





OPERATORE ELETTROMECCANICO INTERRATO PER CANCELLI A BATTENTE UNDERGROUND ELECTROMECHANICAL OPERATOR FOR SWING GATES OPERATEUR ELECTROMECANIQUE SOUS-SOL POUR PORTAILS BATTANTS OPERADOR ELECTROMECÁNICO ENTERRADO PARA CANCELAS A BATIENTE



SEA S.p.A. Zona industriale Sant'Atto - 64020 Teramo - (ITALY) Tel. +39 0861 588341 r.a. Fax +39 0861 588344 <u>www.seateam.com</u> <u>seacom@seateam.com</u>



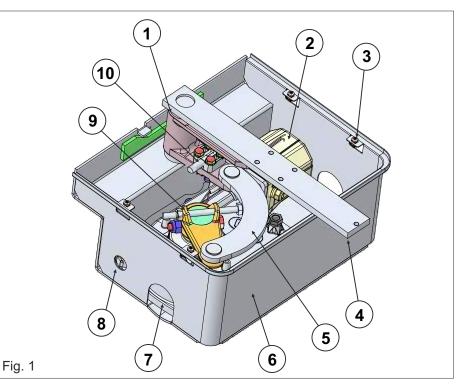
# **TECHNICAL SPECIFICATIONS**

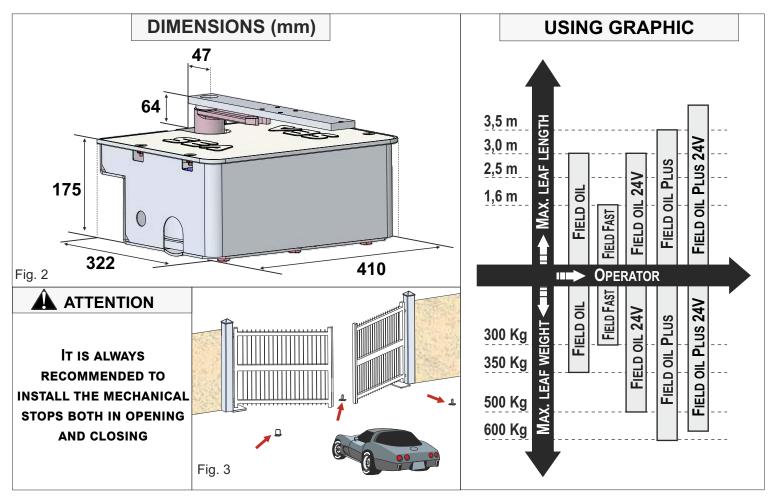
**FIELD** is a high quality underground electromechanical operator, for residential use and for swing gates of max. length 3.5 m and weight max. 600 Kg. FIELD operators are lubricated with grease or in oil bath, depending on the model; moreover, they are available in both low voltage 24V and 230V versions. FIELD operators are equipped with adjustable mechanical limit switches, both in opening and closing. Finally, it is possible to manage the slowdown through control unit, both in opening and closing

## MAIN COMPONENTS

- 1 Rod support unit
- 2 Electric motor
- 3 Cover fixing screws
- 4 Leaf support rod
- 5 Counter connecting rod
- 6 Foundation carrying box
- 7 Water drain hole
- 8 Electric cable exit hole
- 9 Adjustable closing limit switch
- 10 Adjustable opening limit switch

(standard except for Field Oil Plus)







# **TECHNICAL FEATEURES**

TECHNICAL DATA	FIELD OIL	FIELD FAST	FIELD OIL PLUS	FIELD OIL	FIELD OIL PLUS 24V	
Power supply	230V~ ± 5% - 50/60 Hz		24VDC			
Absorbed current	280W	400W	310W	130W		
Working frequency	15 cycles/h	20 cycles/h	20 cycles/h	50 cycles/h	60 cycles/h	
Working Temperature	-20°C ∦ +55°C ∦		-20°C ∦ +55°C ∦			
Operator Weight	12 Kg	12,5 Kg	12,5 Kg	13 Kg	13 Kg	
Max. leaf length	3 m	1,6 m	3,5 m	3 m	3,5 m	
Opening degree	110° - 180° (optional)		110° - 180° (optional)			
Working time up to 90°	18 seconds	9 seconds	18 seconds	14/30 seconds		
Protection degree	IP 67		IP 67			
Capacitor	10 µF					
Max. torque	250 Nm	200 Nm	300 Nm	300 Nm	300 Nm	
Max. leaf weight	350 Kg	300 Kg	600 Kg	500 Kg	600 Kg	

THE INDICATED FREQUENCY OF USE IS VALID ONLY FOR THE FIRST OPERATING HOUR AND AT A 20°C TEMPERATURE

# **INSTALLATION**

# **<u>1. GATE ARRANGEMENTS</u>**

Before the installation, check that all gate parts (fixed and mobile) have a resistant and non-deformable structure; also make the following checks:

a) the leaves must be rigid and compact;

**b)** the weight and length of each leaf must not exceed the values supported by the specific operator model (see tables); *in case of length and weight greater than 1.8m and 150 Kg, the use of mechanical stops in closing is recommended* 

c) the hinges and the structure of the gate must operate smoothly throughout the movement, without frictions or obstacles

THE UPPER HINGE ONLY IS SUFFICIENT TO INSTALL THE OPERATOR;

# 2. INSTALLATION OF THE FOUNDATION CARRYING BOX

To install the foundation box:

**2.1.** Based on the measurements shown in Fig. 4, prepare an excavation inside which the foundation box will be cemented by the use of the anchor bolts

🛕 IT IS MANDATORY TO RESPECT THE MINIMUM DISTANCE OF THE ROTATION AXIS FROM THE PILLAR - 47 mm

**2.2.** Provide a **PVC DRAIN PIPE FOR THE DRAINAGE OF RAINWATER**, to be inserted in the slot inside the box before it is cemented (Fig. 5); **BRING THE PIPE TO THE DRAIN OF THE SEWER LINE** 

**2.3.** Provide a **FLEXIBLE PLASTIC SHEATH** of at least 25 mm in diameter **FOR THE PASSAGE OF THE ELECTRICAL CABLES**, to be inserted in the slot inside the box before it is cemented (Fig. 5); **BRING THE SHEATH UP TO THE JUNCTION BOX** 

**2.4.** Before cementing the foundation box, make sure that it is perfectly horizontal and perpendicular to the axis of the gate, using a level (Fig. 6)

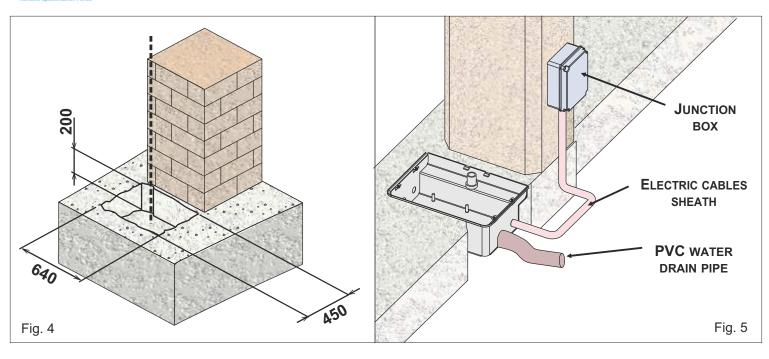
THE AXIS OF THE UPPER HINGE OF THE GATE MUST COINCIDE WITH THE AXIS OF THE BOX SHAFT (FIG. 7); RESPECT THE DISTANCE OF 64 mm BETWEEN THE COVER OF THE BOX AND THE BASE OF THE GATE

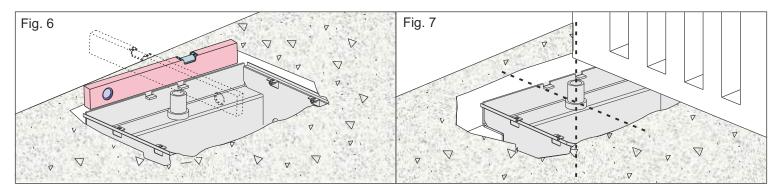
2.5. Insert the supplied ball into the hollow shaft (Fig. 8)

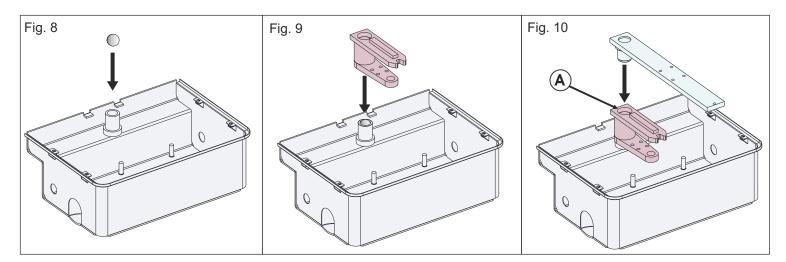
- **2.6.** Insert the rod support unit on the hollow shaft (Fig. 9)
- 2.7. Generously grease the hole «A» and insert the leaf support rod (Fig. 10)











# 3. LIMIT SWITCH SUPPORT - RIGHT / LEFT MOUNTING

Hereafter it necessary to distinguish between:

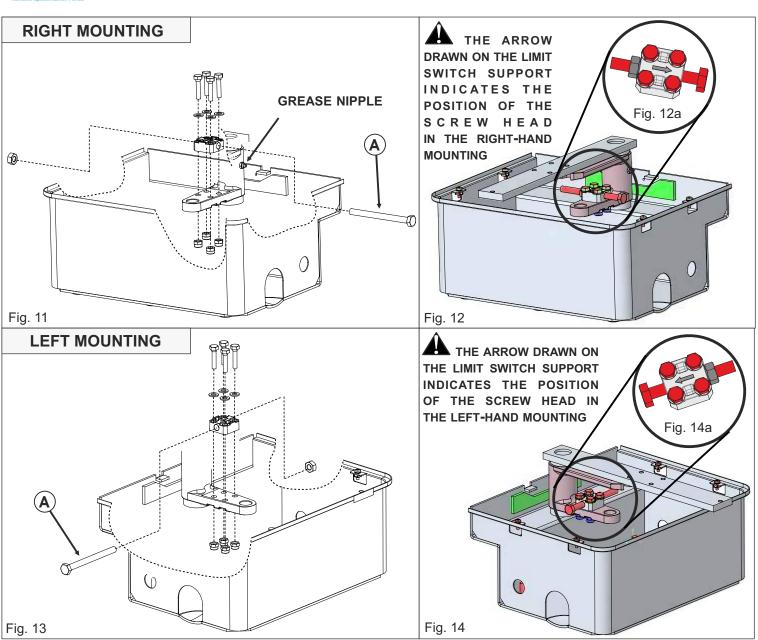
# **RIGHT MOUNTING -** THE LEAF OPENS FROM LEFT TO RIGHT

# LEFT MOUNTING - THE LEAF OPENS FROM RIGHT TO LEFT

3.1. Insert the limit switch support on the rod support unit and fix it with the screws (Fig. 11 or Fig.13)

**3.2.** Insert the **«A»** screw(Fig. 11 or Fig. 13) as shown in the drawing, paying attention to the direction of insertion given by the arrow on the support (Fig. 12a or Fig. 14a)



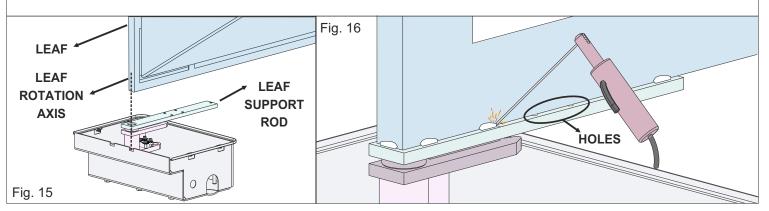


# 4. MOUNTING OF THE LEAF ON THE SUPPORT ROD

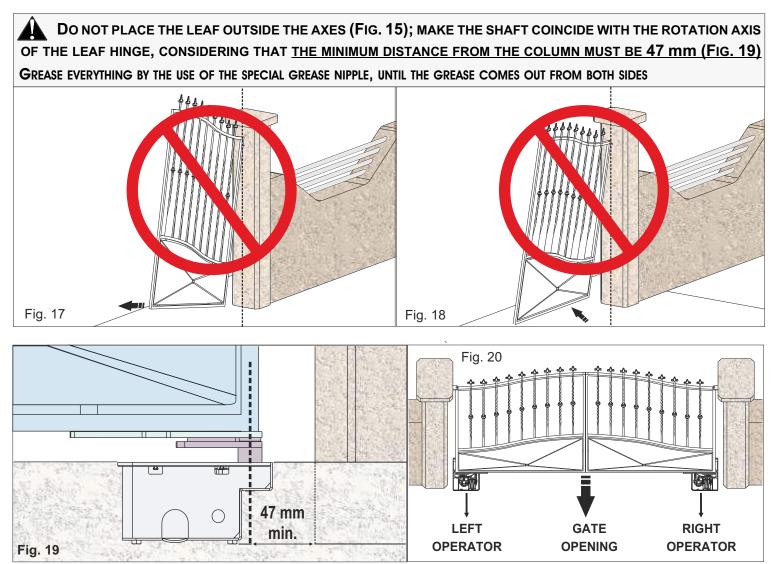
**B**EFORE INSTALLING THE LEAF ON THE FOUNDATION BOX, MAKE SURE THAT THE CONCRETE INSIDE THE EXCAVATION IS PERFECTLY SOLIDIFIED

**4.1.** Place the gate leaf on the support rod, taking care to make the rotation axis of the leaf hinge coincide with the rotation axis of the support; be sure to respect the perpendicularity with the rotation axis (Fig. 15)

**4.2.** Carefully weld the support rod to the leaf, making fixing sections of about 3 or 4 cm along the contact surface and avoiding welding near the threaded holes (Fig. 16)







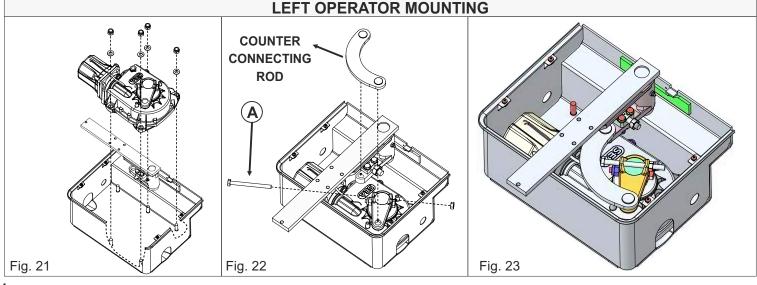
English

# 5. INSTALLATION OF THE OPERATOR INSIDE THE BOX

MAKE SURE TO MOUNT THE RIGHT OPERATOR AND THE LEFT OPERATOR IN THE CORRECT POSITION; REFER TO THE DRAWING IN FIG. 20 TO IDENTIFY THE CORRECT POSITION WITH RESPECT TO THE GATE OPENING DIRECTION

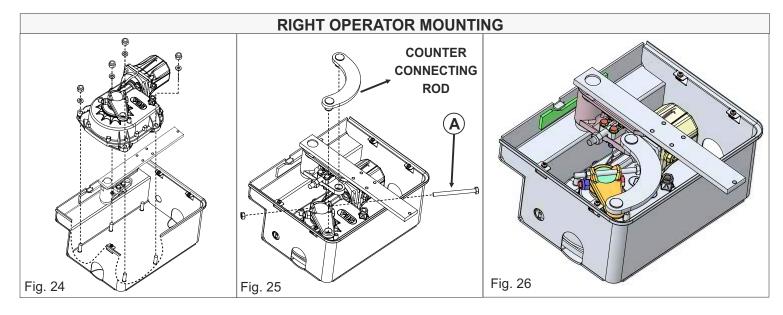
**5.1.** Position the operator in correspondence with the screws already prepared inside the foundation box; screw the operator using the washers and nuts supplied (Fig. 21 or Fig. 24)

**5.2.** Insert the screw **«A»** as indicated and fix it with the respective nut; furthermore fix the pins of the counterconnecting rod in the appropriate holes (adequately greased) on the rod support and on the operator crank, as shown in Fig. 22 or Fig 25;









## 6. RELEASE MOUNTING - BASIC RELEASE / PLUS RELEASE

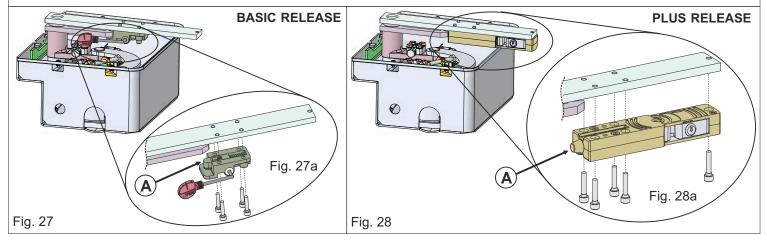
## For FIELD operators there are two types of release:

### BASIC RELEASE (WITH CUSTOMIZED KEY) OR PLUS RELEASE (WITH DIN KEY)

**6.1. BASIC RELEASE**: grease the coupling pin **«A»** and mount the release system under the leaf support rod using the 4 supplied screws (Fig. 27a)

6.2. PLUS RELEASE: grease the coupling pin «A» and mount the release system under the leaf support rod using the 5 supplied screws (Fig. 28a)

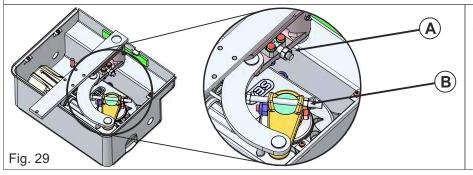
FOR THE ELECTRICAL CONNECTIONS OF THE RELEASE, REFER TO THE ELECTRONIC CONTROL UNIT USER MANUAL



## 7. LIMIT SWITCH ADJUSTMENT

**7.1. OPENING LIMIT SWITCH:** To adjust the opening limit switch, bring the leaves to the fully open position and act on the screw **«A»**, increasing or decreasing the tightening using the bolt (Fig. 29)

**7.2. CLOSING LIMIT SWITCH:** To adjust the closing limit switch, bring the leaves to the fully closed position and act on the screw **«B»**, increasing or decreasing the tightening using the bolt (Fig. 29)

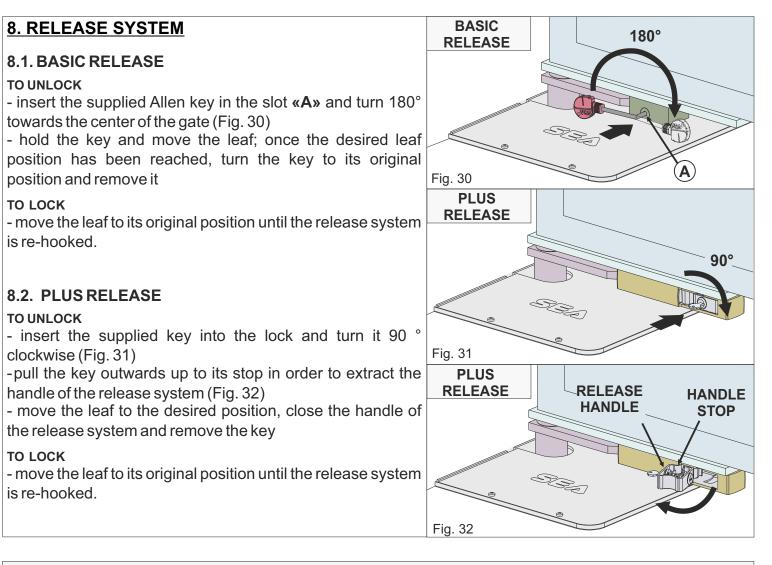


THE INSTALLATION OF MECHANICAL STOPS ON THE GROUND, BOTH IN OPENING AND CLOSING, IS ALWAYS RECOMMENDED



# PART FOR BOTH INSTALLER AND END-USER

ALL THE UNLOCKING AND LOCKING OPERATIONS AND ALL THE PERIODIC MAINTENANCE OPERATIONS MUST BE CARRIED OUT IN ABSENCE OF POWER SUPPLY



# 9. STANDARD CONNECTION

1) Operators (11) 2) Mechanical stops 9) 3) Control unit Flashing lamp **(4**) **EXIT** Right photocell (3) 6) 16A - 0,03A differential switch 7) Left photocell 8) «START/STOP» key-button (6) 9) Antenna X 2) (10) 10) Photocell columns 2×1 11) Warning notices \* FOR FIELD 24V MODELS USE «2x2.5» **ENTRANCE** TYPE CABLES TO CONNECT THE (10) (8) 5 OPERATOR TO THE CONTROL UNIT Fig. 33

ONCE THE INSTALLATION IS COMPLETED, RELEASE THE OPERATOR AS PER THE INSTRUCTIONS IN CHAPTER 8 AND CARRY OUT SOME SLOWLY MANUAL MANEUVERS, CHECKING THAT THERE ARE NO FRICTIONS, IRREGULARITIES AND THAT THE MOVEMENT IS SMOOTLY THROUGHOUT THE EXCURSION. IT IS IMPERATIVE TO GREASE THE CARRYING BOX THROUGH THE SPECIAL GREASE NIPPLE (FIG. 11) UNTIL THE GREASE COMES OUT. (USE GREASE DIN 51502 KP 2 N-20 - K 2 K-20)



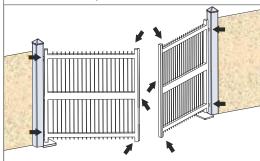
# PART FOR BOTH INSTALLER AND END-USER

# PERIODIC MAINTENANCE

	_
Grease all the moving parts (counter-rod, manual release, etc.)	annual
Check the release system functionality	annual
Check the tightening of the screws	annual
Check the state of wear of all moving parts	annual
Check the correct drainage of rainwater	annual
Check the integrity of the connection cables	annual
Λ	

ALL OPERATIONS MUST BE CARRIED OUT EXCLUSIVELY BY AN AUTHORIZED INSTALLER

**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, <u>it is necessary to</u> <u>test the automation to guarantee the maximum security and, in particular, to guarantee that the laws in force are fully respected</u>. 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** - <u>www.seateam.com</u> **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 **WARRANTY LIMITS** - see the sales conditions

MAINTENANCE AND DECOMMISION: 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.

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			



#### GENERAL NOTICE FOR THE INSTALLER AND THE USER

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. SEAS.p.A. declines all liability caused by improper use or different use in respect to the intended one.

4. The mechanical parts must be comply with Directives: Machine Regulation 2006/42/CE and following adjustments), Low Tension (2006/95/CE), electromgnetic Consistency (2004/108/CE) Installation must be done respecting 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. SEAS.p.A. declines all liability as concerns the automated system's security and efficiency, if components used, are not produced by SEA 10. For maintenance, strictly use original parts 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 central engine 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) 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 low voltage safety (SELV) or use an appropriate sheath that provides extra insulation having a thickness of 1 mm.

#### TERMS OF SALES

EFFICACY OF THE FOLLOWING TERMS OF SALE: the following general terms of sale shall be applied to all orders sent to SEAS.p.A. All sales made by SEA to all costumers are made under the prescription of this terms of sales which are integral part of sale contract and cancel and substitute all apposed clauses or specific negotiations present in order document received from the buyer.

GENERAL NOTICE The systems must be assembled exclusively with SEA components, unless specific agreements apply. Non-compliance with the applicable safety standards (European Standards EM12453 – EM 12445) and with good installation practice releases SEA from any responsibilities. SEA shall not be held responsible for any failure to execute a correct and safe installation under the above mentioned standards.

1) PROPOSED ORDER The proposed order shall be accepted only prior SEA approval of it. By signing the proposed order, the Buyer shall be bound to enter a purchase agreement, according to the specifications stated in the proposed order.

On the other hand, failure to notify the Buyer of said approval must not be construed as automatic acceptance on the part of SEA.

2) PERIOD OF THE OFFER The offer proposed by SEA or by its branch sales department shall be valid for 30 solar days, unless otherwise notified.

3) PRICING The prices in the proposed order are quoted from the Price List which is valid on the date the order was issued. The discounts granted by the branch sales department of SEA shall apply only prior to acceptance on the part of SEA. The prices are for merchandise delivered ex-works from SEA establishment in Teramo, not including VAT and special packaging. SEA reserves the right to change at any time this price list, providing timely notice to the sales network. The special sales conditions with extra discount on quantity basis (Qx, Qx1, Qx2, Qx3 formula) is reserved to official distributors under SEA management written agreement **4) PAYMENTS** The accepted forms of payment are each time notified or approved by SEA. The interest rate on delay in payment shall be 1.5% every month but anyway shall not be higher than the max. interest rate legally permitted.

5) DELIVERY Delivery shall take place, approximately and not peremptorily, within 30 working days from the date of receipt of the order, unless otherwise notified. Transport of the goods sold shall be at Buyer's cost and risk. SEA shall not bear the costs of delivery giving the goods to the carrier, as chosen either by SEA or by the Buyer. Any loss and/or damage of the goods during transport, are at Buyer's cost.

6) COMPLAINTS Any complaints or claims shall be sent to SEA within 8 solar days from receipt of the goods, proved by adequate supporting documents as to their truthfulness

7) SUPPLY The concerning order will be accepted by SEA without any engagement and subordinately to the possibility to get it's supplies of raw material which is necessary for the production; Eventual completely or partially unsuccessful executions cannot be reason for complains or reservations for damage. SEA supply is strictly limited to the goods of its manufacturing, not including assembly, installation and testing. SEA, therefore, disclaims any responsibility for damage deriving, also to third parties, from non-compliance of safety standards and good practice during installation and use of the purchased products.

8) WARRANTY The standard warranty period is 12 months. This warranty time can be extended by means of expedition of the warranty coupon as follows:

SILVER: The mechanical components of the operators belonging to this line are guaranteed for 24 months from the date of manufacturing written on the operator. GOLD: The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator.

**PLATINUM:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. **PLATINUM:** The mechanical components of the operators belonging to this line are guaranteed for 36 months from the date of manufacturing written on the operator. The base warranty (36 months) will be extended for further 24 months (up to a total of 60 months) when it is acquired the certificate of warranty which will be filled in and sent to SEA S.p.A. The electronic devices and the systems of command are guaranteed for 24 months from the date of manufacturing. In case of defective product, SEA undertakes to replace free of charge or to repair the goods provided that they are returned to SEA repair centre. The definition of warranty status is by unquestionable assessment of SEA. The replaced parts shall remain propriety of SEA. Binding upon the parties, the material held in warranty by the Buyer, must be sent back to SEA repair centre with fees prepaid, and shall be dispatched by SEA with carriage forward. The warranty shall not cover any required labour activities

The recognized defects, whatever their nature, shall not produce any responsibility and/or damage claim on the part of the Buyer against SEA. The guarantee is in no case recognized if changes are made to the goods, or in the case of improper use, or in the case of tampering or improper assembly, or if the label affixed by the manufacturer has been removed including the SEA registered trademark No. 804888. Furthermore, the warranty shall not apply if SEA products are partly or completely coupled with non-original mechanical and/or electronic components, and in particular, without a specific relevant authorization, and if the Buyer is not making regular payments. The warranty shall not cover damage caused by transport, expendable material, faults due to non-conformity with performance specifications of the products shown in the price list. No indemnification is granted during repairing and/or replacing of the goods in warranty. SEA disclaims any responsibility for damage to objects and persons deriving from non-compliance with safety standards, installation instructions or use of sold goods. The repair of products under warranty and out of warranty is subject to compliance with the procedures notified by SEA.

9) RESERVED DOMAIN A clause of reserved domain applies to the sold goods; SEA shall decide autonomously whether to make use of it or not, whereby the Buyer purchases propriety of the goods only after full payment of the latter.

10) COMPETENT COURT OF LAW In case of disputes arising from the application of the agreement, the competent court of law is the tribunal of Teramo. SEA reserves the faculty to make technical changes to improve its own products, which are not in this price list at any moment and without notice. SEA declines any responsibility due to possible mistakes contained inside the present price list caused by printing and/or copying. The present price list cancels and substitutes the previous ones. The Buyer, according to the law No. 196/2003 (privacy code) consents to put his personal data, deriving from the present contract, in SEA archives and electronic files, and he also gives his consent to their treatment for commercial and administrative purposes.

Industrial ownership rights: once the Buyer has recognized that SEA has the exclusive legal ownership of the registered SEA brand num.804888 affixed on product labels and / or on manuals and / or on any other documentation, he will commit himself to use it in a way which does not reduce the value of these rights, he won't also remove, replace or modify brands or any other particularity from the products. Any kind of replication or use of SEA brand is forbidden as well as of any particularity on the products, unless preventive and expressed authorization by SEA.

In accomplishment with art. 1341 of the Italian Civil Law it will be approved expressively clauses under numbers:

4) PAYMENTS - 8) GUARANTEE - 10) COMPETENT COURT OF LOW



# Dichiarazione di conformità Declaration of Conformity

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:

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

Descrizione / Description	Modello / <i>Model</i>	Marca / Trademark
FIELD OIL (e tutti i suoi derivati / and all its by-products)	12300241	SEA
FIELD OIL PLUS (e tutti i suoi derivati / and all its by-products)	12300215	SEA
FIELD OIL 24V (e tutti i suoi derivati / and all its by-products)	12300007	SEA
FIELD OIL 24V PLUS (e tutti i suoi derivati / and all its by-products)	12300010	SEA
FIELD OIL BR 36V PLUS (e tutti i suoi derivati / and all its by-products)	12300250	SEA

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 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

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 are conforming to the essential safety requirements related to the products within the field of applicability of the Community Directives 2014/35/UE and 2014/30/UE

COSTRUTTORE o RAPPRESENTANTE AUTORIZZATO: MANUFACTURER or AUTHORISED REPRESENTATIVE:

> SEA S.p.A. DIREZIONE E STABILIMENTO: Zona industriale 64020 S.ATTO Teramo - (ITALY) Tel. +39 0861 588341 r.a. Fax +39 0861 588344 Http://www.seateam.com

Luogo, data di emissione *Place, date of issue* Teramo, 05/05/2021

ministrato



# Automatic Gate Openers International registered trademark n. 804888

SEA S.p.A. Zona industriale 64020 S.ATTO Teramo - (ITALY) Tel. +39 0861 588341 r.a. Fax +39 0861 588344

# www.seateam.com

seacom@seateam.com