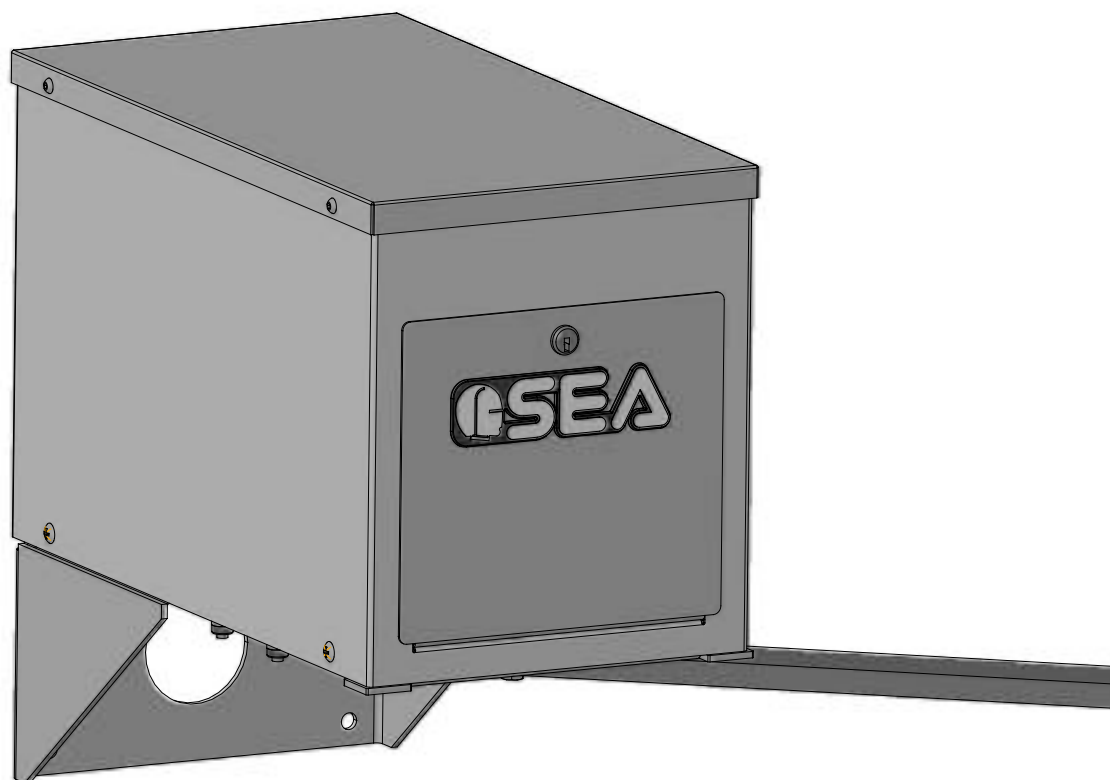


# JOINT

## HYDRAULIC SWING OPERATOR 230V/115V



### INSTALLATION MANUAL and Safety Information

**SEA S.p.A.**

Zona industriale Sant' Atto 64020 - Teramo - ITALY

Tel. +39 0861 588341 r.a. Fax +39 0861 588344

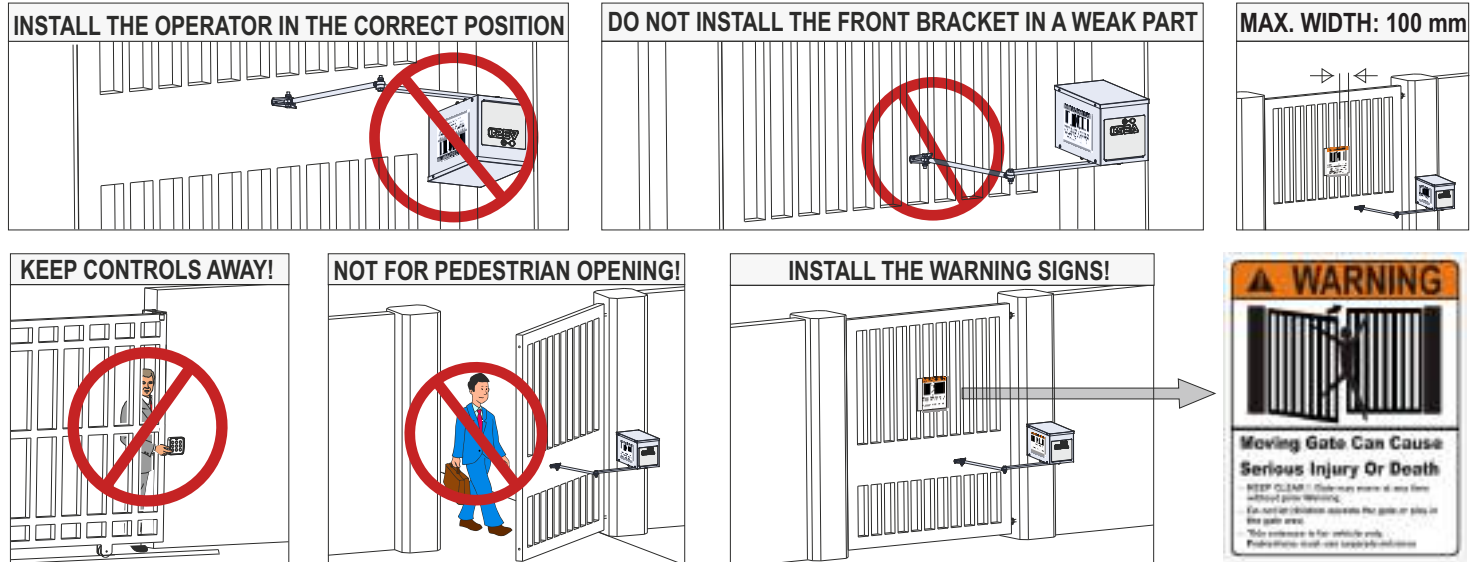
[www.seateam.com](http://www.seateam.com)

[seacom@seateam.com](mailto:seacom@seateam.com)

## GATE WARNINGS AND PRECAUTIONS

The first thing to check is that the gate is in good running order:

- A** - The gate is rigid and straight and runs smoothly throughout its travel
- B** - The length of each leaf must comply with max. length indicated on technical specifications of the model
- C** - The weight of each leaf must comply with max. weight indicated on technical specifications of the model
- D** - The hinges are hardly anchored and are able to support the torque of the operator; they do not have irregular movements and/or any friction during the whole movement of the leaf.



- **SEA operators have been designed for the automation of gates for vehicles use only**
- Be aware to avoid the crossing of the gate path because it is very dangerous for pedestrians
- **Install the warning signs on each side of the gate and in visible zone** to inform the pedestrians about the danger they run when passing or resting in the environment of the gate
- **For more safety SEA advises to install infrared photocells**

## GENERAL NOTICE FOR THE INSTALLER AND THE USER

1. **Read carefully these Instructions** before installing 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. Any other use could compromise the condition and the operation of the product or be a source of danger. SEA S.p.A. declines all liability caused by improper or different use in respect to the intended one.
4. The mechanical parts must be comply with: 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 S.p.A. 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 earthing system is perfectly constructed, and connect it metal parts of the lock.
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 S.p.A. declines all liability concerning system security 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 system's 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. User can apply only the manual function of emergency.
16. The power cables maximum length between the control unit and motors should not be greater than 10 m. Use cables with 2,5 mm<sup>2</sup> section. Use double insulation cable (cable sheath) close to the terminals, in particular for the 230V cable. Keep an adequate distance (at least 2.5 mm in air), between low voltage (230V) cables and safety low voltage cables (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm

## TECHNICAL FEATURES

**JOINT** is a jointed swing operator pad mounted for residential or commercial use

**Gate Speed:** 8 - 12 seconds per 90° cycle

**Maximum Gate Length:** 6 m

**Maximum Gate Weight:** 455 Kg

**Maximum Cycles:** 250 cycles per day with Sea's Plug-In Transformer. (Gate size 6 m x 2,4 m)

**AC Power Supply Wire:** 14 gauge or greater landscape lighting cable rated for direct burial and 300 watts at maximum length of 305 m

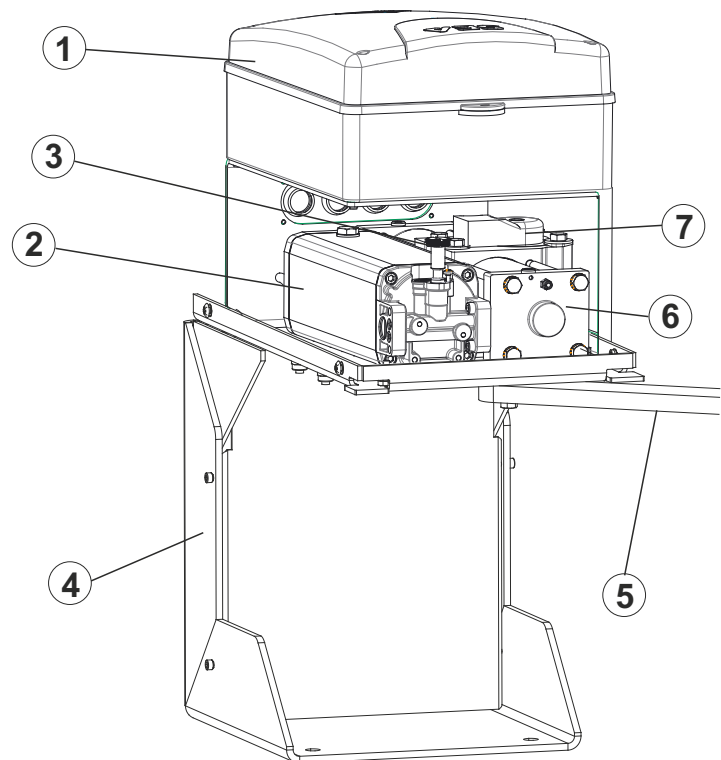


Fig.1

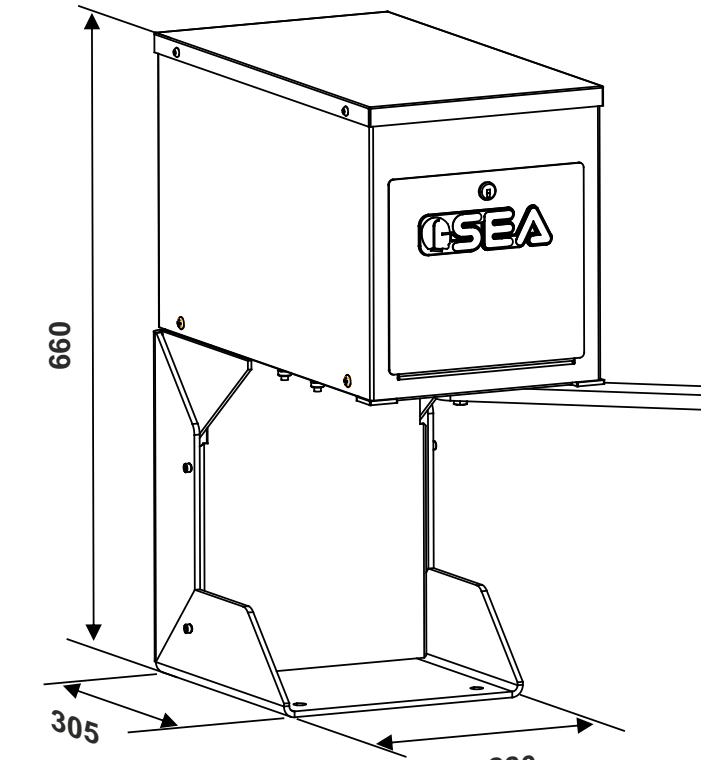


Fig.2

### MAIN COMPONENTS

- |                              |                     |
|------------------------------|---------------------|
| 1. Electronic control unit   | 5. Articulated arm  |
| 2. Hydraulic unit            | 6. Jack             |
| 3. Manual release            | 7. Absolute Encoder |
| 4. Ground support (OPTIONAL) |                     |

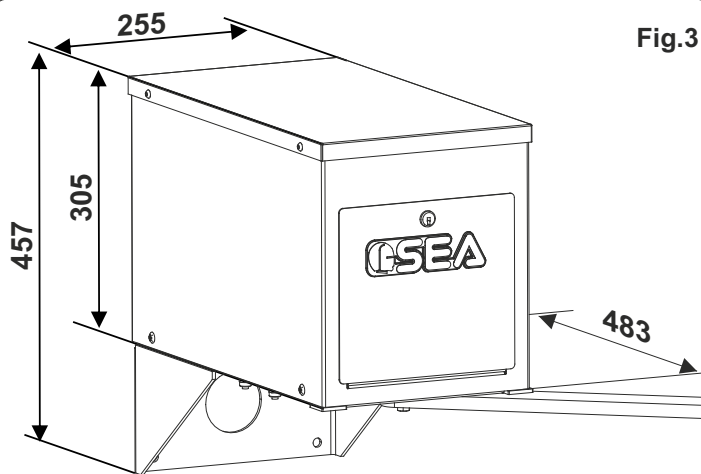


Fig.3

TECHNICAL DATA	JOINT 230V	JOINT 115V
Power supply	230V	115V
Motor power	280 W	220 W
Operation temperature	-20°C / +55°C	-20°C / +55°C
Max. gate length	6 m	6 m
Protection class	Ip44	Ip44
Opening time 90° (sec.)	8 - 12 sec	8 - 12 sec
Cycles/hour	40	40
Max leaf weight	455 Kg	455 Kg
Max opening angle (degrees)	100°	100°
Anti-crushing protection	By pass valve	By pass valve
Encoder	Absolute	Absolute
Slow-down	Electronic	Electronic

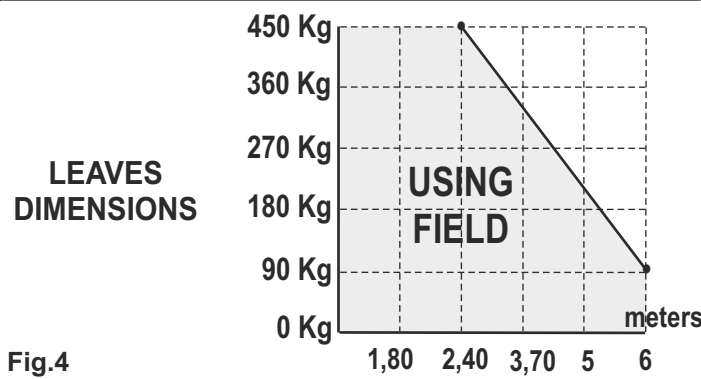
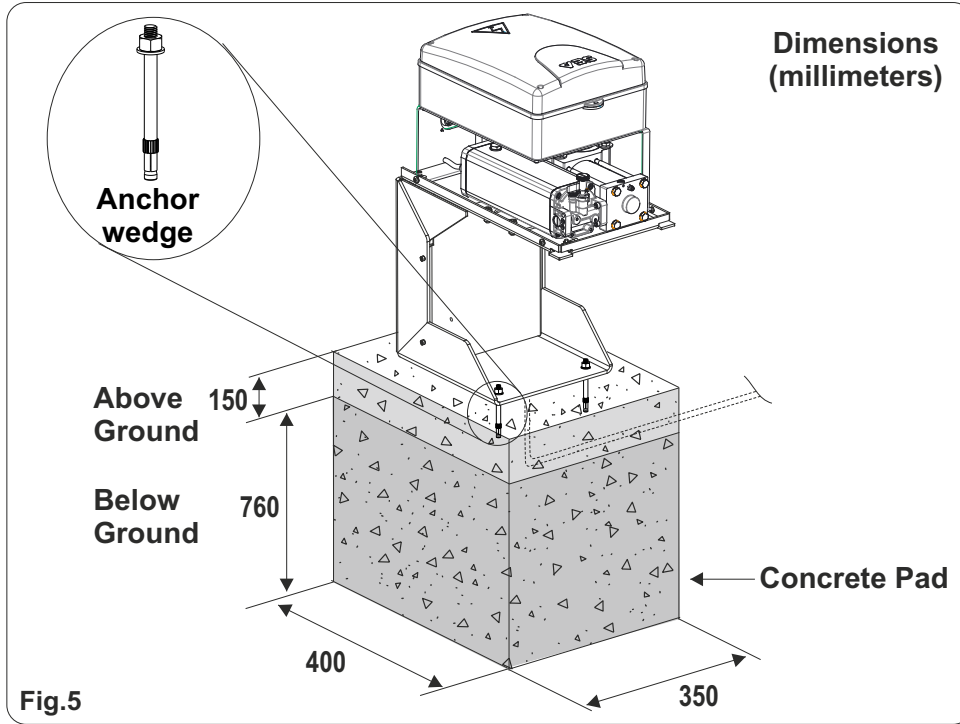


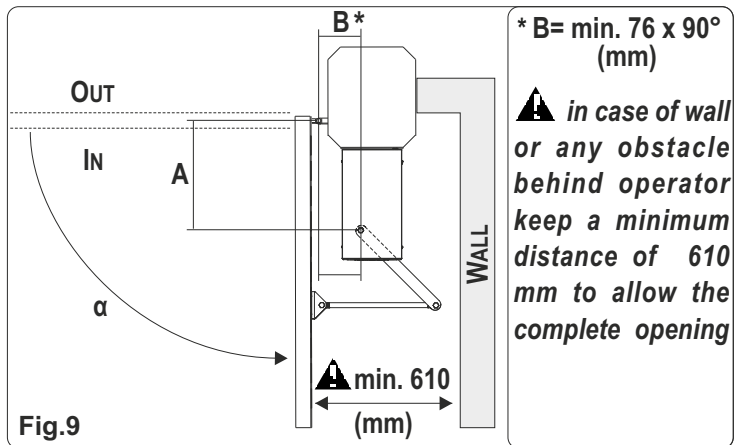
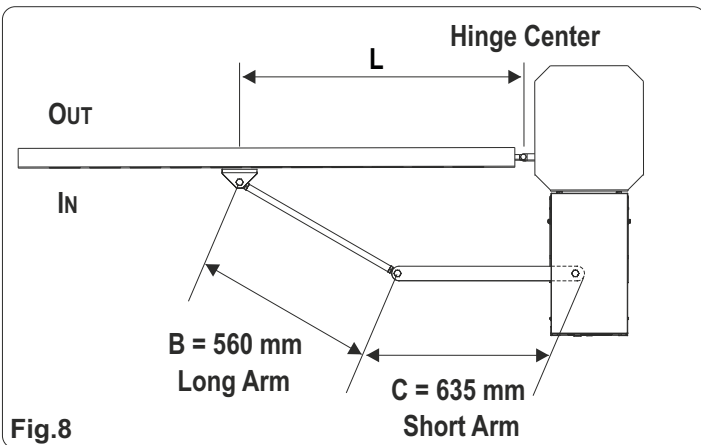
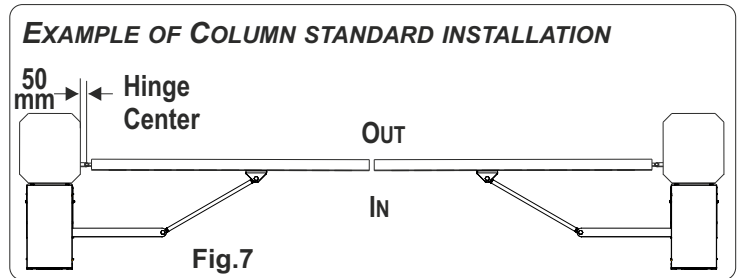
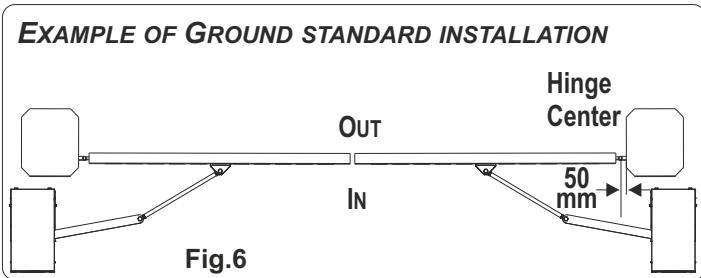
Fig.4

# MECHANICAL INSTALLATION

## CONCRETE PAD AND FIXATION



## STANDARD INSTALLATION

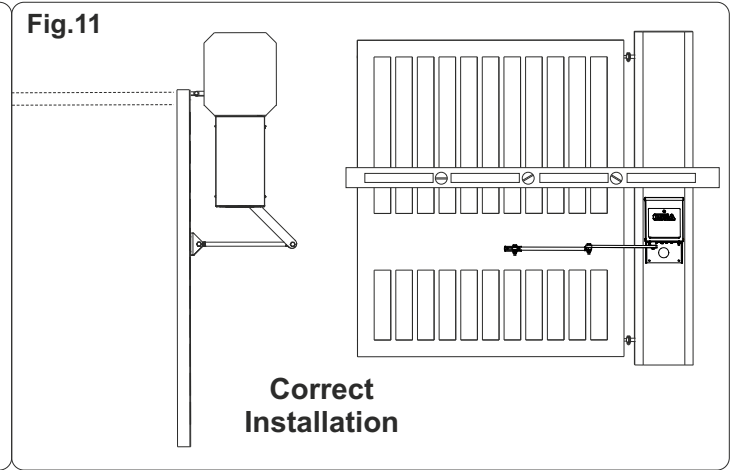
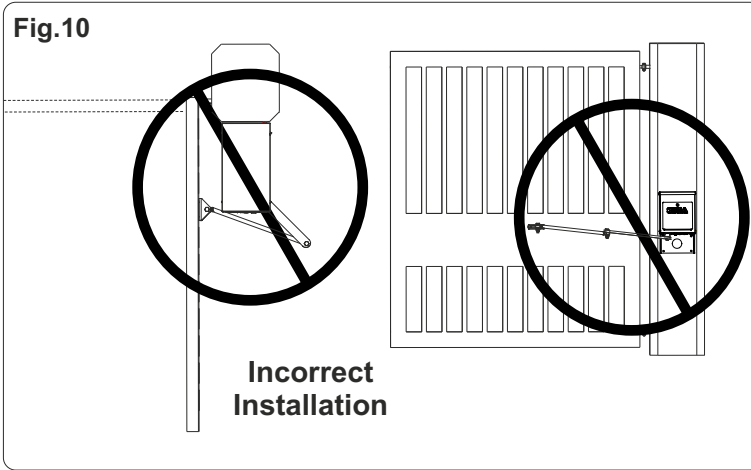


### DIMENSIONS CHART «A» (millimeters)

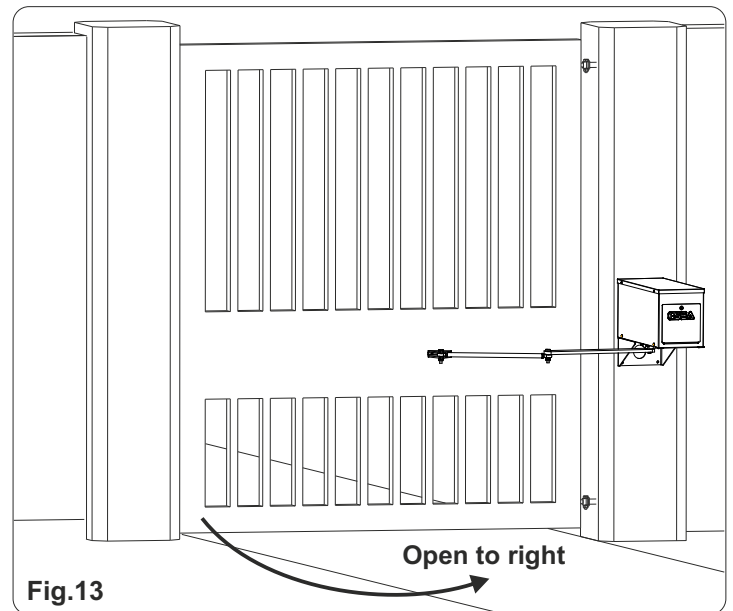
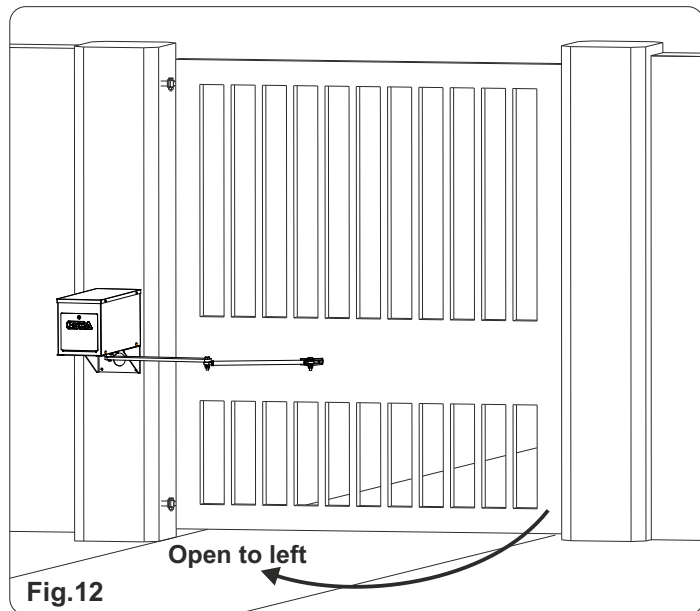
	L	A	B	$\alpha$		L	A	B	$\alpha$		L	A	B	$\alpha$
1	1030	300	100	90°	5	970	350	150	95°	9	900	400	200	100°
2	980	300	150	95°	6	920	350	200	100°	10	980	470	100	90°
3	930	300	200	100°	7	1000	400	100	90°	11	930	470	150	95°
4	1020	350	100	90°	8	950	400	150	95°	12	880	470	200	100°

**IF THE GATE IS LONGER THAN 5,5 METERS, USE THE FOLLOWING FORMULA A : A-2**

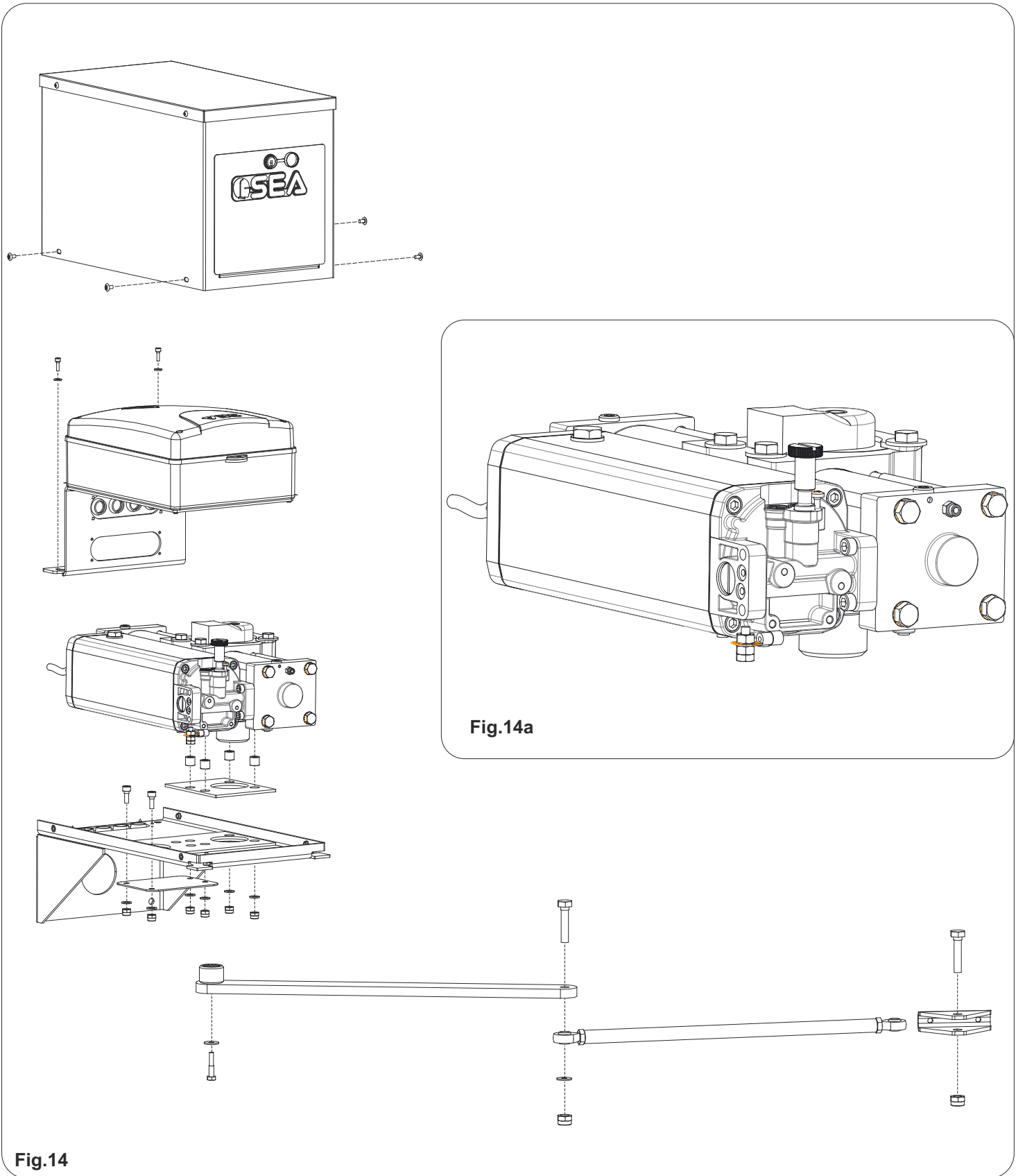
**GATE ARM INSTALLATION**



**GATE MOVEMENT DIRECTION**

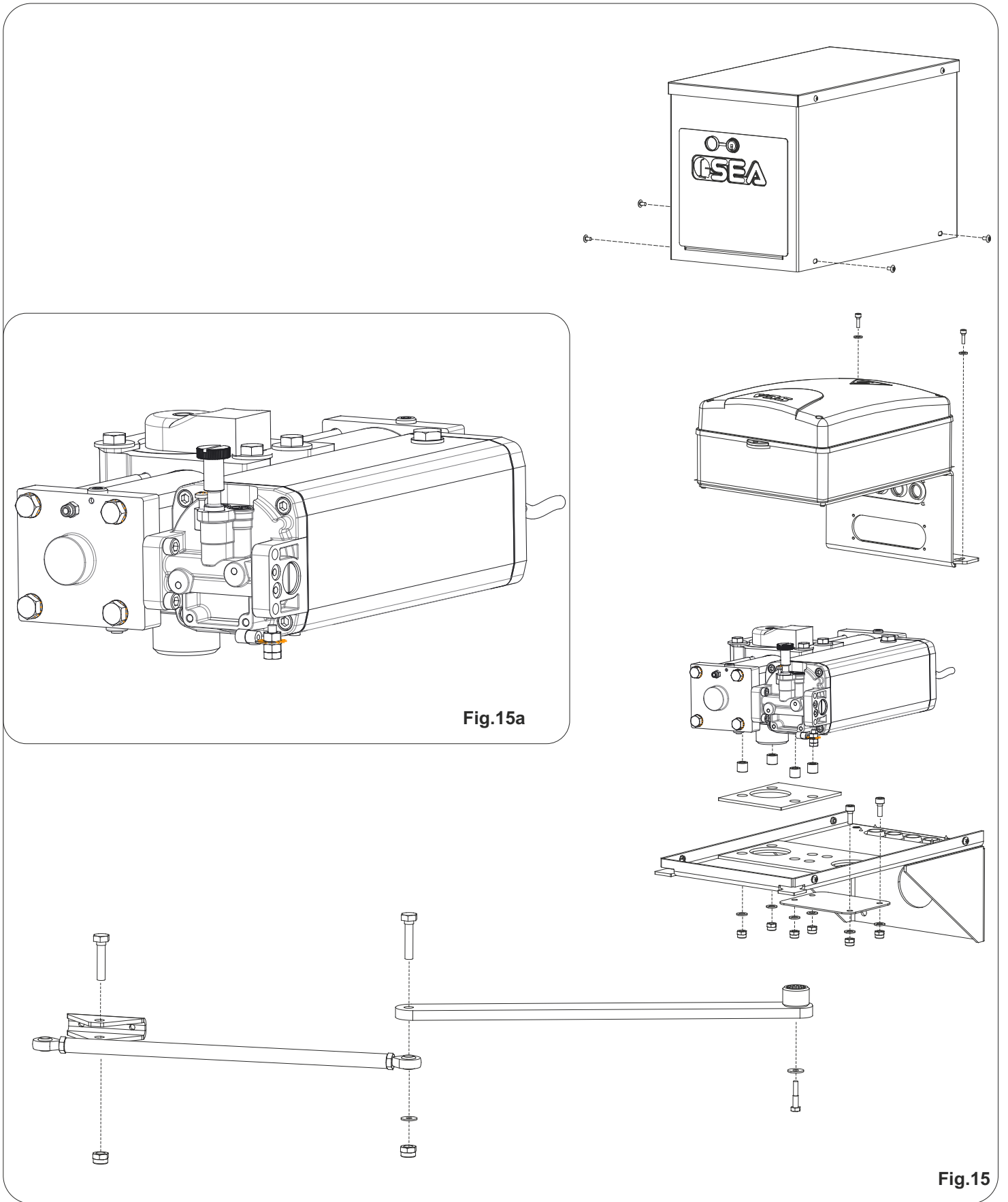


## LEFT OPERATOR MOUNTING

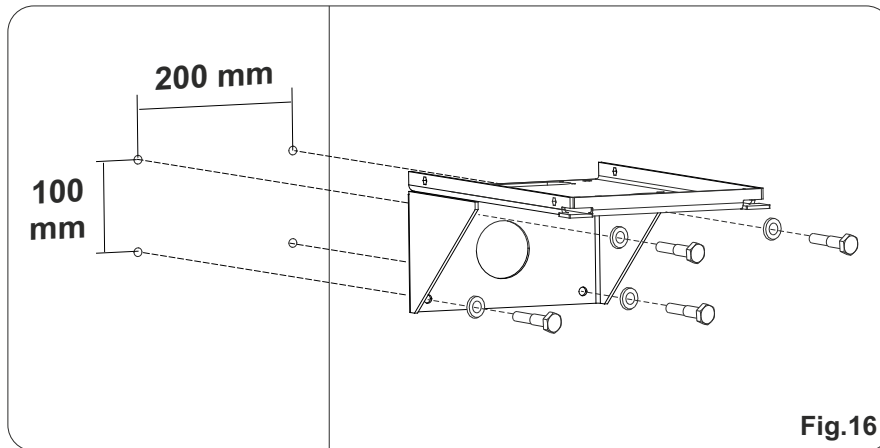


**Fig.14a**

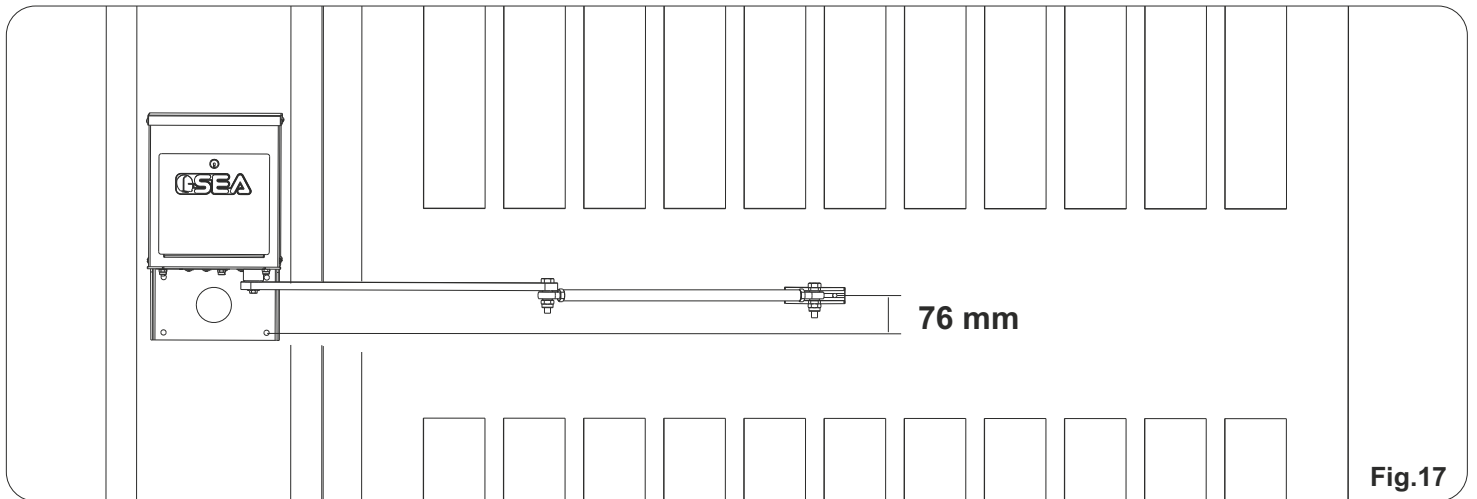
## RIGHT OPERATOR MOUNTING



**MOUNTING PLATE**

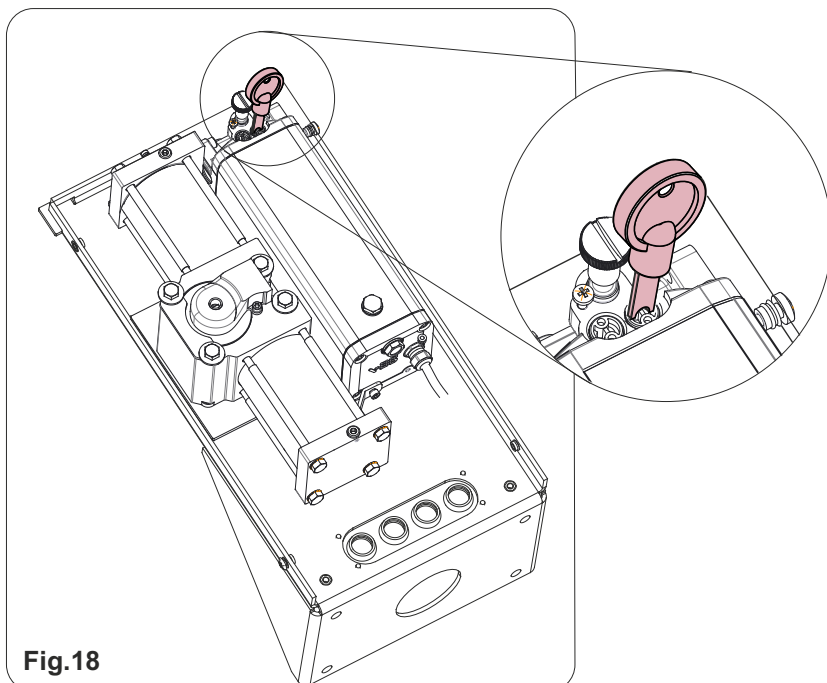


**Fig.16**



**Fig.17**

**TORQUE ADJUSTMENT (BY-PASS VALVES)**



**Fig.18**

**By-Pass Valves**

Force adjustment in opening

**Grey**

Force adjustment in closing

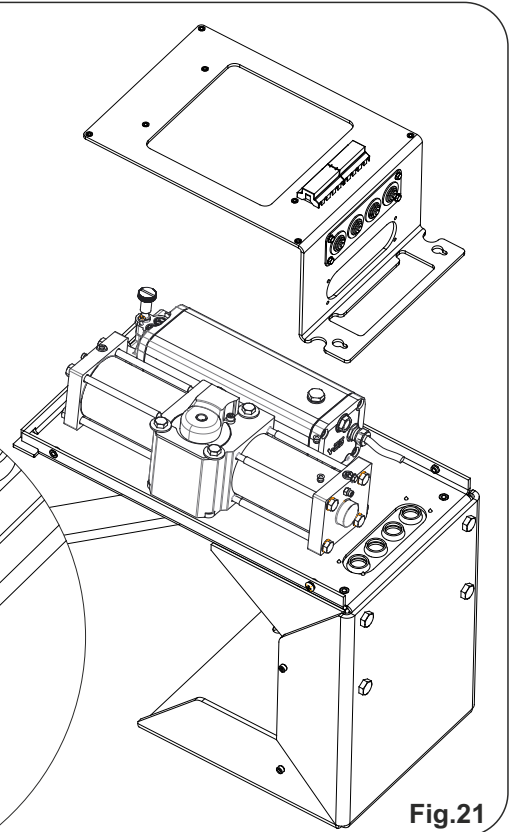
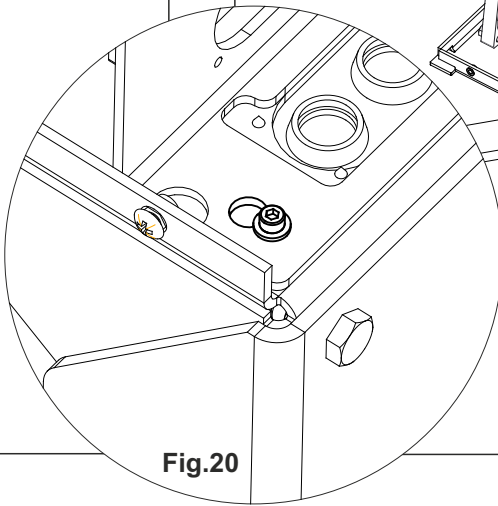
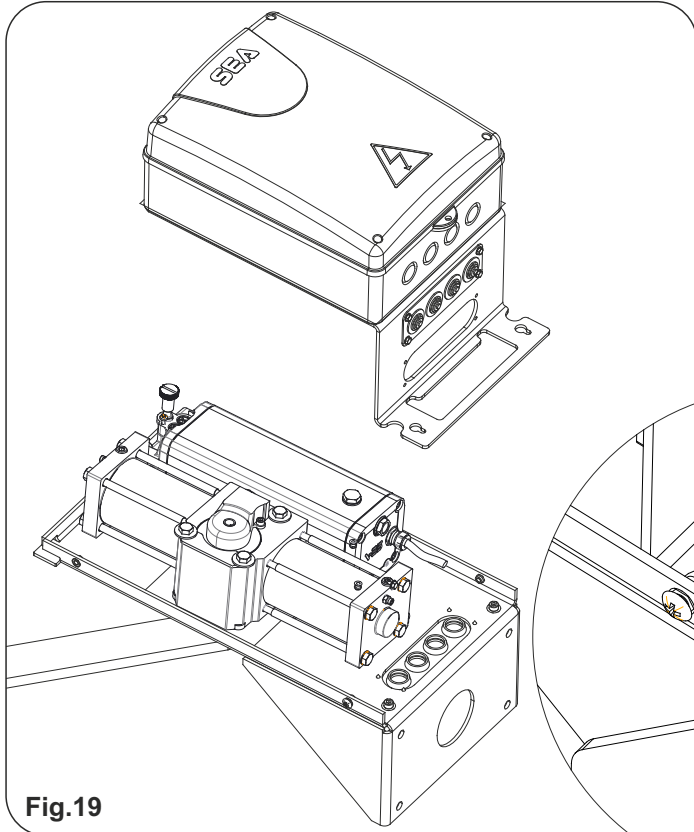
**Yellow**

**Adjust the opening and closing forces of the gate respecting the force diagram.**

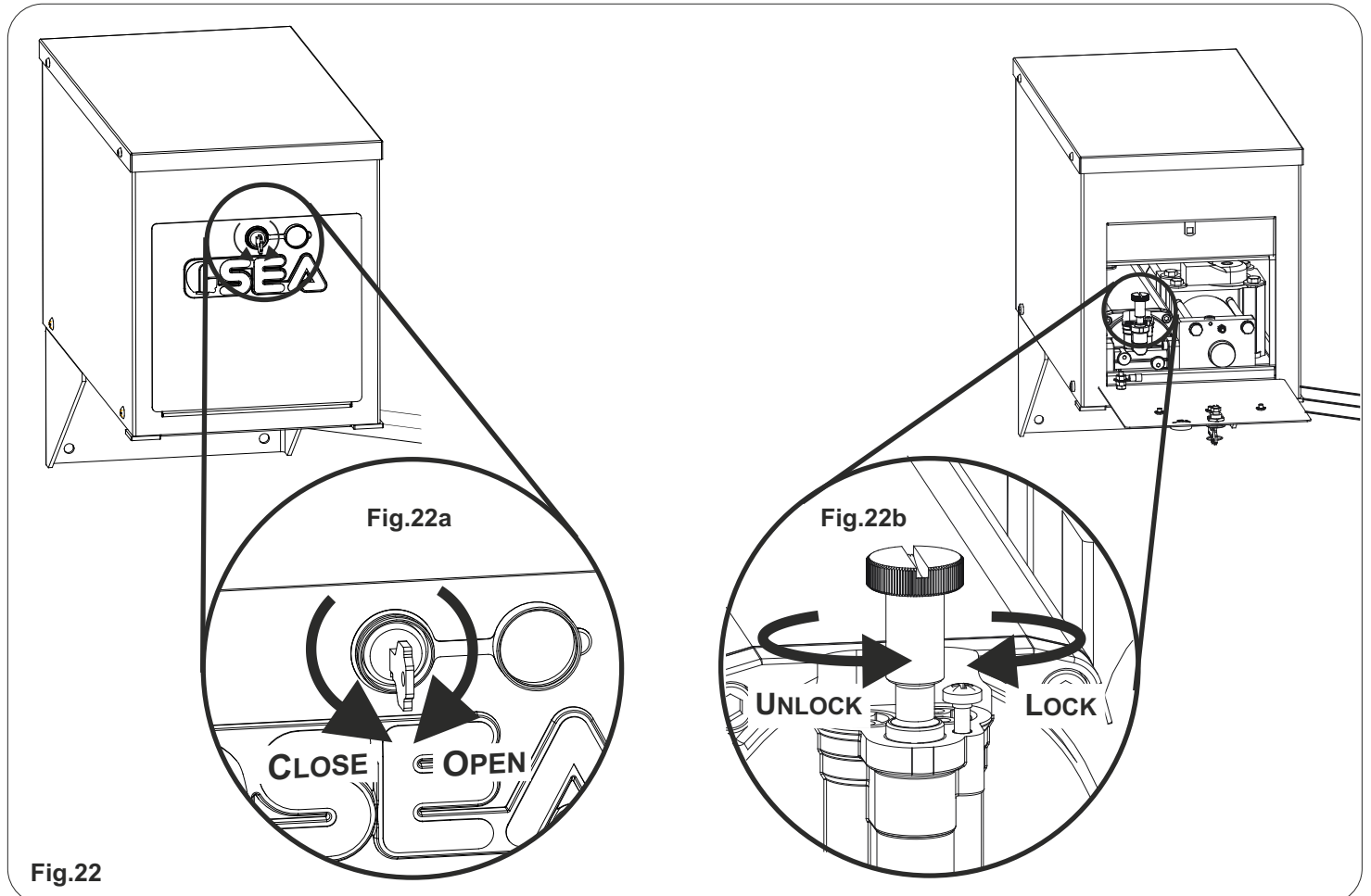
**THE MAXIMUM THRUST FORCE DURING THE MOVEMENT, MEASURED AT THE LEADING EDGE OF LEAF, IS SUBJECTED TO THE LAWS IN FORCE IN THE COUNTRY WHERE THE GATE IS INSTALLED**



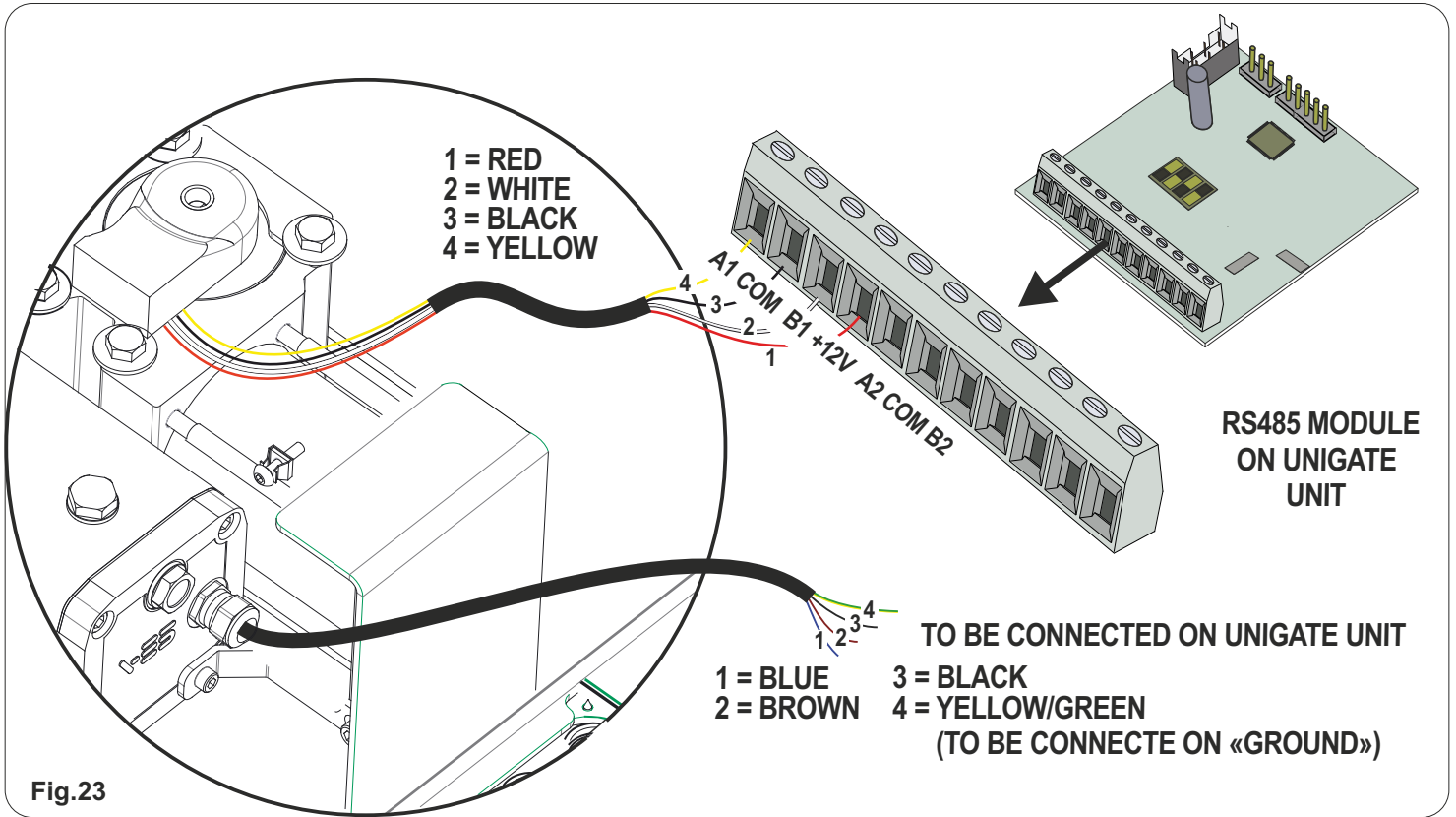
**CONTROL UNIT SUPPORT**



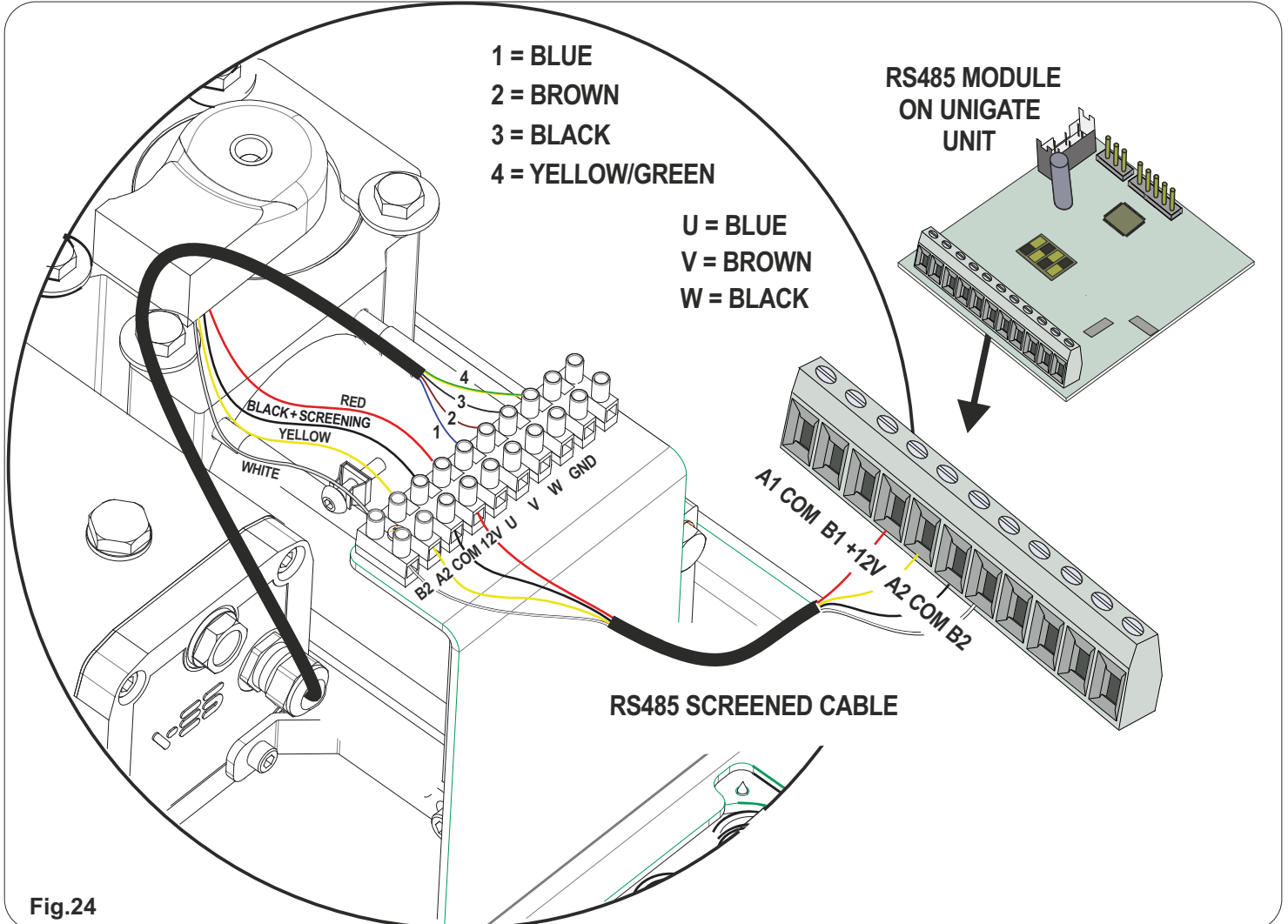
**MANUAL RELEASE SYSTEM**



**MASTER OPERATOR ELECTRIC CONNECTIONS**




**SLAVE OPERATOR ELECTRIC CONNECTIONS**



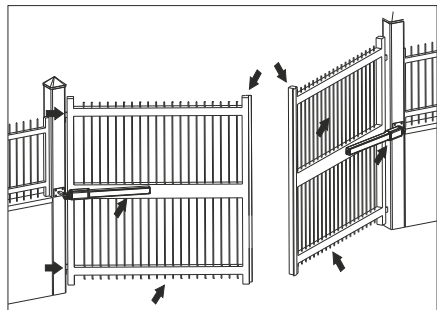
## PART FOR BOTH INSTALLER AND END-USER

### PERIODIC MAINTENANCE

	<b>ALL OPERATIONS MUST BE CARRIED OUT EXCLUSIVELY BY AN AUTHORIZED INSTALLER</b> <b>ALL OPERATIONS MUST BE CARRIED OUT IN ABSENCE OF POWER SUPPLY</b>
Check the robustness and the stability of the gate; check the leaning and rotation points of the gate (hinges)	Annual
Check the oil level and refill, in case of low level, with the oil recommended by the producer	Annual
Check the function of the release	Annual
Check the function of the by-pass valves	Annual
Check and grease the fixation pins	Annual
Check the integrity of the connecting cables	Annual
Check the good status of all parts which are subject to efforts (back fixation, oscillating fork, and front fixation)	Annual
If some parts are corroded, replace them	Annual
Check the functionality of all the accessories especially the function of all safety devices and of the Encoder	Annual
<b>AFTER THE MAINTENANCE IT IS NECESSARY TO REPEAT ALL TESTS BEFORE RESTARTING AUTOMATION</b>	

### GATE WARNINGS AND PRECAUTIONS

**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 can not 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 security and, in particular, 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 work 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 earth bonded. 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](http://www.seateam.com)**

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

**STORAGE:** Materials must be properly packaged, handled with care and with appropriate vehicles;

#### STORAGE TEMPERATURE

T <sub>min</sub>	T <sub>max</sub>	Humidity <sub>min</sub>	Humidity <sub>max</sub>
-30°C ↓	+60°C ↓	5% without condensation	90% without condensation

**WARRANTY LIMITS** - see the sales conditions

**MAINTENANCE AND DECOMMISSION:** must only be carried out by specialised and authorised 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.*



**SEA**®



**Automatic Gate Openers**

International registered trademark n. 804888

**SEA S.p.A.**

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