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READ AND FOLLOW ALL INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

GENERAL

This swing gate operator system is designed to control vehicular traffic only. This operator system must never be used as a mean to control pedestrian or bicycle traffic. Serious injury or death to pedestrians may result if the operator is used in this manner.

If pedestrian traffic is expected to be near or needs to walk through, a separate pedestrian lane or pedestrian gate is required. Never allow pedestrians or pets to pass through this gate system.

Reversing devices are required to prevent the gate from closing on vehicular traffic. It is appropriate to the gate design and gate application.

BEFORE INSTALLATION

Check this is the proper gate operator system for the intended use.

Be sure the gate has been properly installed, gate posts are plumb and gate leafs operate freely. Make any necessary repairs to the gate before installing this equipment.

A separate pedestrian gate is required if pedestrian traffic is expected to be near or if pedestrians need to walk through. Furthertnore, photocells and/or reversing edges need to be added to help to prevent injuries.

Only qualified personnel should install this equipment. Failure to meet this requirement could cause severe injury and/or death, for which the manufacturer/distributor can not be held responsible.

DURING INSTALLATION

Check that the main power supply circuit breakers are separate, intended solely for this equipment and rated for 15 AMPS. Visually check that the circuit breakers are in the "OFF" position and mark the circuit breakers "USED" prior to installation.

Place all access devices a minimum of 10 feet away from the gate. Install access devices in a way the user can see, but not touch the operator and/or gate while operating the controls. Install controls so that unauthorized use is prevented.

Reversing devices such as loops, photo-eyes, and/or reversing edges are required to prevent the gate from closing on vehicular traffic and/or help prevent injuries to pedestrians. It is appropriate to the gate design and application.

Always disconnect power supply when servicing this equipment.

If this gate operator system includes a battery backup, the battery backup system needs to be disconnected first, prior to

AFTER INSTALLATION

Check the gate operator system is working properly, that the open and close force are properly adjusted, that the piston does not bottom out in either direction, that breather screws have been removed, that the positive stops used are sufficient for stopping the gate properly, and that all pinch points and potential entrapment areas are reduced.

Check and test all reversing devices for proper operation.

The installer of this system needs to read and understand the operation of this gate operator system, its safety features and know how to place the gate in manual operation.

Show end user the proper operation of this gate system. Explain how the reversing system works. Show user how to place gate operator system in manual operation.

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GROUNDING

Good grounding and proper surge suppression are an integral part of proper installation for a gate operator system. One or all of the following may require surge suppressors: high voltage power lines, low voltage power lines, telephone lines, data lines, low voltage control lines and loops. How much surge suppression is required depends upon how susceptible the area is to lightning and power surges. Regardless, good grounding is essential. To realize maximum protection, proper grounding and proper surge suppression is absolutely necessary.

If the circuit breaker box is located close to the gate operator system, for example, in a guard house, then the ground from that circuit can be used to ground the gate operator system. Eliminate all 90° bends in ground wires and keep a minimum of three feet between the surge suppressor and the equipment being protected.

If the power source or circuit breaker box is not located close to the gate operator system an Isolated Ground Zone (IGZ) needs to be created. An IGZ can also be created if the circuit breaker box is located close by the gate operator system. An IGZ is an imaginary circle drawn around the gate operator system. The gate operator system not only includes the gate operators and control panel, but all of the accessories and devices associated with it at that controlled entry point. This includes loop detectors, card readers, digital entries, telephone entries, any device that has a ground or requires a ground and ali of the surge suppressors. The ground bus is a common ground point called a Single Point Ground (SPG). It is used to bond all the equipment and device grounds in the IGZ together. The SPG is very important because it helps eliminate different ground potentials that can be present on the equipment. In such cases, equipment damage occurs even with surge suppressors.

Do not use or connect the ground wire coming from the circuit breaker box. By using an Isolated Ground Zone, you are separating the gate operator system from the house or building ground. This eliminates ground potentials. It is recommended that the ground bus be located in a separate NEMA type enclosure. All grounds will be tied to this ground bus. Some points to remember:

Keep all ground wires as straight as possible. Do not have any sharp 90° bends. Have a minimum of 3 feet of wire between the surge suppressor and the equipment being protected.

Equipment ground wire should be a minimum of 12 AWG. The main ground wire from the bus bar to the ground rod shouid be an 8 or 6 AWG copper wire. Ground rod should be a minimum of 10 feet in length, longer depending on local soil conditions.

For more information regarding good grounding practices check: National Electric Code art. 250; IEEE Emerald Book,

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WIRING AND MOUNTING

ELECTRICAL

This system requires a separate power supply circuit, intended solely for this equipment and rated for 15 AMPS. Visually check that the circuit breakers are in the "OFF" position and mark the circuit breakers "USED" prior to installation.

Permanent wiring must be used and installed to the operator as required by local electrical codes. It is recommended that this be performed by a licensed electrician. Prior to doing any type of wiring, it is highly recommended that you check with your local building department to be sure that all wiring to the operator and various accessories complies with local building code requirements. It is recommended that you color code all wiring. Local building codes will take precedence.

Distance for low voltage control wires, i.e., open input, single leaf open input and stop input, can run up to 3000 feet with 18 AWG wire.

All low voltage control and communication wiring must be separated by a minimum of 1 foot from high voltage power wiring

GENERAL ENTRAPMENT PROVISIONS

A vehicular gate operator must be installed with at least one independent primary and one independent secondary means to protect against entrapment (see Table A):

TABLE A	GATE OPERATOR CATEGORY			
	Horizontal slide, vertical life and vertical pivot		Swing and vertical barrier (arm)	
Usage Class	Primary type	Secondary type	Primary type	Secondary type
Vehicular I and II	A	B1,B2 or D	A or C	A,B1,C or D
Vehicular III	A,B1 or B2	A,B1,B2,D or E	A,B1 or C	A,B1,C,D or E
Vehicular IV	A,B1,B2 or D	A,B1,B2,D or E	A,B1,C or D	A,B1,C,D or E

Note: The same type of device shall not be utilized for both the primary and secondary entrapment protection means. Use o a single device to cover both the opening and closing directions is in accordance with the requirement; however, a single device is not required to cover both directions. A combination of one Type B1 for one direction and one Type B2 for the other direction is the equivalent of one device for the purpose of complying with the

Entrapment protection types

Type A: Inherent entrapment sensing system

Type B1: Provision for connection of a non contact sensor (photoelectric or equivalent)

Type B2: Provision for connection of a contact sensor (edge device or equivalent)

Type C: Inherent adjustable clutch or pressure relief device

Type D: Provision for connection of an actuating device requiring continuous pressure to maintain opening or closing motion of the gate

CLASS OF GATE OPERATORS

RESIDENTIAL VEHICULAR GATE OPERATOR - CLASS I - A vehicular gate operator (or system) intended for use in a home of one-to four single family dwelling,or a garage or parking area associated therewith.

COMMERCIAL/GENERAL ACCESS VEHICULAR GATE OPERATOR - CLASS II - A vehicular gate operator (or system) intended for use in a commercial location or building such as multi-family housing unit (five or more single family units), hotel, garage, retail store, or other building servicing the general public.

INDUSTRIAL/LIMITED ACCESS VEHICULAR GATE OPERATOR - CLASS III - A vehicular gate operator (or system) intended for use in a industrial location or building such as a factory or loading dock area or other locations not intended to

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RESTRICTED ACCESS VEHICULAR GATE OPERATOR - CLASS IV - A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not intended to service the general public.

THIS INSTRUCTION IS REFERRED TO AN OPERATOR IN CLASS

WARNING - To reduce the risk of injury or death

A) Install the gate operator only when:
A.1) The operator is appropriate for the construction of the gate and the usage Class of the gate
A.2) All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4 feet (1.2 m) above the ground to prevent a 2-1/4 inch (57.15 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position,
A.3) All exposed pinch points are eliminated or guarded, and
A.4) Guarding is supplied for exposed rollers.

B) The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.

C) The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.

D) The gate must be properly installed and work freely in both directions prior to the installation of the gate operator. Do not over-tighten the operator clutch or pressure relief valve to compensate for a damaged gate.

E) For gate operators utilizing Type D protection:
E.1) The gate operator controls must be placed so that the user has full view of the gate area when the gate is moving,
E.2) The placard as required and shall be placed adjacent to the controls
E.3) An automatic closing device (such as a timer, loop sensor, or similar device) shall not be employed, and
E.4) No other activation device shall be connected.

F) Controls must be far enough from the gate so that the user is prevented from coming in contact with the gate while operating the controls. Controls intended to be used to reset an operator after 2 sequential activations of the entrapment protection device or devices must be located in the line-of-sight of the gate Outdoor or easily accessible controls shall have a security feature to prevent unauthorized use.

G) All warning signs and placards must be installed where visible in the area of the gate.

H) For gate operators utilizing a non-contact sensor
H.1) See instructions on the placement of non-contact sensors for each Type of application,
H.2) Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle, trips the sensor while the gate is still moving, and
H.3) One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.

I) For a gate operator utilizing a contact sensor
I.1) One or more contact sensors shall be located at the leading edge, trailing edge, and postmounted both inside and outside of a vehicular horizontal slide gate.
I.2) One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
I.3) One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
I.4) A hardwired contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subjected to mechanical damage.
I.5) A wireless contact sensor such as one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building

THE PROTECTIONS MEANS INSTRUCTIONS ARE AVAILABLE IN THEIR WRAPPING, WHEN

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WARNING - To reduce the risk of severe injury or death to persons

When you make the connection, for a residential or commercial pedestrian door operator, to the source of supply by a flexible cord:

All electrical connections from the control panel to the door operator must be made in a watherproof junction box.

You can't route the cord through doorways, window openings, walls, ceilings, floors, or the like.

You can't attache, or otherwise secure, the cord to the building structure.

FIELD INSTALLED PLACARDS

You must install a placard on each side of the gate. Each placard is to be visible by persons located on the side of the gate on which the placard is installed.

MAINTENANCE

It is necessary to execute a periodic checking and adjustement (every six months) for all parts (control mechanism of force, speed, sensitivity etc.) of vehicular gate operator by a qualified technician.

All electrical connections from the control panel to the operator must be made in a waterproof junction box.

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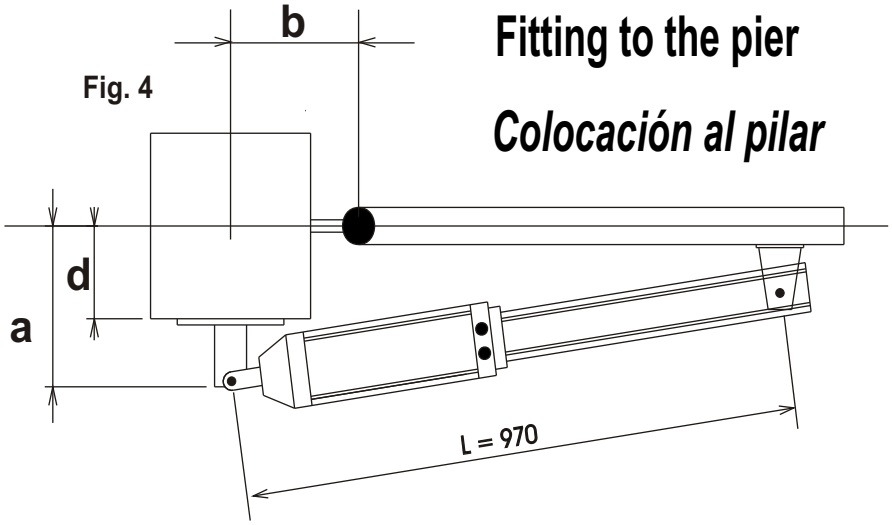
Fig. 4



Fitting to the pier

Colocación al pilar

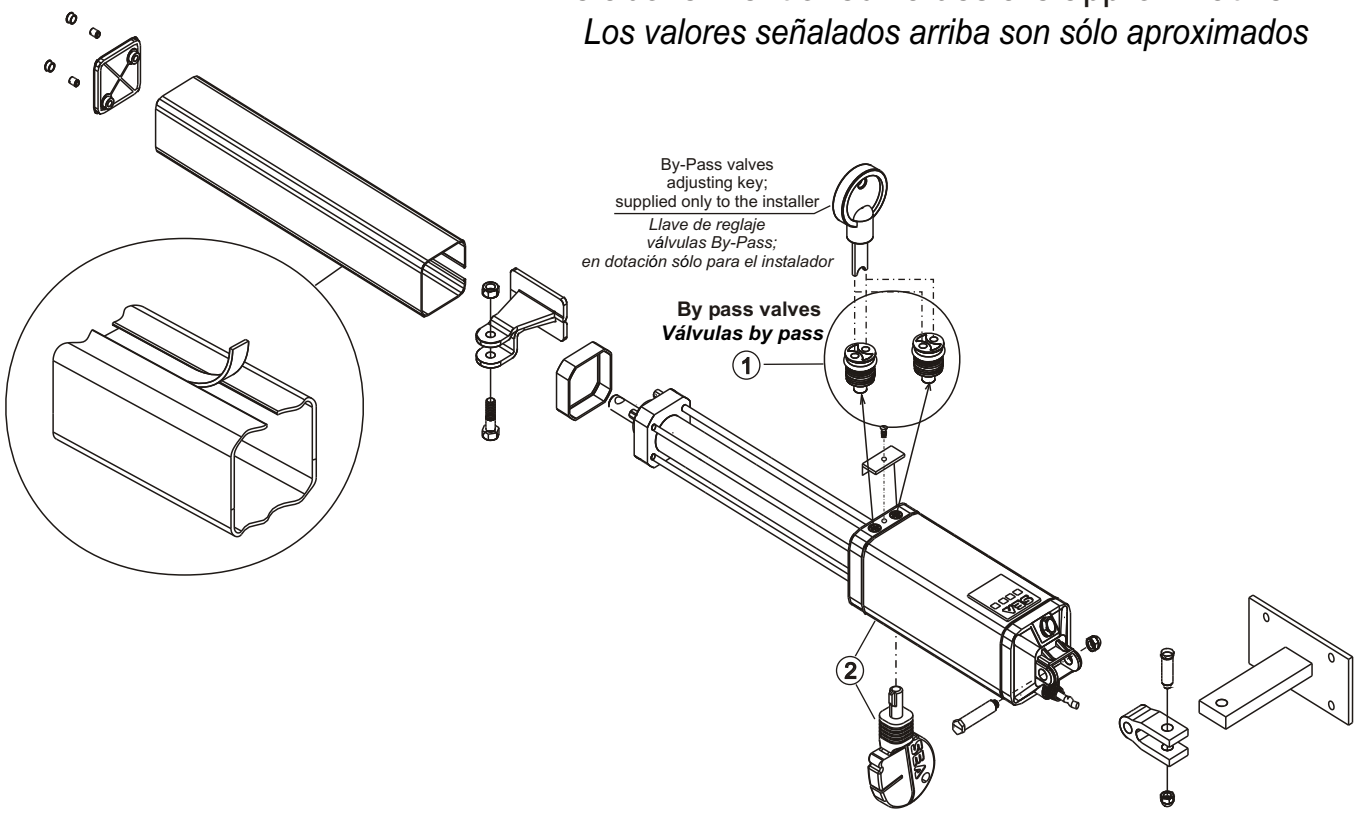
Notice: The maximum stroke must never be reached. It is very important that when the operator is fitted, with the gate in open position, the piston is not at its maximum extension but it is about 15 mm clear from the limit switch.

***Advertencias**: Cada modelo tiene un recorrido máximo utilizable. Una astucia importante para el correcto funcionamiento del actuador consiste en el asigurarse que, cuando la hoja está abierta, el pistón no está al final de su carrera pero se aleja de los puntos de detención en abertura y cierre dejando cualquier milímetro (casi 15).*

Length of the leaf cm *Longitud de hoja cm*	a cm	b cm	d max cm	Stroke for 90∢ cm *Recorrido para 90∢ cm*	Max opening angle ∢ *Angolo máx abertura ∢*
100 180	8.5	10	5	19	95°
180 250	10	10	6	21	95°

The above mentioned values are approximative

Los valores señalados arriba son sólo aproximados



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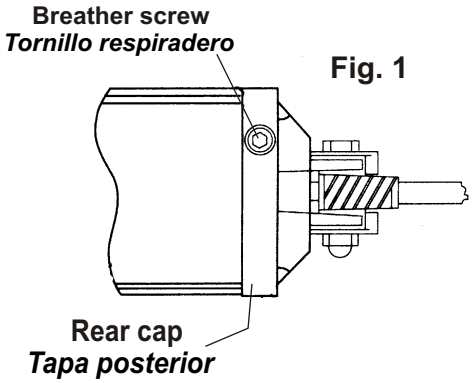

Fig. 1

VERY IMPORTANT
After installation, take off the breather screw from the lower part of the operator (fig. 1).

MUY IMPORTANTE
Después de la instalación quitar el tornillo respiradero en la parte inferior del actuador (fig. 1).

Pressure regulation (anti-crush safety)
The opening and closing forces transmitted to the gate by the motor-pump assembly are regulated by adjusting two by-pass valves **(1)**; the silver-coloured valve adjusts the opening pressure while the gold-coloured valve adjusts the closing pressure. To increase the operating pressure turn the appropriate valve clockwise; to decrease turn counter-clockwise. **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 (Europe, EN 12453, EN 12445 Regulations < 15 KgF >).** It is advisable that both opening and closing pressures are similar, with the opening pressure set slightly higher than the closing one. By-pass valves are placed on the upper part of the operator.

Reglaje de la fuerza (seguridad antiaplastamiento)
*La fuerza transmitida por el grupo motor-bomba a los portones es regulada por un par de válvulas by-pass **(1)**; la válvula de color gris es relativa al movimiento de abertura, la de color oro es relativa al movimiento del cierre. La fuerza transmitida aumenta volviendo en dirección horaria la válvula, y disminuye volviendola en sentido antihorario. **La fuerza máxima de empuje durante el movimiento, medida en la extremidad de la hoja, está sujeta a las legislaciones vigentes en el país donde ha sido realizada la instalación (Europa, Normas EN 12453, EN 12445 < 15 KgF >).** Se recomenda de regular las válvulas de modo que la presión de abertura sea superior a la del cierre. Las válvulas by-pass están colocadas sobre la parte superior del actuador.*

Release key
To release the opening and operate the leaf by hands, insert the release key **(2)** in the appropriate hole. Then turn the key half turn anti-clockwise.
To lock the operator, turn the key clockwise tightening it moderately.

Llave de desbloqueo
*Para desbloquear la abertura y hacer posible el accionamiento manual de la hoja introducir en el apropiado asiento la llave de desbloqueo **(2)**. La llave tiene que ser girada de media vuelta en sentido antihorario. Para bloquear de nuevo el operador tienen que girar en dirección horaria apretandola moderadamente.*

Packaging materials such as plastic bags, foam polystyrene, nails etc must be kept out of children's reach as dangers may arise.

Los elementos del embalaje como bolsas de plástica, poliestireno expanso, clavos etc. no tienen que ser dejados al alcance de los niños, porqué fuente de potencial peligro.

RISK EXAMINATION
The points pointed by arrows are potentially dangerous. The installer must take a close risk examination to prevent crushing, conveying, cutting, grappling, trapping so to guarantee a safe installation for people, things and animals (Re. Laws in force in the country where the installation has been made).

ANALISIS DE LOS RIESGOS
Los puntos indicados por las flechas tienen que ser considerados parcialmente peligrosos, por eso el instalador tiene que realizar una exacta análisis de los riesgos para prevenir los peligros de aplastamiento, de arrastre, de cizalla, peligros que pueden garfear, entrampar. Con la análisis se puede garantizar así una instalación segura que no cause daños a personas, cosas, animales (Ref. Legislaciones vigentes en el país donde ha sido hecha la instalación).

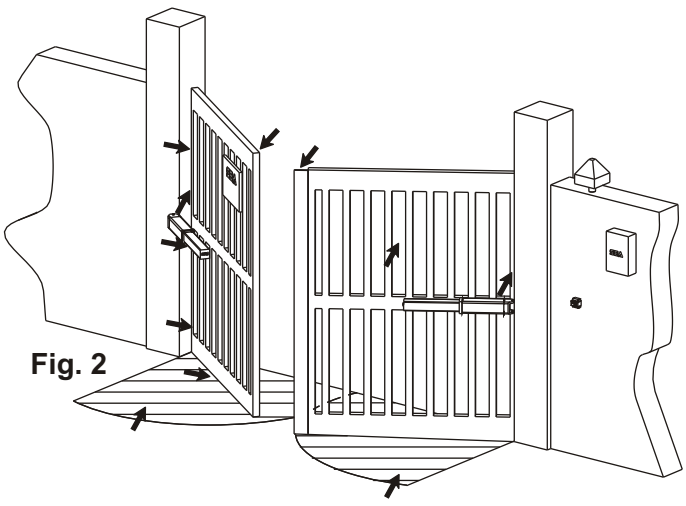

Fig. 2