each side of the gate area and make sure they are easily visible*
- *The installation of non-contact sensors (photocells or loops) is mandatory*
- *Make sure the operation area is free of vehicles or pedestrians before starting the motion*
- *Make sure that no person could reach the gate controls without authorization*
- *The installation of speed limit signs, traffic light and/or warning lights is recommended*

INSTALL IN THE CORRECT POSITION!



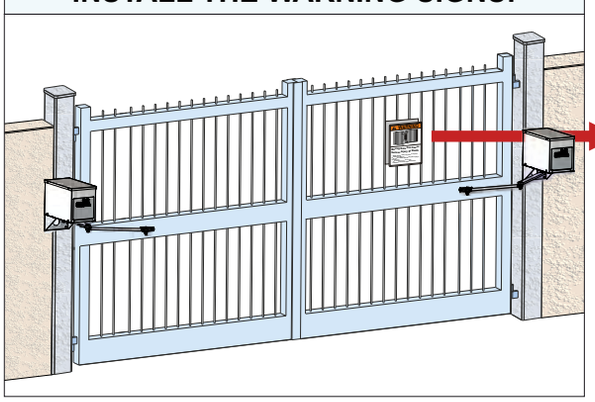
DO NOT INSTALL IN A WEAK PART OF THE GATE!



NOT FOR PEDESTRIAN OPENING!

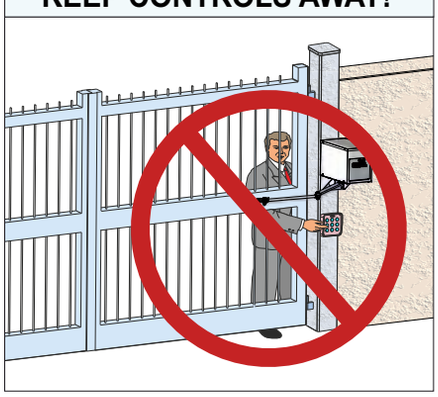


INSTALL THE WARNING SIGNS!

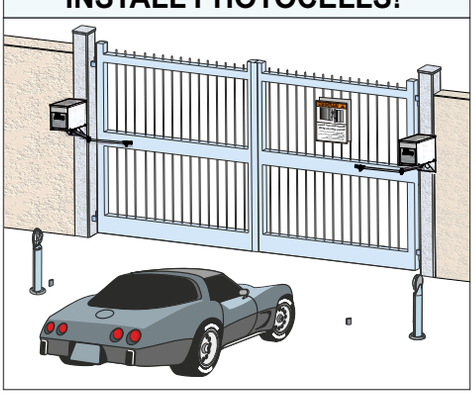




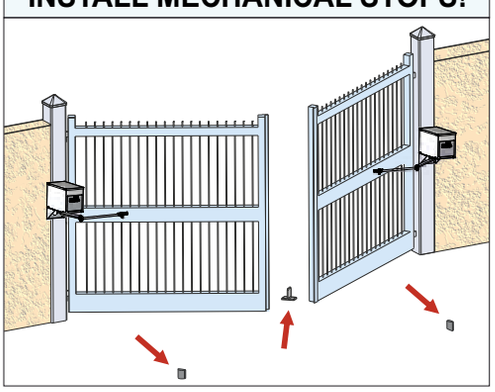
KEEP CONTROLS AWAY!



INSTALL PHOTOCELLS!



INSTALL MECHANICAL STOPS!

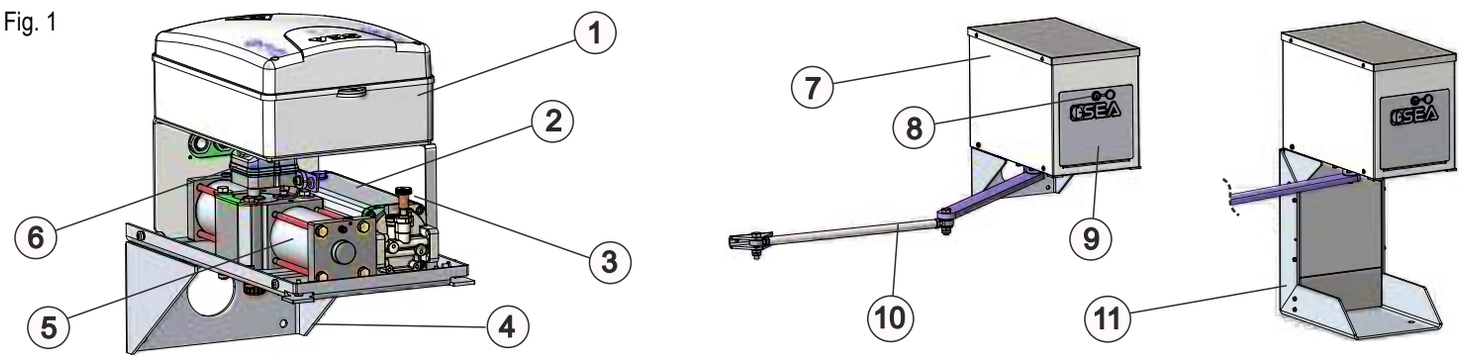


1 TECHNICAL FEATURES

JOINT is a high quality hydraulic operator for commercial or residential use, suitable for installation on large pillars and for gates with leaf length up to max. 6 m and weight up to max. 450Kg.
JOINT operator is **IRREVERSIBLE** to allow a perfect and safe closing of the gate, so the electric lock installation will be unnecessary (*). It is equipped with an electronic inversion device via **ABSOLUTE ENCODER**, which makes it safe and reliable and allows to comply with the Laws in force in the Countries where the JOINT is installed.The **BY-PASS VALVES** adjust the thrust force in opening and closing and ensure anti-crushing safety.
** In case of leaves longer than 2 meters or installations in windy places or in case of closed panelled gates, SEA recommends the use of the electric lock*

COMPONENTS

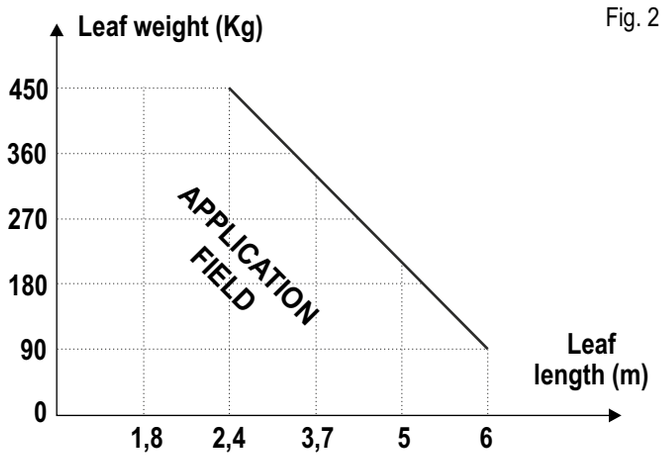
Fig. 1



1 BOX WITH ELECTRONIC CONTROL UNIT
2 HYDRAULIC UNIT
3 MANUAL RELEASE
4 WALL SUPPORT
5 JACK
6 ABSOLUTE ENCODER
7 EXTERNAL CASING
8 CASING DOOR LOCK
9 CASING DOOR
10 FOLDING ARM
11 ADJUSTABLE GROUND SUPPORT

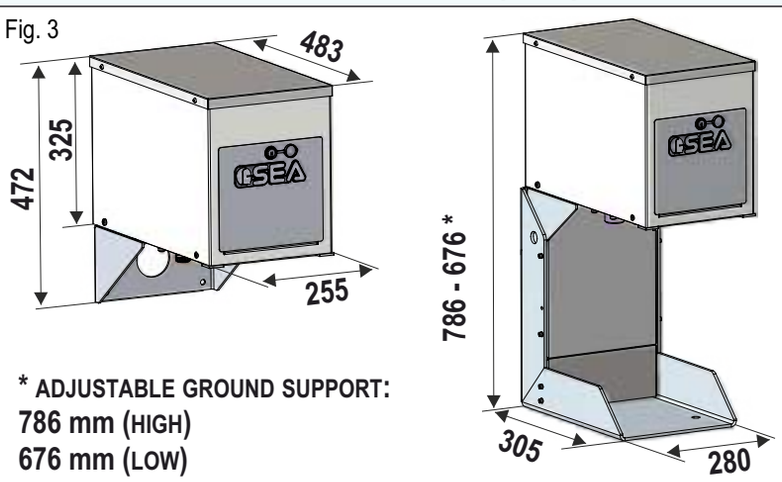
APPLICATION CHART

Fig. 2



DIMENSIONS *(mm)*

Fig. 3



* ADJUSTABLE GROUND SUPPORT:
786 mm (HIGH)
676 mm (LOW)

TECHNICAL FEATURES	JOINT 230V	JOINT BR 36V
POWER SUPPLY	230 Vac 50/60 Hz	230 Vac (50/60 Hz)
MOTOR POWER	280 W	
SHAFT SPEED *(90° OPENING)*	8 - 12 seconds	
LEAF OPENING DEGREES	100°	
CYCLES PER HOUR *(T = 20°C)*	40	60
OPERATING TEMPERATURES	- 20°C +55°C	
PROTECTION CLASS	IP44	
MAX LEAF LENGTH	6 metres	
MAX LEAF WEIGHT	455 Kg	

➡ ***The frequency of use is valid only for the first operating hour and 20°C room temperature***

2 WALL or GROUND INSTALLATION

WALL-MOUNTED JOINT

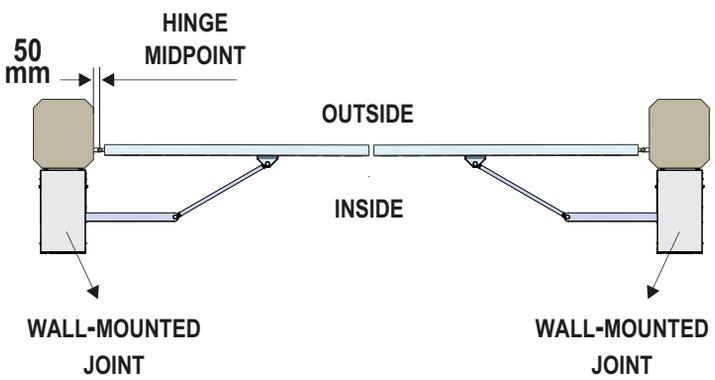


Fig. 4

GROUND INSTALLED JOINT

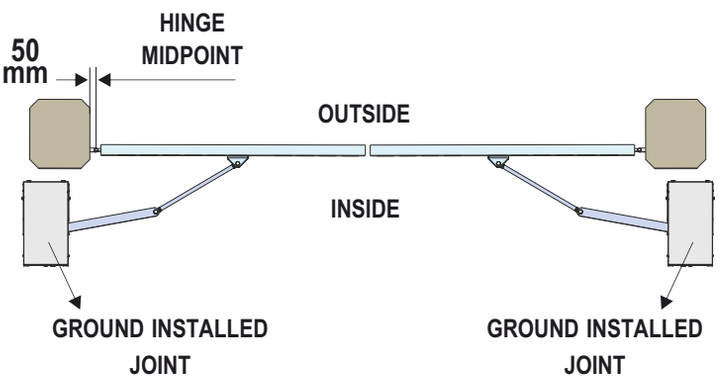
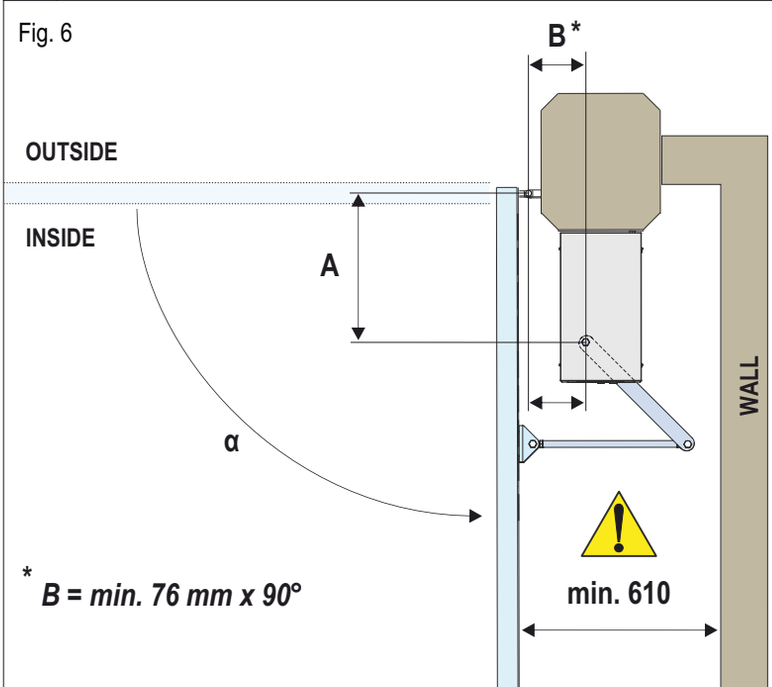


Fig. 5

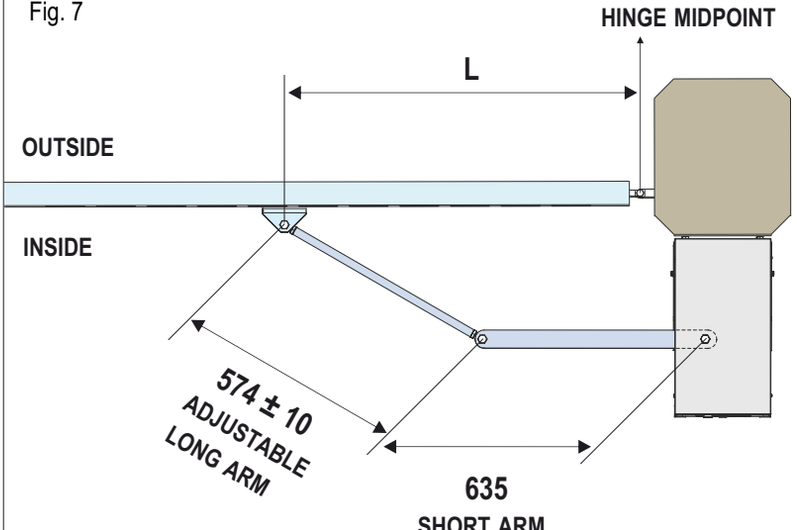
3 STANDARD INSTALLATION *(dimensions in millimeters)*

Fig. 6



➡ ***In case of wall or any obstacle behind the operator keep a minimum distance of 610 mm to allow the complete opening***

Fig. 7

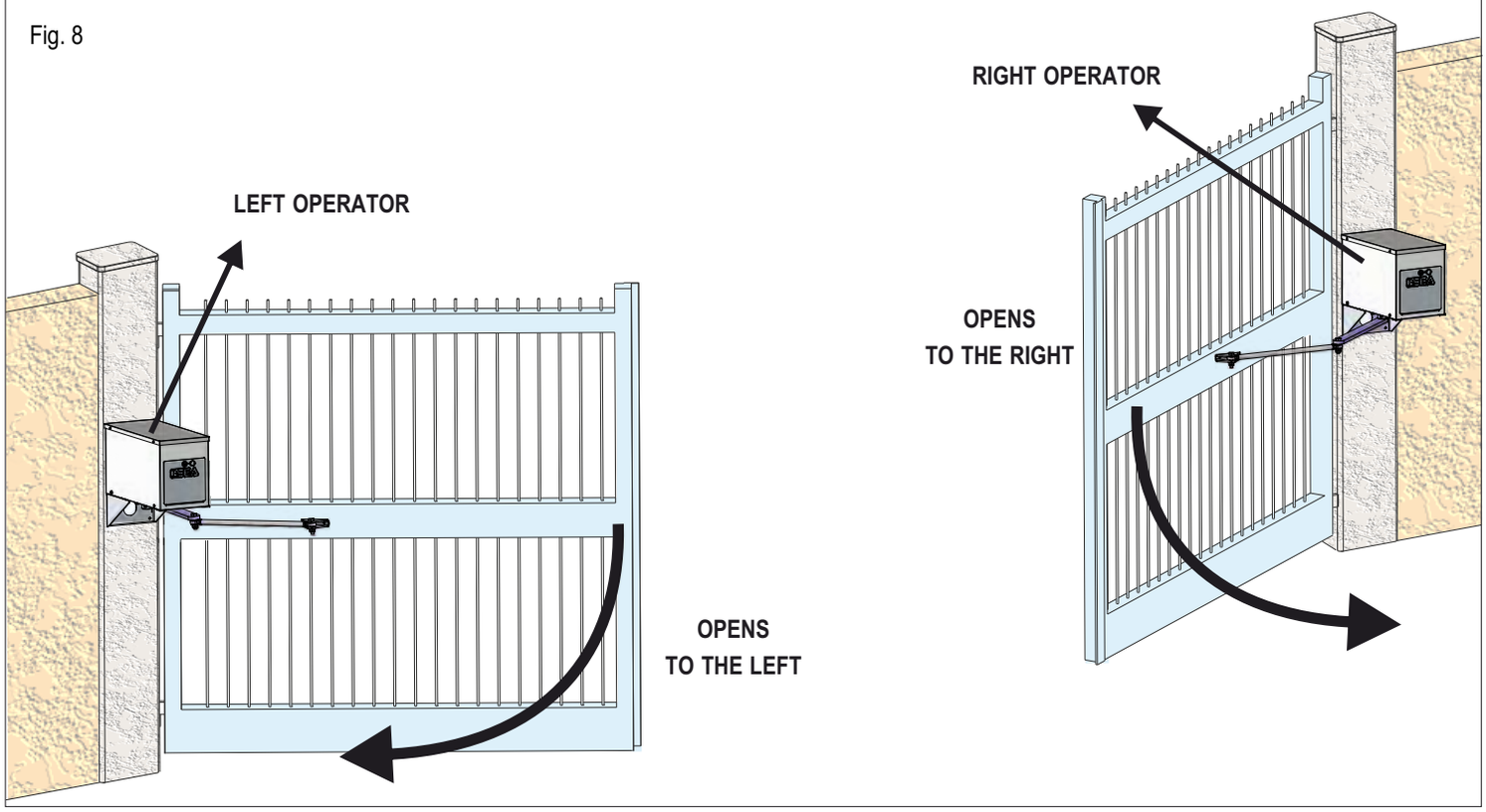


DIMENSIONS CHART *(mm)*

A	B	L	α
300	100	1030	90°
300	150	980	95°
300	200	930	100°
350	100	1020	90°
350	150	970	95°
350	200	920	100°
400	100	1000	90°
400	150	950	95°
400	200	900	100°
470	100	980	90°
470	150	930	95°
470	200	880	100°

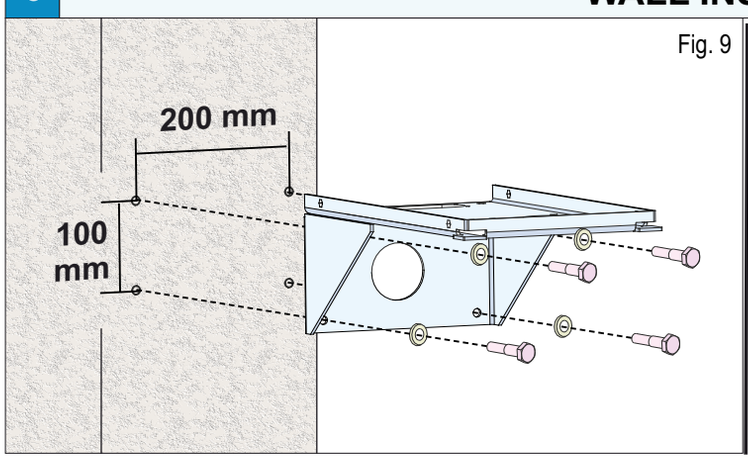
4 LEFT OR RIGHT HAND INSTALLATION

Fig. 8



5 WALL INSTALLATION

Fig. 9



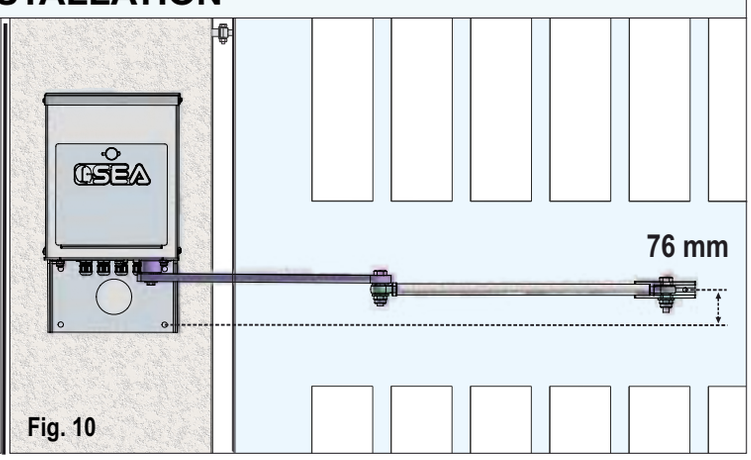


Fig. 10

Fig. 11

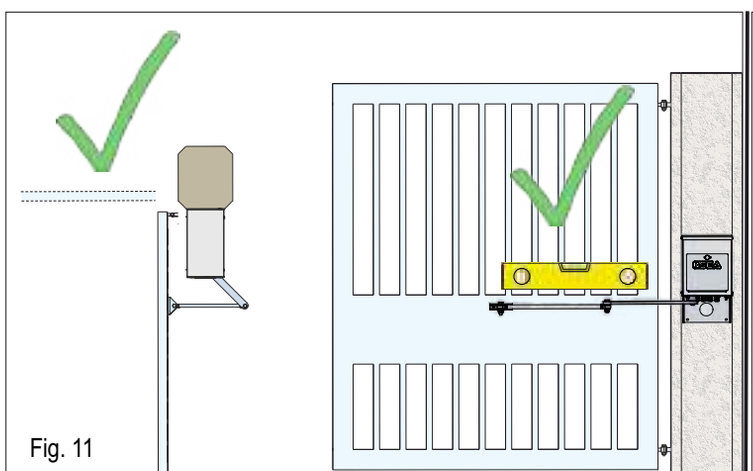
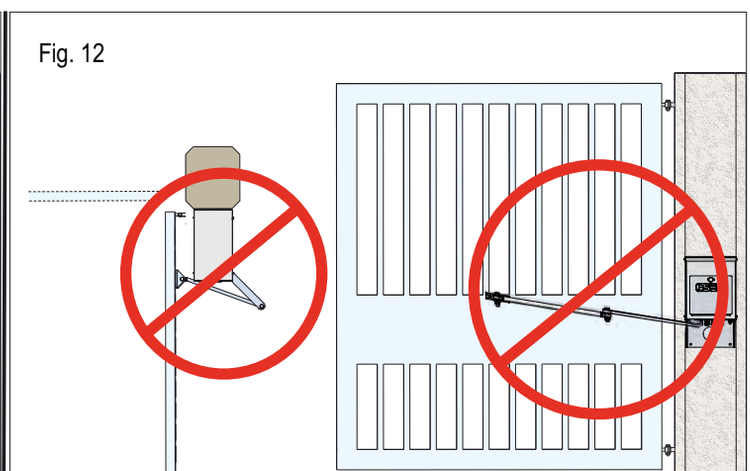


Fig. 12



➡ ***The arm must be mounted parallel to the horizontal axis of the gate; respect the dimension given in Fig. 10***

6 GROUND INSTALLATION

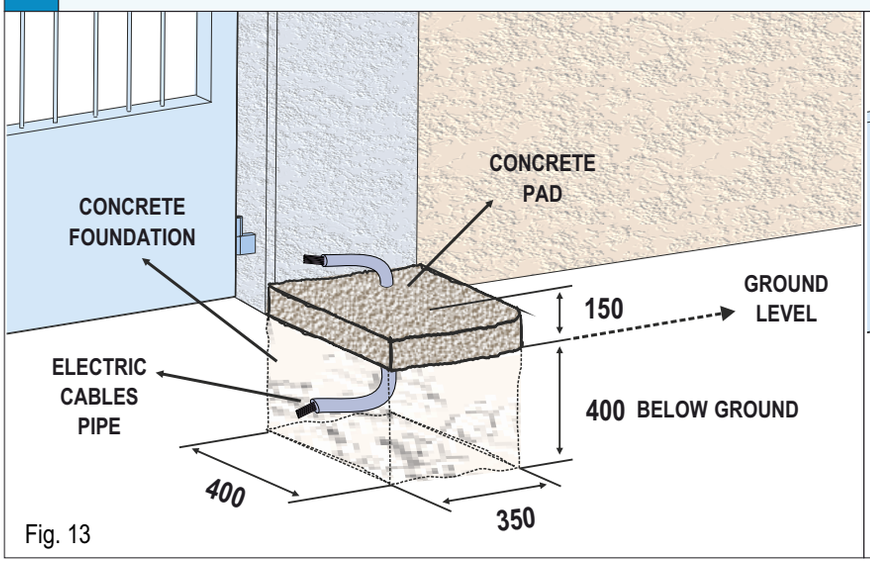


Fig. 13

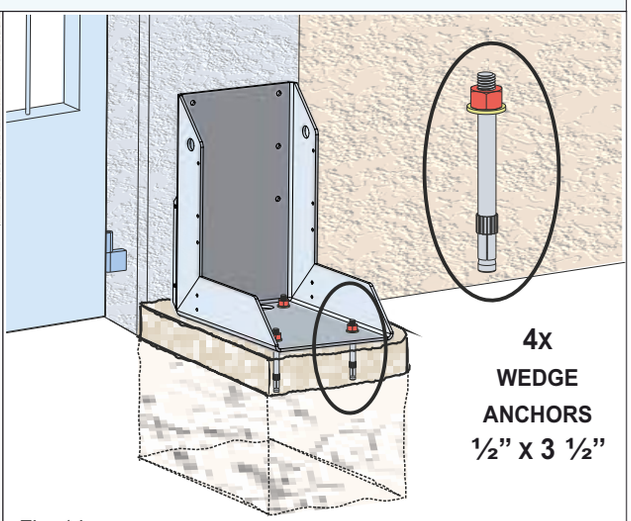


Fig. 14

7 UPPER MOUNTING OF THE JOINT ON THE GROUND-SUPPORT

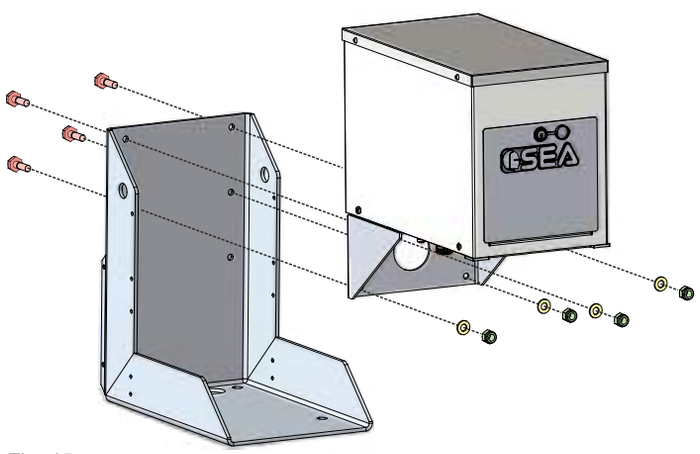


Fig. 15

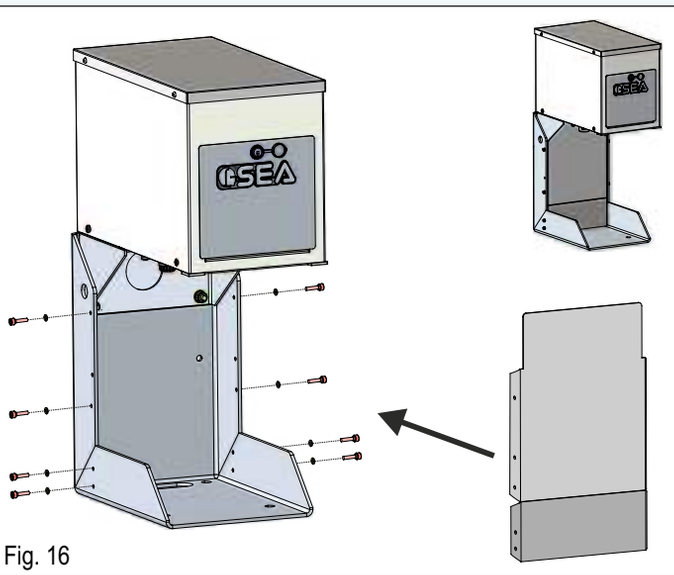


Fig. 16

8 LOWER MOUNTING OF THE JOINT ON THE GROUND-SUPPORT

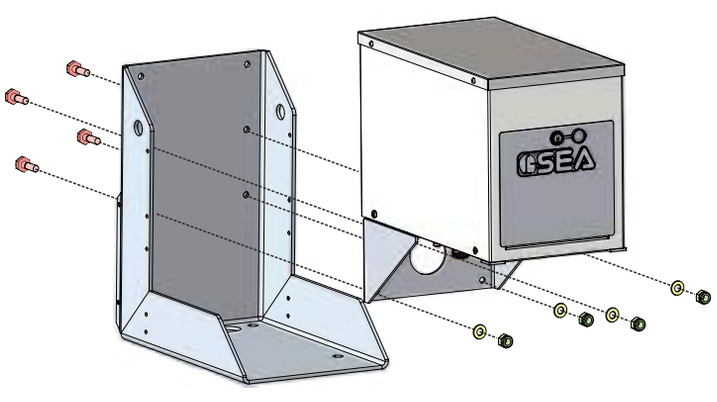


Fig. 17

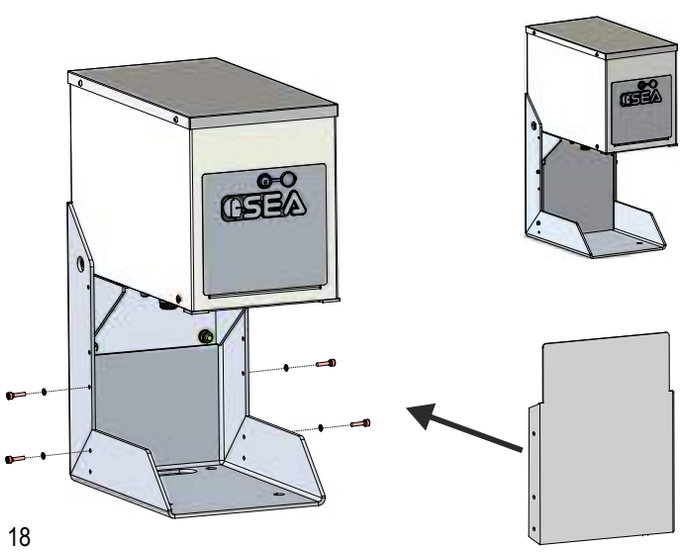
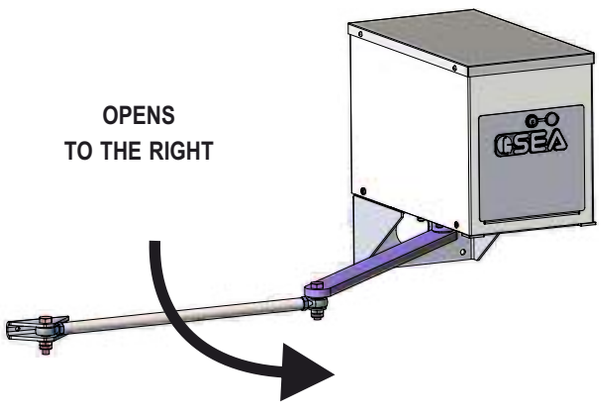
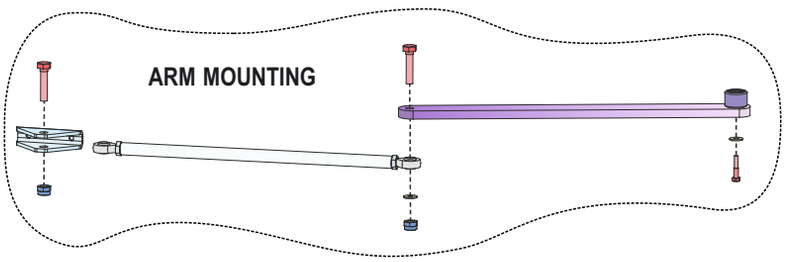


Fig. 18

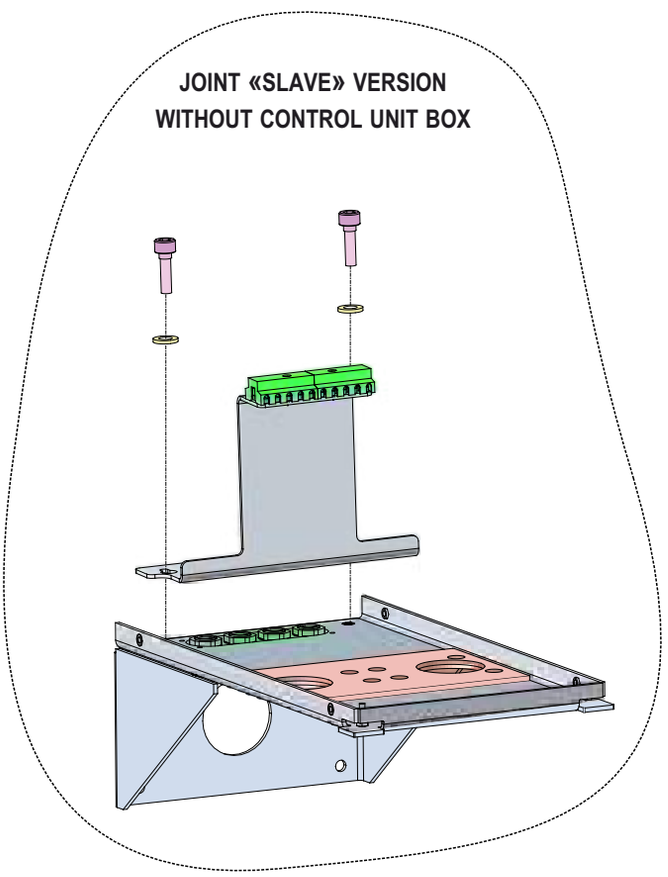
9 RIGHT OPERATOR MOUNTING











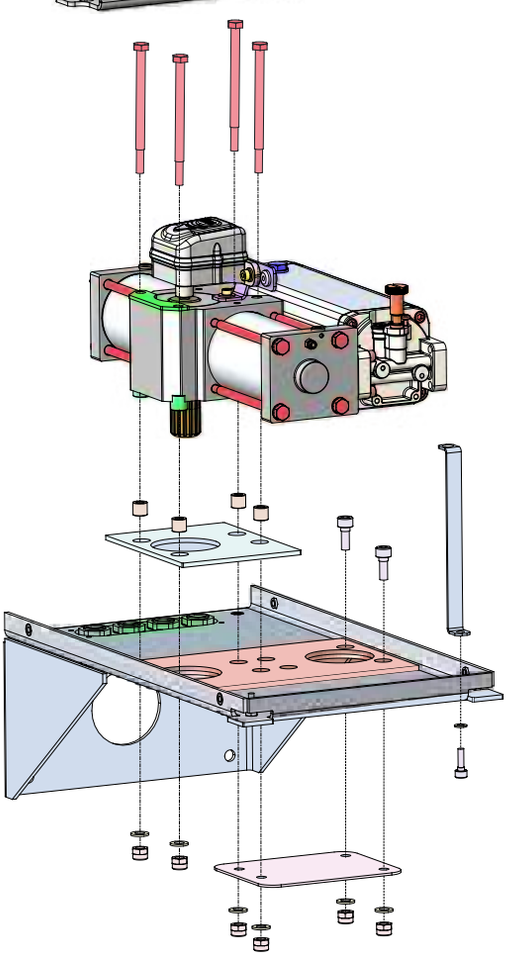
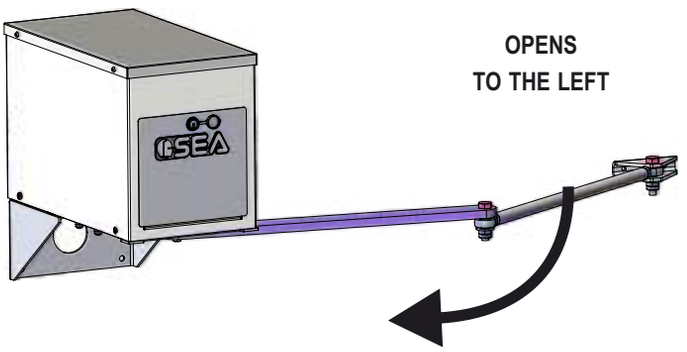
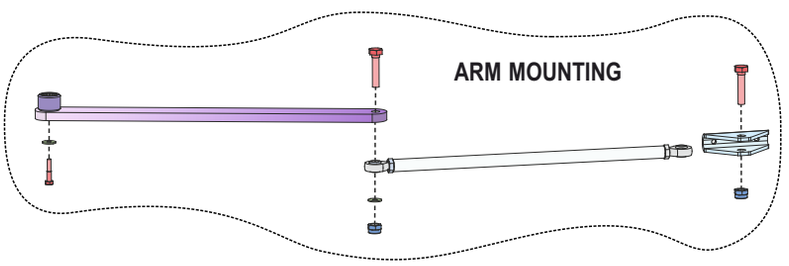


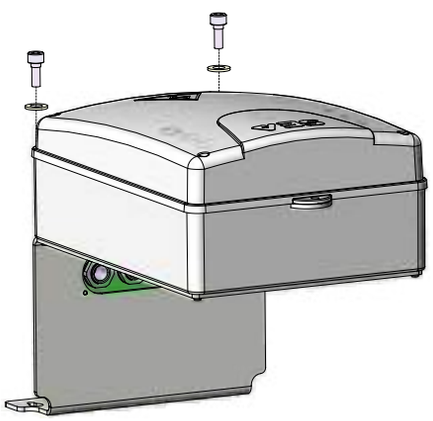
Fig. 19

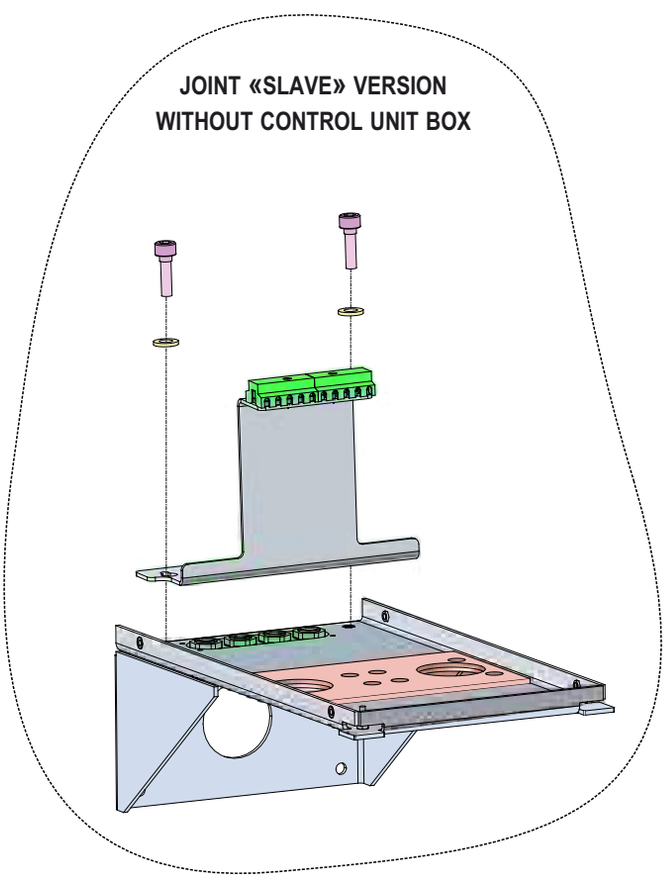
10 LEFT OPERATOR MOUNTING











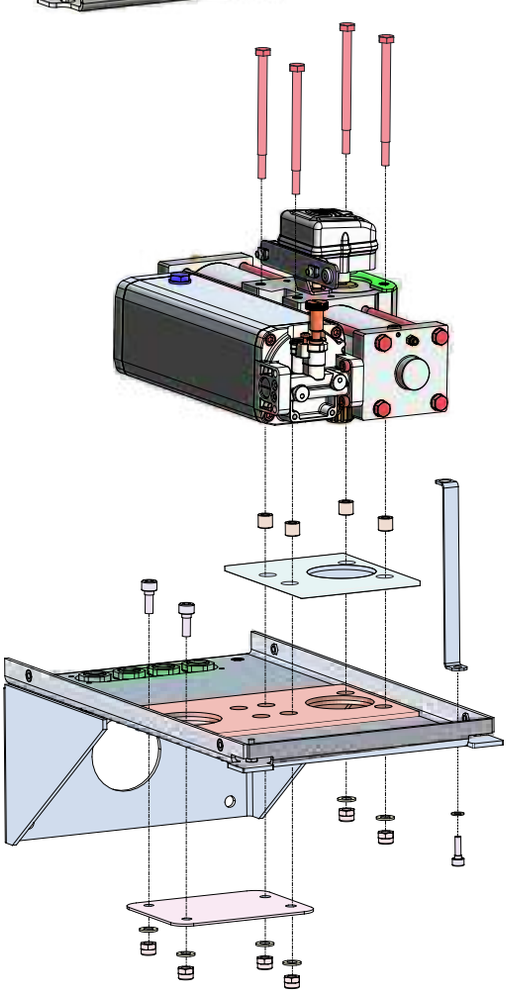
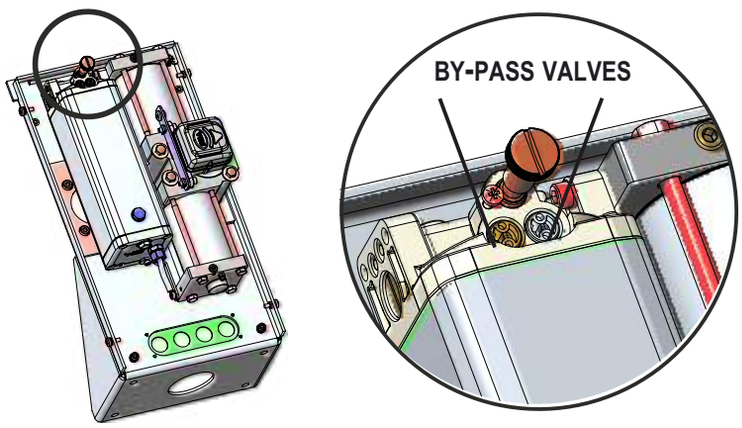


Fig. 20

11 TORQUE ADJUSTMENT THROUGH THE BY-PASS VALVES

- Adjust the gate opening and closing force in order to respect the force diagram as per EN12453; however, the thrust force must never exceed 15 KgF
- The valves must be adjusted in parallel; calibration differences between opening and closing valves can cause malfunctions. ***(i.e. if you adjust the grey valve by half a turn, then the yellow valve must be adjusted in the same way)***



SPECIAL KEY FOR BY-PASS VALVES ADJUSTMENT

Fig. 21

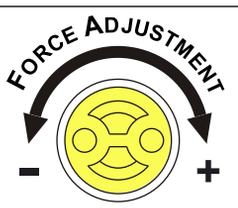
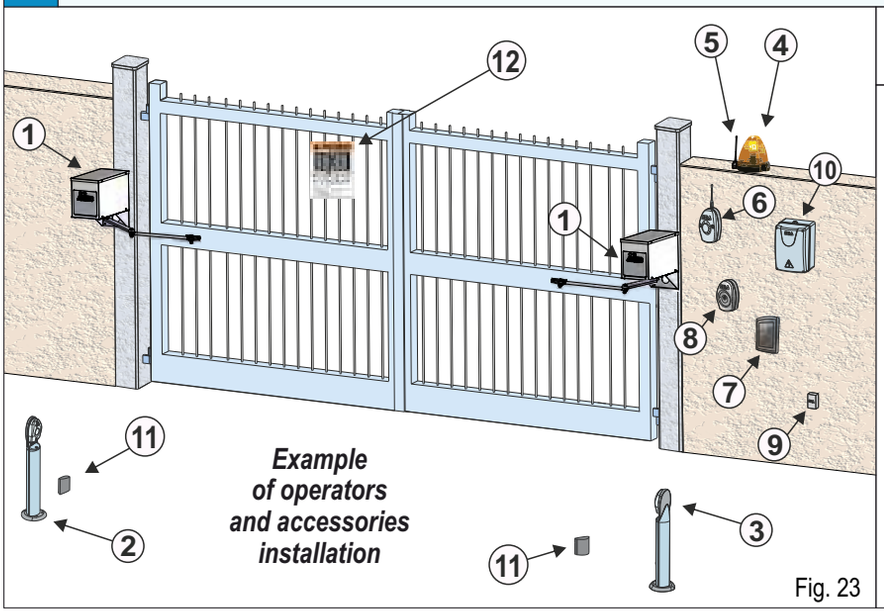




Fig. 22

12 STANDARD INSTALLATION



Example of operators and accessories installation

Fig. 23

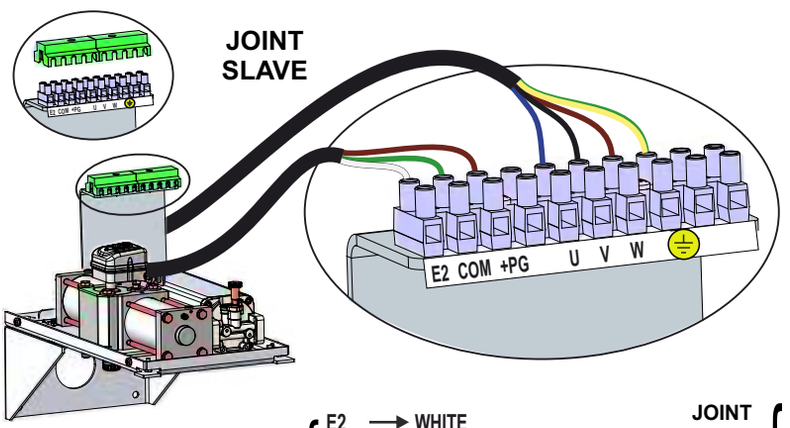
RECOMMENDED CABLES NUMBER AND SECTION FOR WIRINGS ON CONTROL UNIT

1) OPERATORS	4 x 1,5
2) PHOTOCELL TX	2 x 0,5
3) PHOTOCELL RX	4 x 0,5
4) FLASHING LAMP	2 x 0,5
5) ANTENNA	1 x RG58
6) EXTERNAL RECEIVER	4 x 0,5
7) KEYPAD	4 x 0,5
8) KEY-BUTTON	4 x 0,5
9) DIFFERENTIAL 16A/30MA	3 x 1,5*

10) CONTROL UNIT BOX - *EXTERNAL OR INSIDE THE JOINT «MASTER»*
11) MECHANICAL STOPS
12) WARNING SIGNS

** Increase the cable section in case of large distance from the control unit*

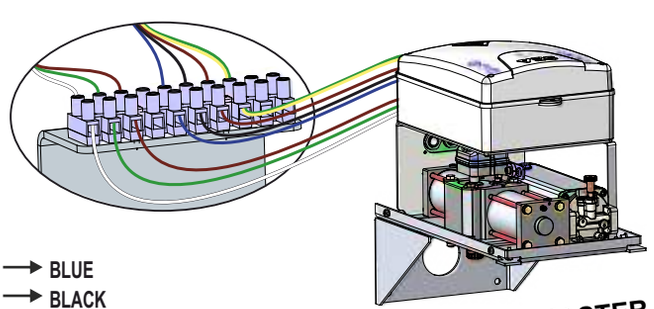
13 WIRING OF THE JOINT «SLAVE» TO THE JOINT «MASTER»



ENCODER { E2 → WHITE; COM → GREEN + SHIELD; +PG → BROWN }

Fig. 24

WIRE THE CORRESPONDING OUTPUT CABLES ON THE «MASTER» CONTROL UNIT, BY FOLLOWING THE WIRING DIAGRAMS SHOWN ON THE NEXT PAGE. WIRE THE SLAVE OPERATOR ACCORDING TO THE CONTROL UNIT MODEL SPECS.



JOINT SLAVE 230V OR 36V { U → BLUE; V → BLACK; W → BROWN; ⏚ → YELLOW/GREEN }

Fig. 25

14 JOINT «MASTER» AND JOINT «SLAVE» - ELECTRIC WIRINGS

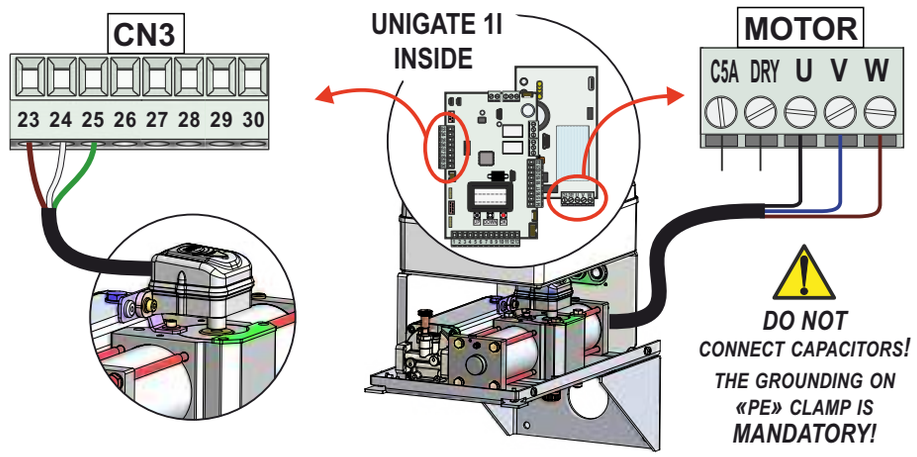
- JOINT 230V operator can be used with the **«UNIGATE FV (1I) INVERTER»** or **«GATE 2 DG INVERTER»** control units - ***REFER TO THE CONTROL UNIT MANUAL FOR MORE INFORMATION ON WIRINGS!***
- JOINT 36V brushless operator can be used with the **«UNIGATE BR»** brushless control unit
- **«UNIGATE FV INVERTER»** and **«UNIGATE BR»** control units must have the second module to wire the JOINT SLAVE operator! - ***SEE THE CONTROL UNIT MANUAL FOR MORE INFORMATION***

230V «MASTER» and «SLAVE» JOINT WIRINGS - *WITH UNIGATE INVERTER*

«RT» ABSOLUTE ENCODER ON BOARD

MASTER
- *BROWN* → *23*
- *WHITE* → *24*
- *GREEN* → *25*

SLAVE
- *BROWN* → *23*
- *WHITE* → *26*
- *GREEN* → *29*



MASTER
- *BLACK* → *U*
- *BLUE* → *V*
- *BROWN* → *W*

SLAVE

CONNECT THE «SLAVE» OPERATOR ON THE SECOND «FV» INVERTER MODULE (UNIGATE 2I INSIDE!)

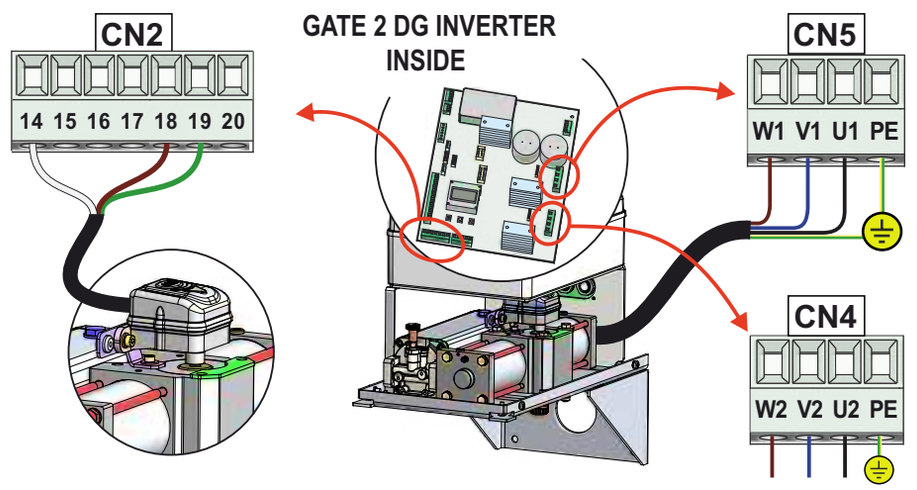
Fig. 26

230V «MASTER» and «SLAVE» JOINT WIRINGS - *WITH GATE 2 INVERTER*

«RT» ABSOLUTE ENCODER ON BOARD

MASTER
- *BROWN* → *14*
- *WHITE* → *18*
- *GREEN* → *19*

SLAVE
- *BROWN* → *15*
- *WHITE* → *18*
- *GREEN* → *19*



MASTER
- *BROWN* → *W1*
- *BLUE* → *V1*
- *BLACK* → *U1*
- *YELLOW/GREEN* → *PE*

SLAVE
- *BROWN* → *W2*
- *BLUE* → *V2*
- *BLACK* → *U2*
- *YELLOW/GREEN* → *PE*

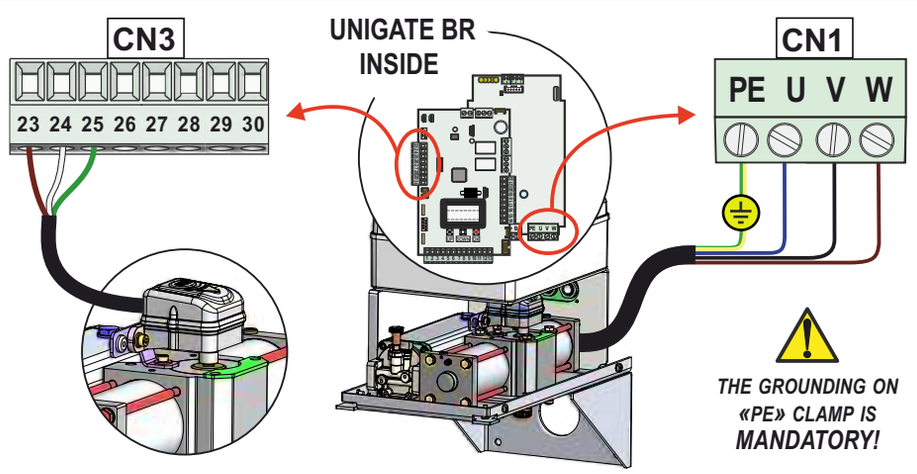
Fig. 27

36V BR «MASTER» and «SLAVE» JOINT WIRINGS - *WITH UNIGATE 36V BRUSHLESS*

«RT» ABSOLUTE ENCODER ON BOARD

MASTER
- *BROWN* → *23*
- *WHITE* → *24*
- *GREEN* → *25*

SLAVE
- *BROWN* → *23*
- *WHITE* → *26*
- *GREEN* → *29*



MASTER (36V)
- *BROWN* → *W*
- *BLACK* → *V*
- *BLUE* → *U*
- *YELLOW/GREEN* → *PE*

SLAVE (36V)

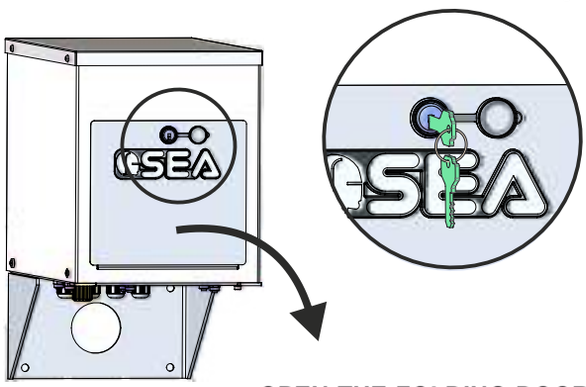
CONNECT THE «SLAVE» OPERATOR ON THE SECOND «BR» BRUSHLESS MODULE (UNIGATE 2BR INSIDE!)

Fig. 28

PART FOR BOTH INSTALLER AND END-USER

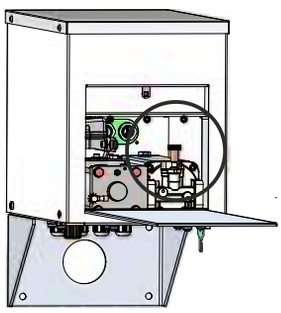
15 RELEASE SYSTEM

Fig. 29

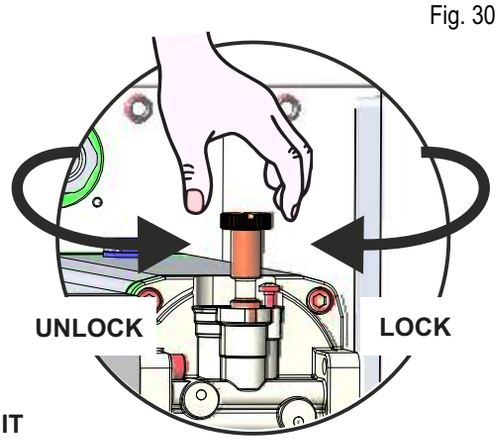


OPEN THE FOLDING DOOR

Fig. 30



RELEASE SCREW
ON THE HYDRAULIC UNIT



CAUTION! switch-off the power supply before locking or unlocking the operator! In case of malfunction, always contact an authorized installer!

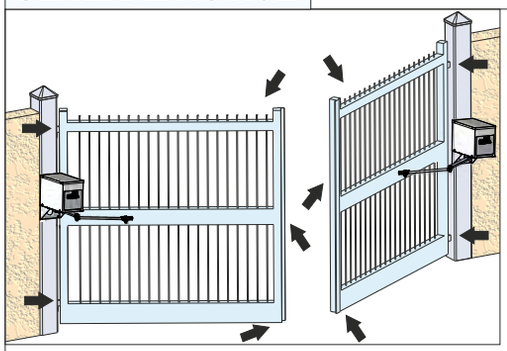
16 PERIODIC MAINTENANCE

Check the robustness and the stability of the gate, particularly the leaning and the rotation points of the gate *(hinges)*	**ANNUAL**
Check the oil level	**ANNUAL**
Replace the hydraulic oil with the oil recommended by the producer	**4 YEARS**
Check the correct operation of the release system	**ANNUAL**
Check the correct operation of the by-pass valves	**ANNUAL**
Check and grease the fixation pivots	**ANNUAL**
Check the integrity of the electric cables	**ANNUAL**
Check the correct operation and the conditions of the parts subject to strain *(rear wall support, ground support, folding arm)*	**ANNUAL**
Check the correct operation and the conditions of all accessories, especially the safety devices	**ANNUAL**
After the maintenance, it is necessary to repeat the automation testing and commissioning	

CAUTION! switch-off the power supply before carrying out the maintenance operations! All operations must be carried out exclusively by an authorized installer!

PART FOR BOTH INSTALLER AND END-USER

GENERAL NOTICE



RISK EXAMINATION: The points pointed by arrows are potentially dangerous. The installer must take a thorough risk examination to prevent crushing, conveying, cutting, grappling, trapping so as to guarantee a safe installation for people, things and animals (Re. Laws in force in the Country where installation has been made). As for misunderstandings that may arise refer to your area distributor or call our help desk. These instructions are part of the device and must be kept in a well-known place. The installer shall follow the provided instructions thoroughly. SEA products must only be used to automate doors, gates and wings. Any initiative taken without SEA explicit authorization will preserve the manufacturer from whatsoever responsibility. The installer shall provide warning notices on not assessable further risks. SEA in its relentless aim to improve the products, is allowed to make whatsoever adjustment without giving notice. This doesn't oblige SEA to upgrade the past production. SEA cannot be deemed responsible for any damage or accident caused by product breaking, being damages or accidents due to a failure to comply with the instructions herein. The guarantee will be void and the manufacturer responsibility will be nullified if SEA original spare parts are not being used. The electrical installation shall be carried out by a professional technician who will release documentation as requested by the laws in force. Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.

INITIAL TEST AND STARTING OF THE AUTOMATION: After having completed the necessary operations for a correct installation of the product and after having evaluated all the risks which could arise in any installation, **it is necessary to test the automation to guarantee the maximum safety and to guarantee that the Laws in force are fully respected**. The first Start must be executed according to the rule **EN 12445** which establishes the methods of tests for checking the gate automation respecting the limits established by the rule **EN 12453**

SAFETY PRECAUTIONS: All electrical works should comply with the current regulations. A 16A/0,030 differential switch must be used. Separate the source cables (operators, power supply) and command cables (photocells, push-buttons, etc). Be sure the entire system is properly grounded. Always run cables in separate ducts to prevent interferences

INTENDED USE: The operator has been designed to be used for the automation of swing gates only

SPARE PARTS: Send request for spare parts to: ***SEA S.p.A. - Teramo - ITALY - www.seateam.com***

SAFETY AND ENVIRONMENTAL COMPATIBILITY: Don't waste product packing materials and/or circuits

STORAGE: T = -30°C/+60°C ; Humidity = min. 5% / max. 90% (without condensation); Materials must be properly packaged, handled with care and with appropriate vehicles

WARRANTY LIMITS - see the sales conditions

MAINTENANCE AND DECOMMISSION: must only be carried out by specialized and authorized personnel

THE MANUFACTURER CAN NOT BE DEEMED RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY IMPROPER USE OF THIS PRODUCT

SEA S.p.A. reserves the right to make any required modification or change to the products and/or to this manual without any advanced notice obligation.

1. Read carefully these instructions before beginning to install the product. Store these instructions for future reference
2. Don't waste product packaging materials and /or circuits
3. This product was designed and built strictly for the use indicated in this documentation.Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger. SEA S.p.A. declines all liability caused by improper use or different use in respect to the intended one.
4. The mechanical parts must comply with Directives: Machine Regulation 2006/42/CE and following adjustments, Low Tension (2006/95/CE), Electromagnetic Consistency (2004/108/CE); Installation must respect Directives: EN12453 and EN12445.
5. Do not install the equipment in an explosive atmosphere.
6. SEA is not responsible for failure to observe Good Techniques in the construction of the locking elements to motorize or for any deformation that may occur during use
7. Before attempting any job on the system, cut out electrical power and disconnect the batteries. Be sure that the grounding system is perfectly constructed and connect to it the metal parts of the gate
8. Use of the indicator-light is recommended for every system, as well as a warning sign well-fixed to the frame structure.
9. SEA declines all liability concerning the automated system safety and efficiency, if components used are not produced by SEA
10. For maintenance, strictly use original parts by SEA.
11. Do not modify in any way the components of the automated system.
12. The installer shall supply all information concerning the system manual functioning in case of emergency and shall hand over to the user the warnings handbook supplied with the product.
13. Do not allow children or adults to stay near the product while it is operating. The application cannot be used by children, by people with reduced physical, mental or sensorial capacity or by people without experience or necessary training. Keep remote controls or other pulse generators away from children, to prevent involuntary activation of the system.
14. Transit through the leaves is allowed only when the gate is fully open.
15. The User must not attempt to repair or to take direct action on the system and must solely contact qualified SEA personnel or SEA service centers. The User can apply only the manual function of emergency.
16. The power cables maximum length between the central engine and motors should not be greater than 10 m. Use cables with 2,5 mm2 section. Use double insulation cable (cable sheath) to the immediate vicinity of the terminals, in particular for the 230V cable. Keep an adequate distance (at least 2.5 mm in air), between the conductors in low voltage (230V) and the conductors in safety low voltage (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm

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Automatic Gate Openers

International registered trademark n. 804888

DECLARATION OF CONFORMITY

DICHIARAZIONE DI CONFORMITÀ

SEA S.p.A. declares under its proper responsibility and, if applicable, under the responsibility of its authorised representative that, by installing the appropriate safety equipment and noise filtering, the products:

La SEA S.p.A. dichiara sotto la propria responsabilità e, se applicabile, del suo rappresentante autorizzato che, con l'installazione degli adeguati dispositivi di sicurezza e di filtraggio disturbi, i prodotti:

DESCRIPTION - *DESCRIZIONE*	**MODEL** - *MODELLO*	**TRADEMARK** - *MARCA*
JOINT HYDRO AC DX 230V *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**12123520**	**SEA**
JOINT HYDRO AC SX 230V *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**12123530**	**SEA**
JOINT HYDRO AC DX BR 36V *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**12123512BRR**	**SEA**
JOINT HYDRO AC SX BR 36V *(AND ALL ITS BY-PRODUCTS - E TUTTI I SUOI DERIVATI)*	**12123512BRL**	**SEA**

- are built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 2006/42/CE;
- comply with the essential safety requirements related to the products within the field of applicability of the Community Directives 2014/35/UE and 2014/30/UE

- sono costruiti per essere incorporati in una macchina o per essere assemblati con altri macchinari per costruire una macchina ai sensi della Direttiva 2006/42/CE;
- sono conformi ai requisiti essenziali di sicurezza relativi ai prodotti entro il campo di applicabilità delle Direttive Comunitarie 2014/35/UE e 2014/30/UE

THE MANUFACTURER OR THE AUTHORIZED REPRESENTATIVE
IL COSTRUTTORE O IL RAPPRESENTATE AUTORIZZATO

SEA S.P.A.
ZONA INDUSTRIALE SANT'ATTO
64100 - TERAMO - ITALY
+ 39 0 861 588341
www.seateam.com

PLACE AND DATE OF ISSUE
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TERAMO, 06/09/2022

L'Amministratore
The Administrator
Ennio Di Saverio

CE UKCA

SEA SEA SEA SEA SEA SEA SEA

Automatic Gate Openers

International registered trademark n. 804888

SEA S.p.A.

Zona Industriale Sant'Atto - 64100 - Teramo - ITALY

Telephone: + 39 0 861 588341

www.seateam.com