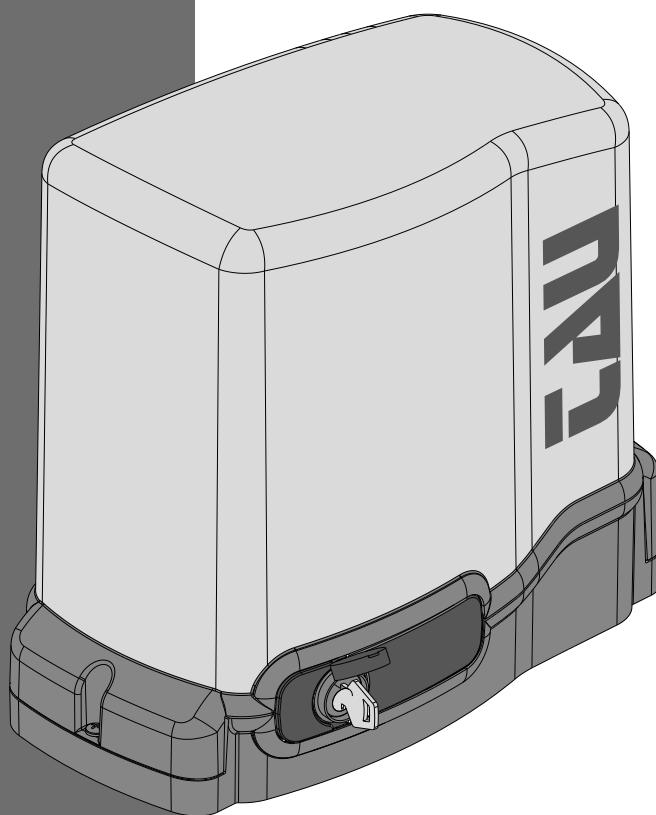




**MANUALE D'USO E MANUTENZIONE**  
*USE AND MAINTENANCE MANUAL*  
*BEDIENUNGS - UND WARTUNGSANLEITUNG*  
*MANUEL D'EMPLOI ET D'ENTRETIEN*  
*MANUAL DE USO Y MANTENIMIENTO*

# T-ONE

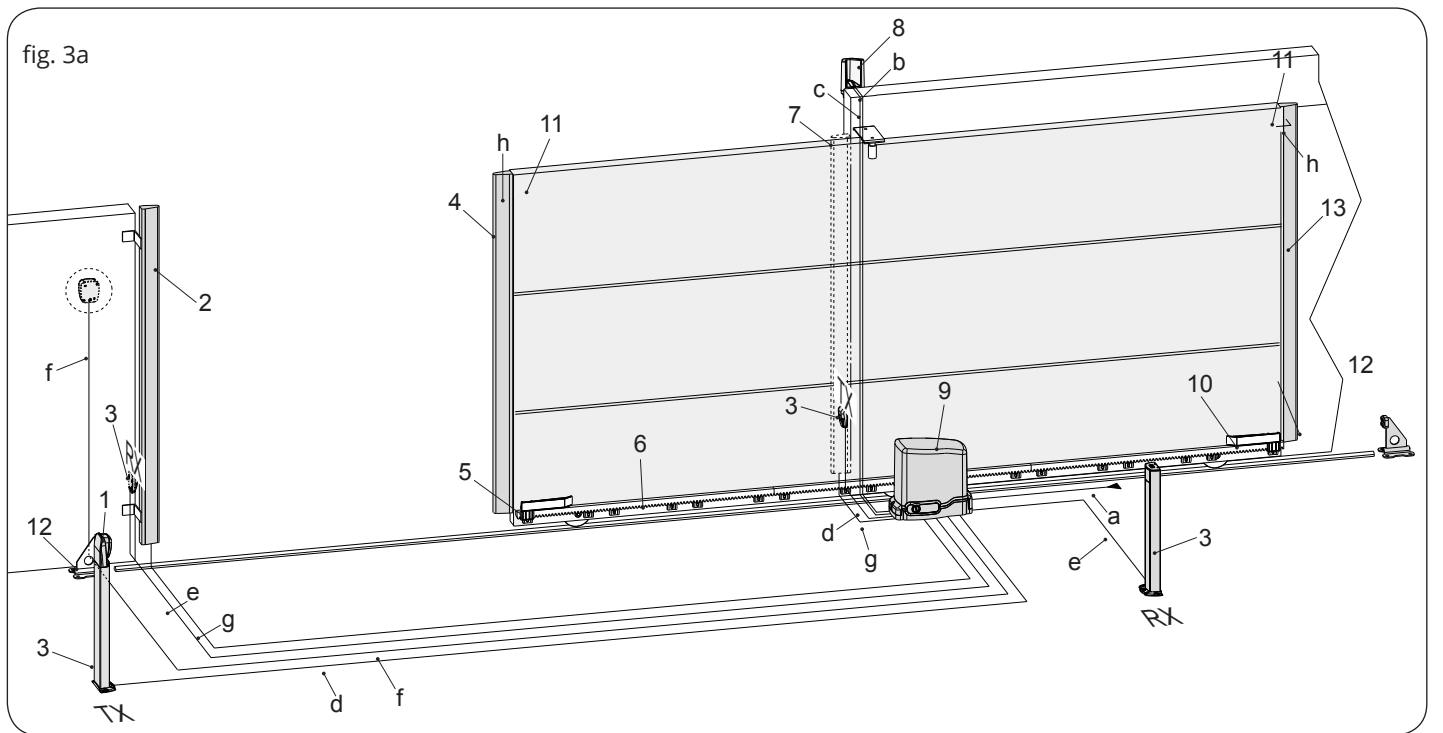
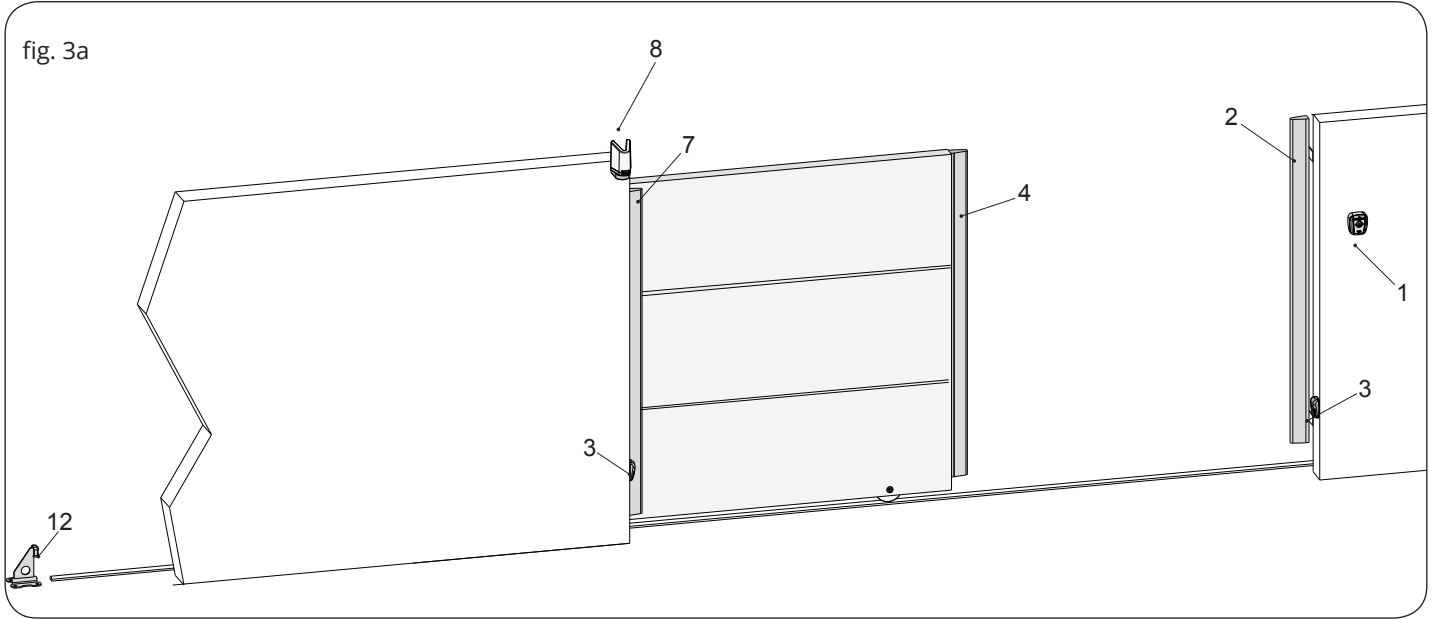
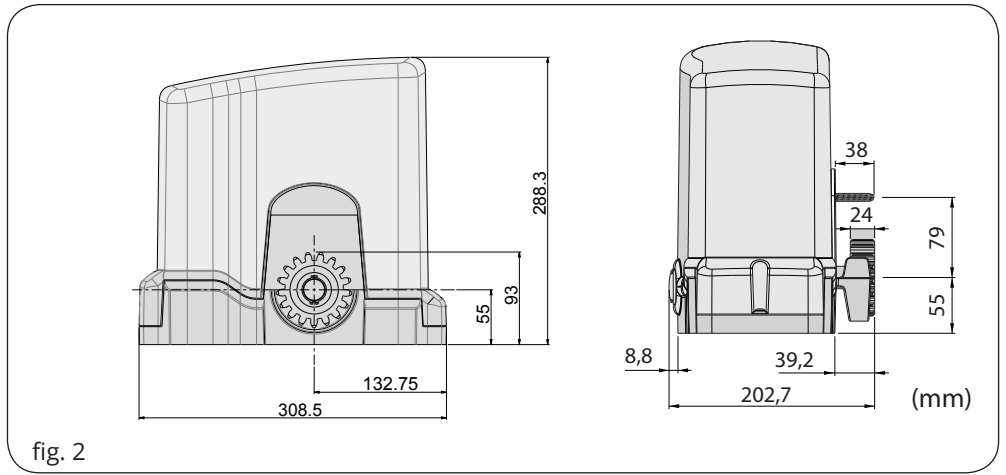
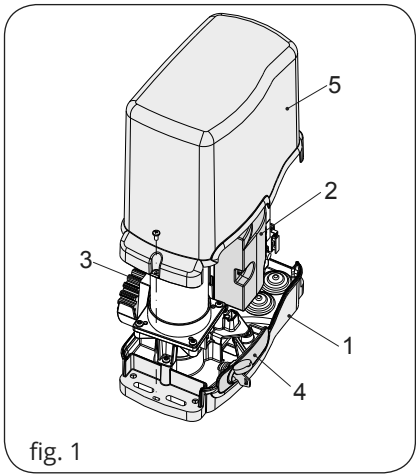


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### PREDISPOSIZIONI OPERE MURARIE (fig. 3b)

- |                       |                            |
|-----------------------|----------------------------|
| 1) Attuatore          | 4) Antenna e lampeggiante  |
| 2) Centralina         | 5) Fotocellule a parete    |
| 3) Selettore a chiave | 6) Fotucellule a colonnina |

### ARRANGEMENT OF WALL INTERVENTIONS (fig.3b)

- |                 |                              |
|-----------------|------------------------------|
| 1) Actuator     | 4) Aerial and flashing light |
| 2) Control unit | 5) Wall-mounted photocells   |
| 3) Key switch   | 6) Photocells on post        |

### VORBEREITUNG VON WANDARBEITEN (Abb. 3b)

- |                      |                             |
|----------------------|-----------------------------|
| 1) Antrieb           | 4) Antenne und Blinkleuchte |
| 2) Steuerzentrale    | 5) Photozellen an Mauer     |
| 3) Schlüsselschalter | 6) Photozellen auf Ständer  |

### PRÉPARATION DE TRAVAUX DE CONSTRUCTION (fig. 3b)

- |                        |                              |
|------------------------|------------------------------|
| 1) Opérateur           | 4) Antenne et clignotant     |
| 2) Logique de commande | 5) Photocellules murales     |
| 3) Sélecteur a clé     | 6) Photocellules sur colonne |

### PREPARACIÓN OBRAS DE ALBAÑILERÍA (fig. 3b)

- |                      |                              |
|----------------------|------------------------------|
| 1) Operador          | 4) Antena y luz intermitente |
| 2) Centralita        | 5) Fotocélulas de pared      |
| 3) Selector de llave | 6) Fotocélulas en columnas   |

### PREPARAÇÃO DE OBRAS DE ALVENARIA (fig.3b)

- |                        |                          |
|------------------------|--------------------------|
| 1) Motoredutor         | 4) Antena e piscando     |
| 2) Unidade de controle | 5) Fotocélulas na parede |
| Seletor de teclas      | 6) Fotucélula de coluna  |

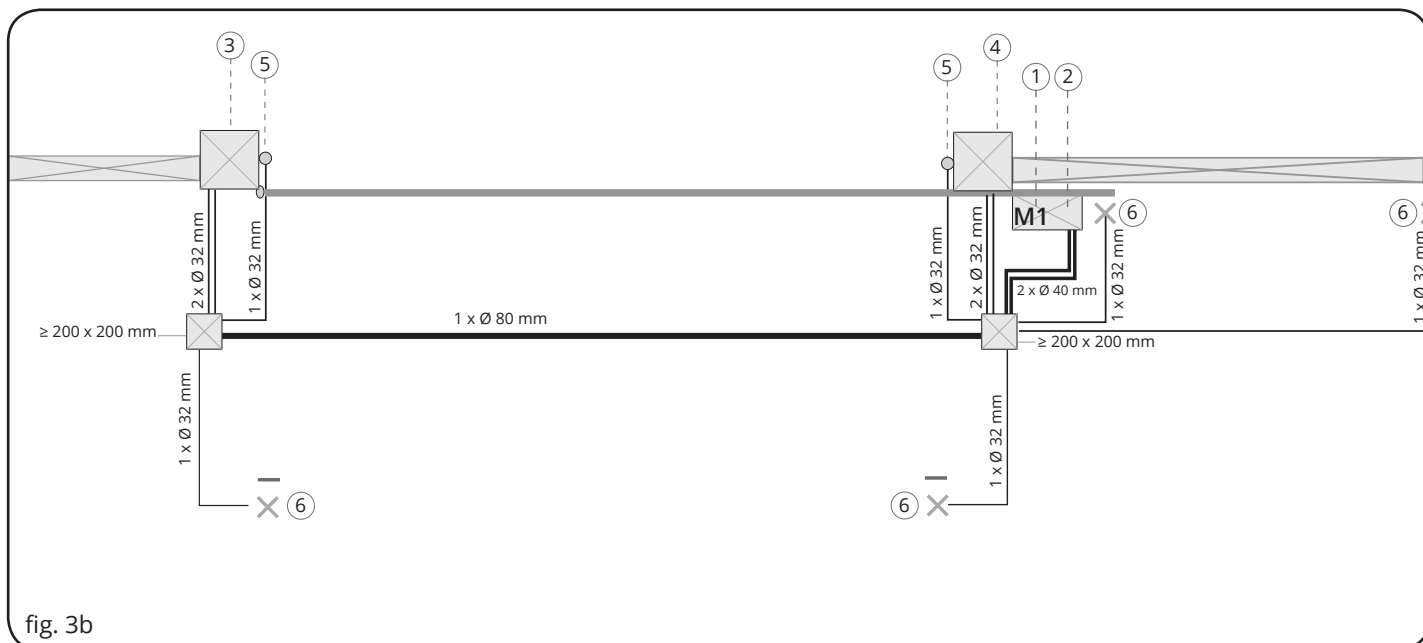


fig. 3b

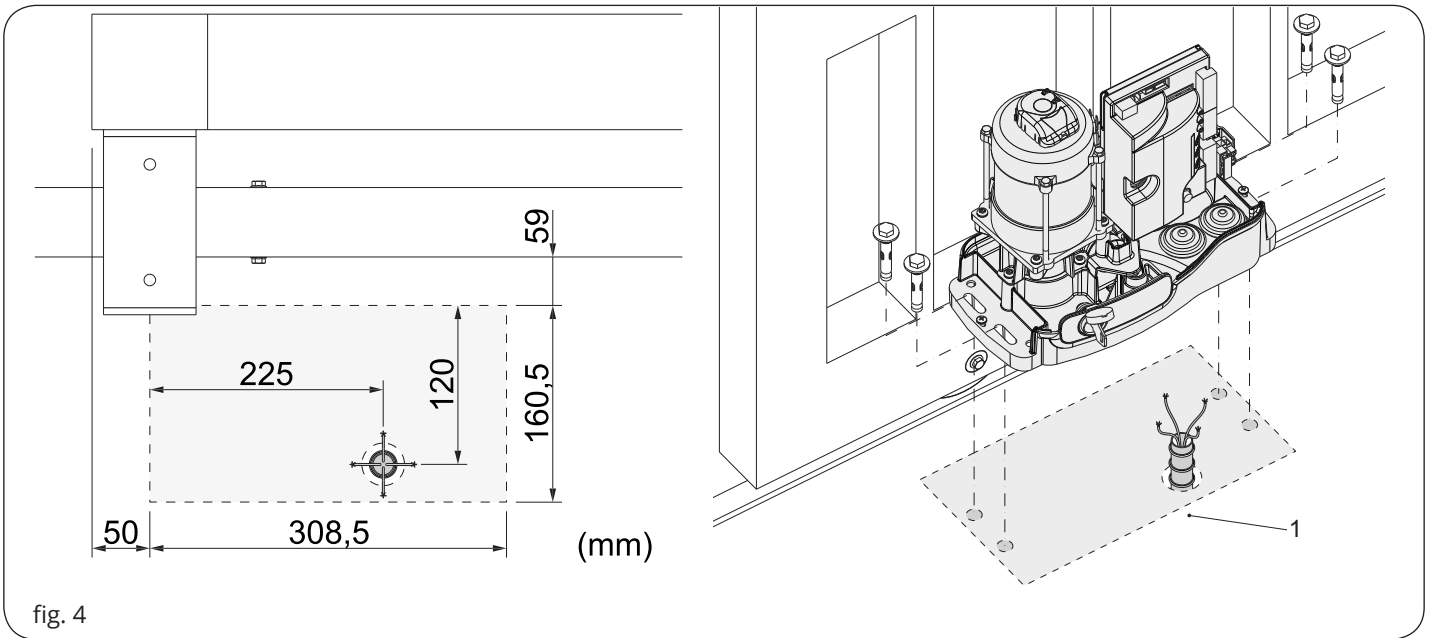


fig. 4

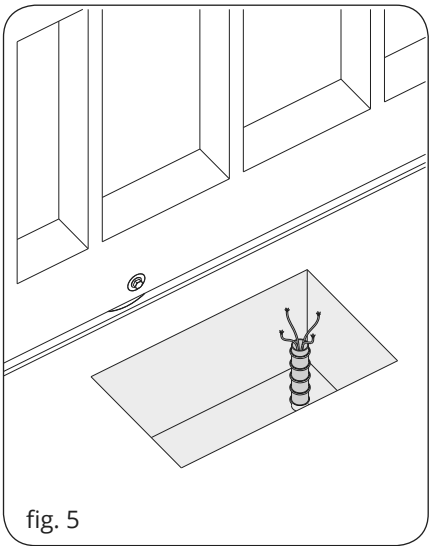


fig. 5

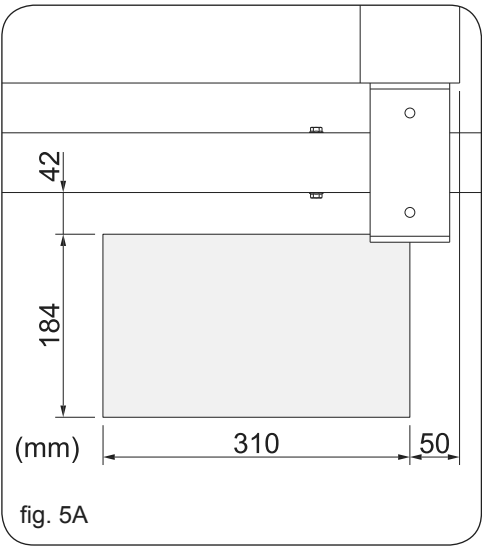


fig. 5A

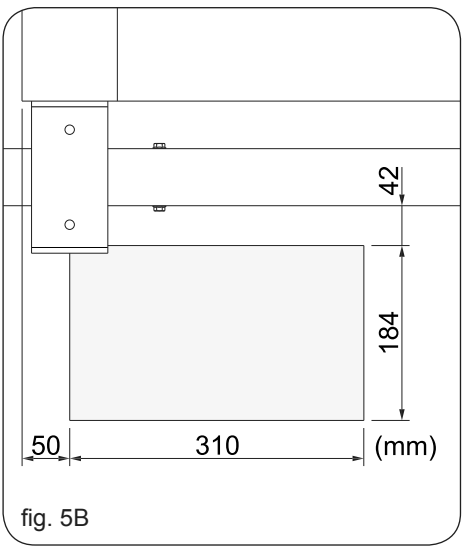


fig. 5B

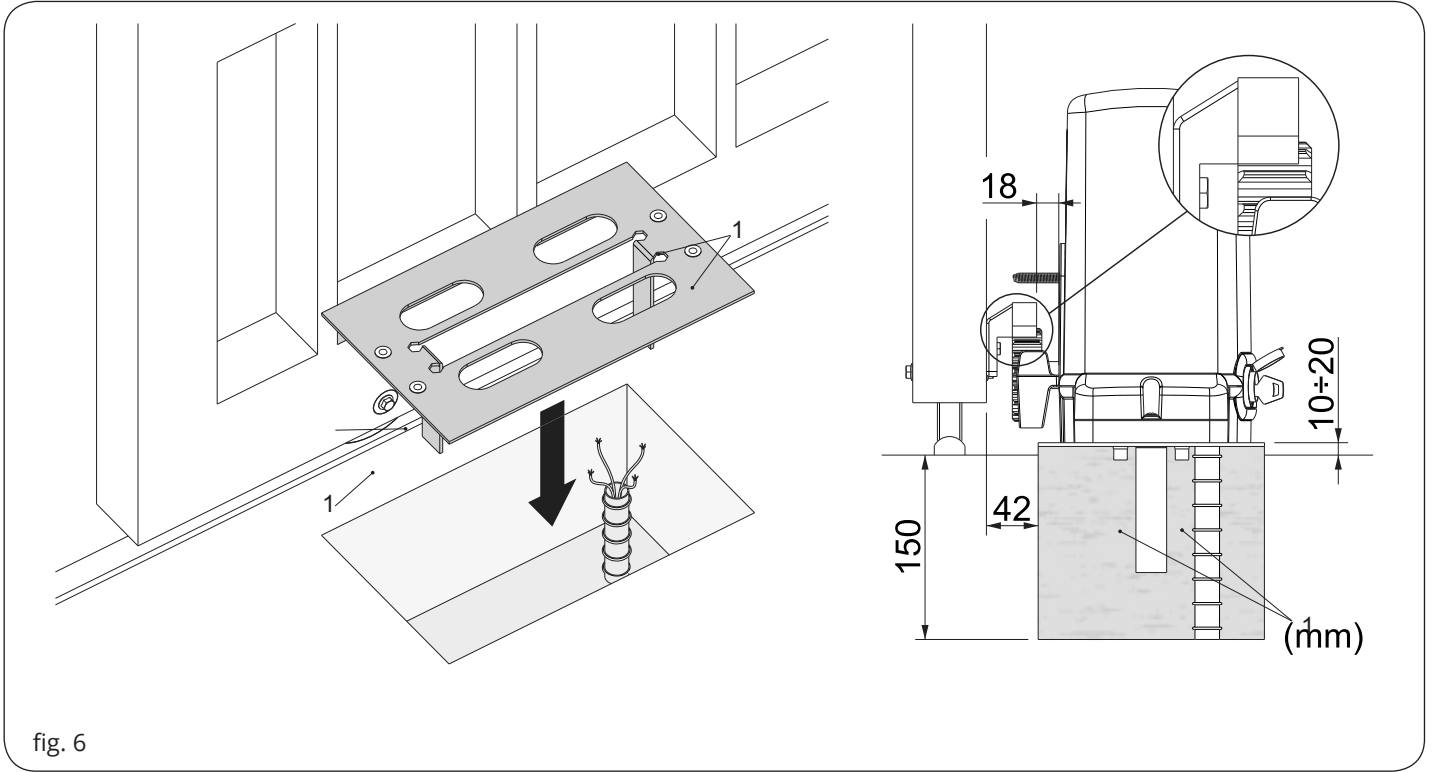


fig. 6

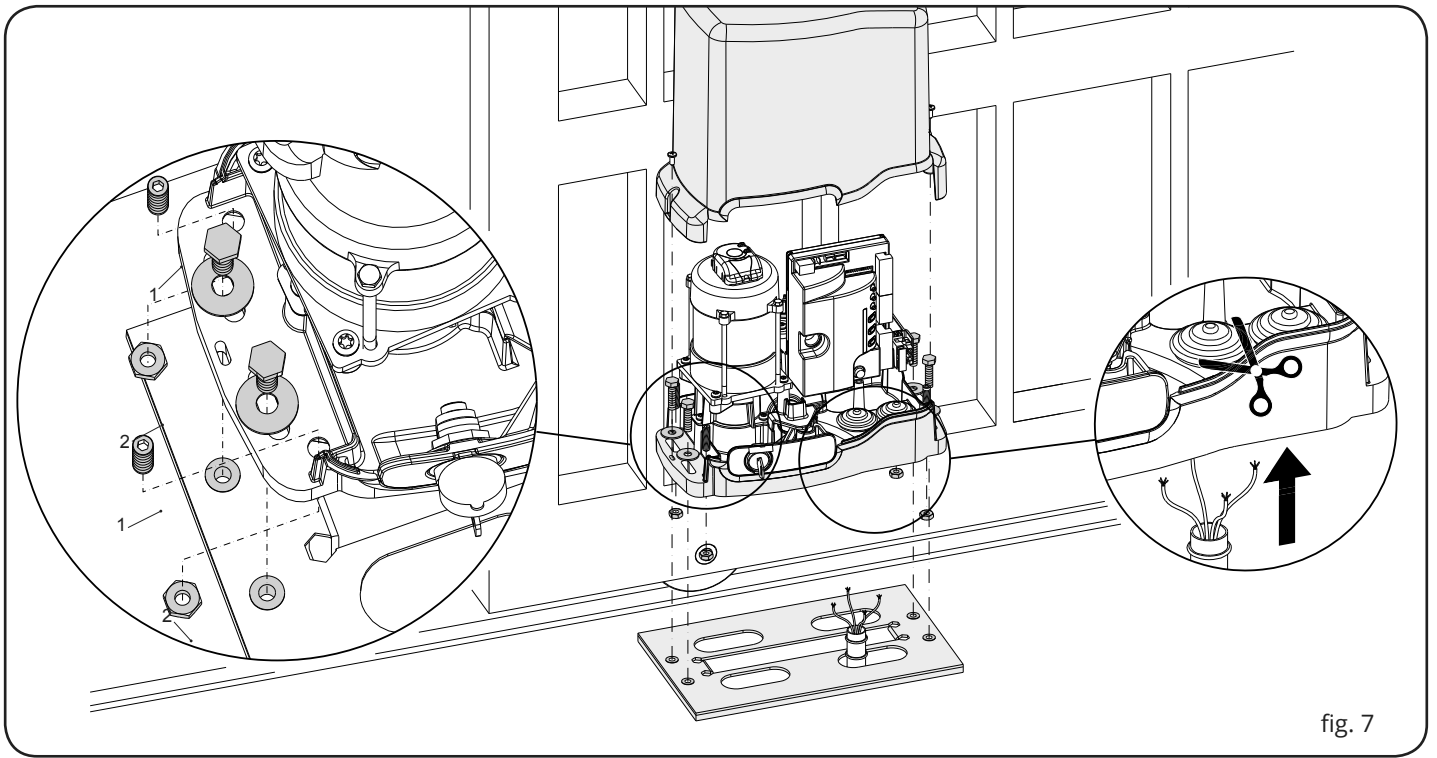


fig. 7

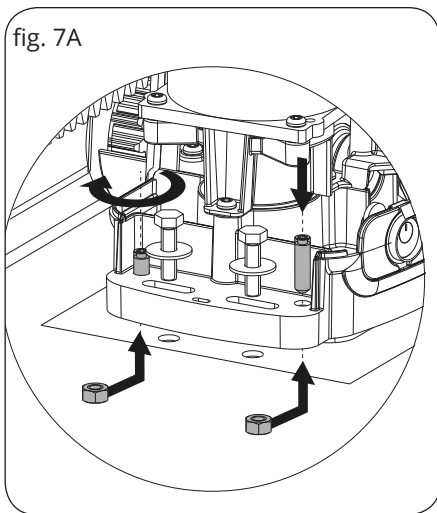


fig. 7A

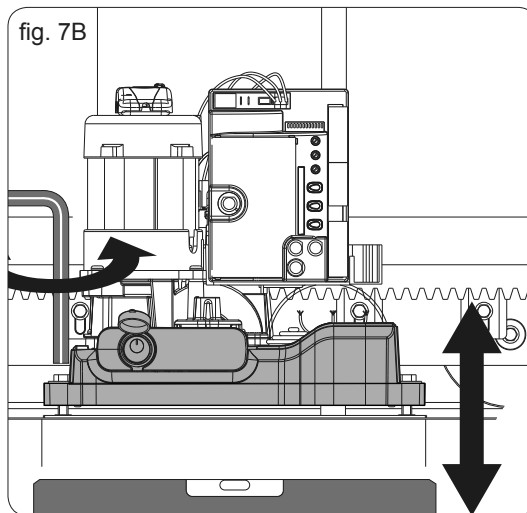


fig. 7B

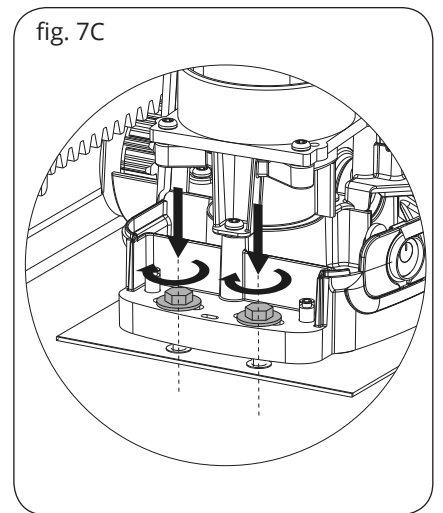


fig. 7C

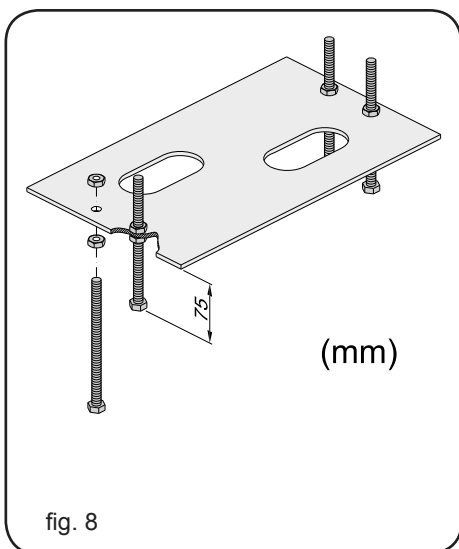


fig. 8

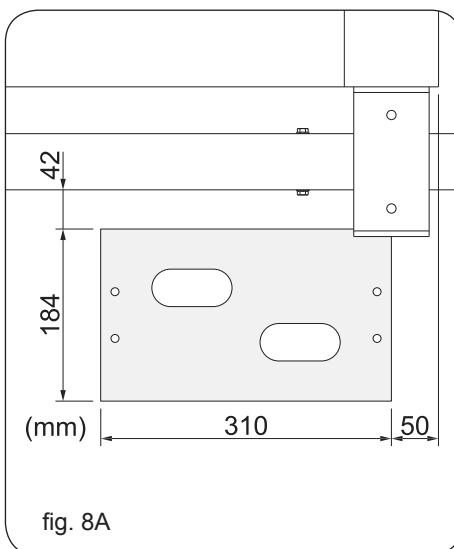


fig. 8A

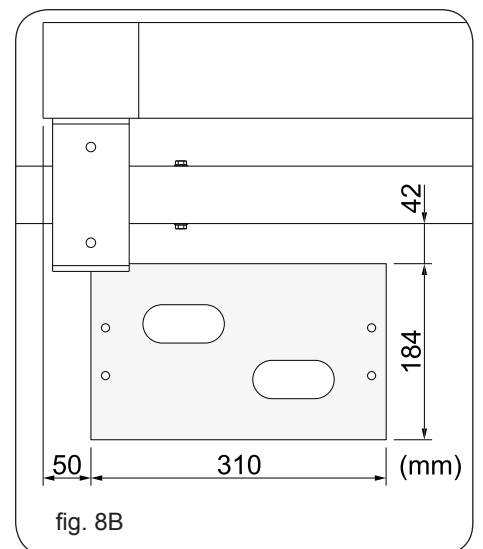


fig. 8B

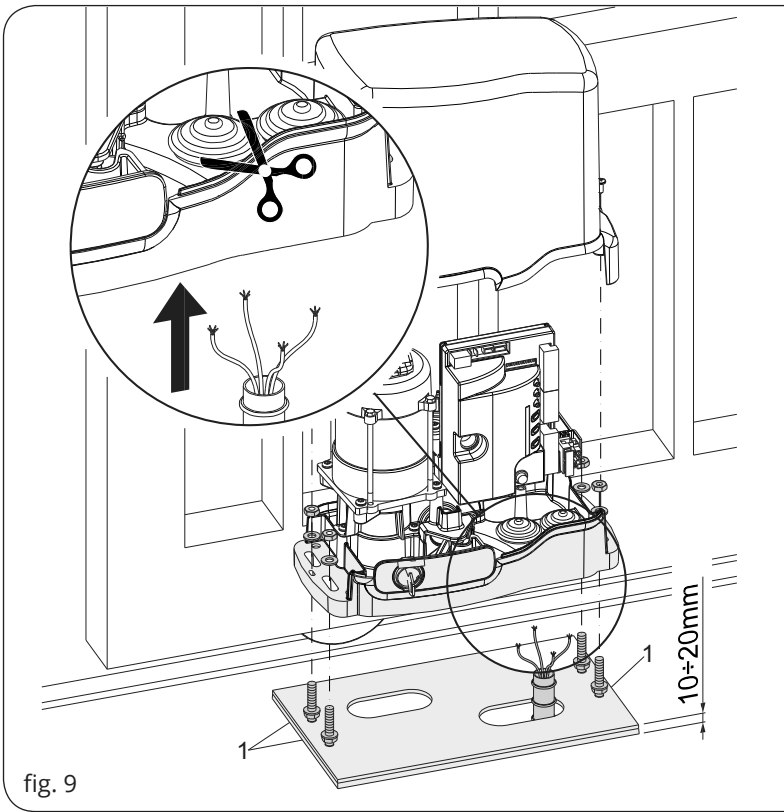


fig. 9

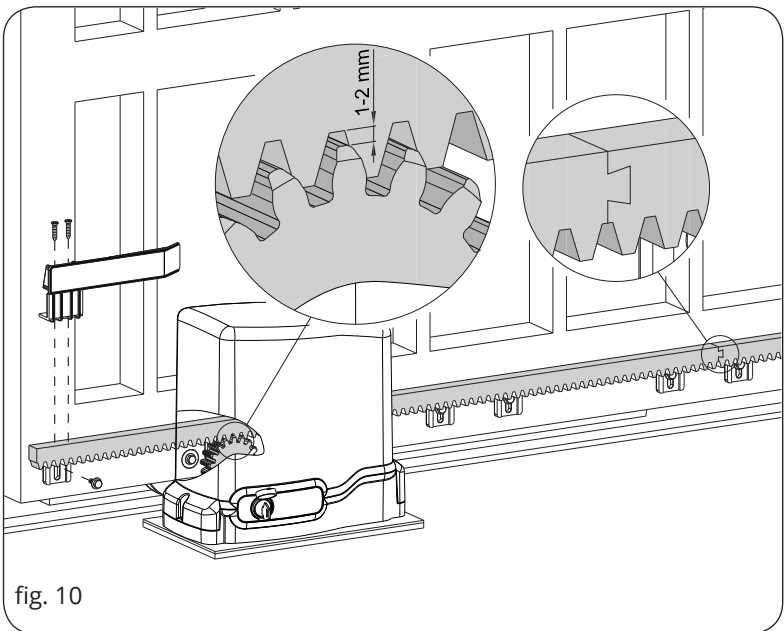
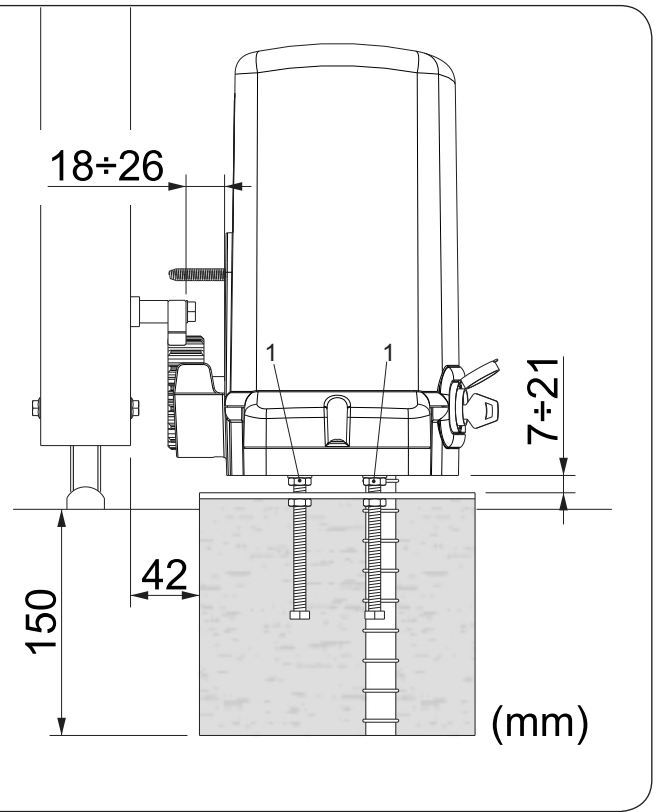


fig. 10

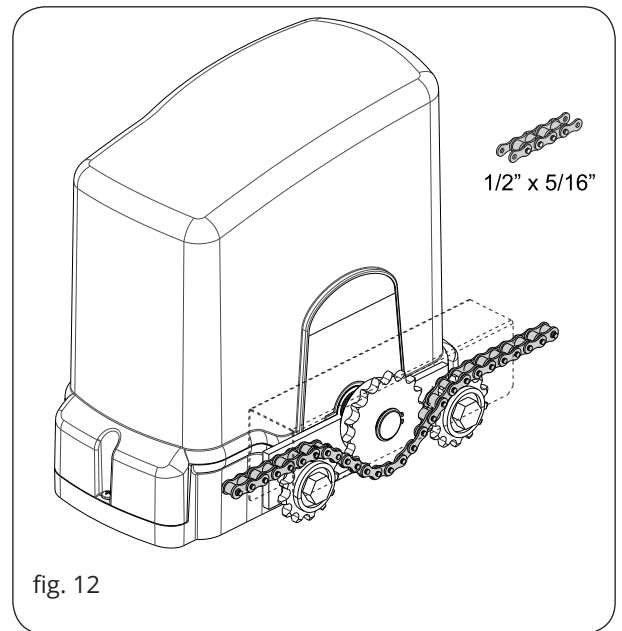


fig. 12

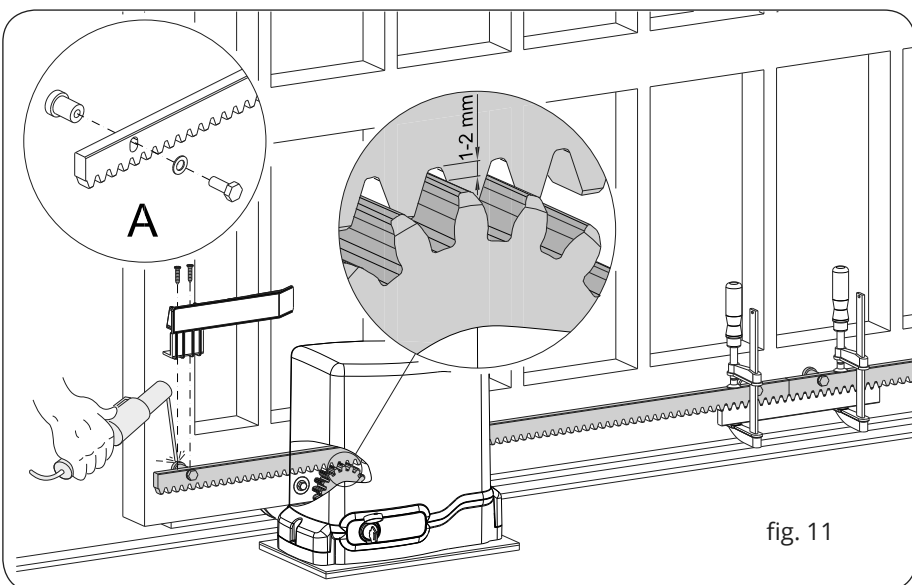


fig. 11

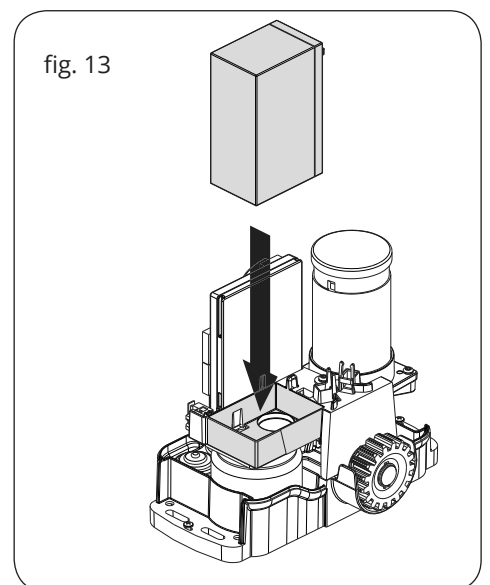


fig. 13

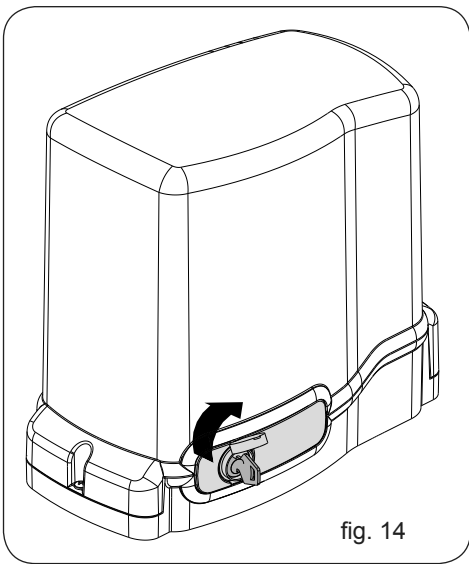


fig. 14

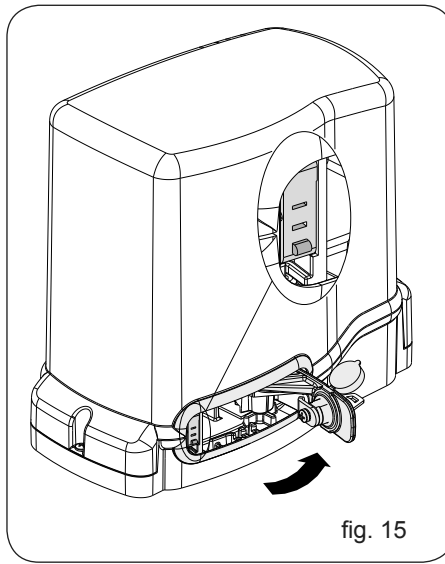


fig. 15

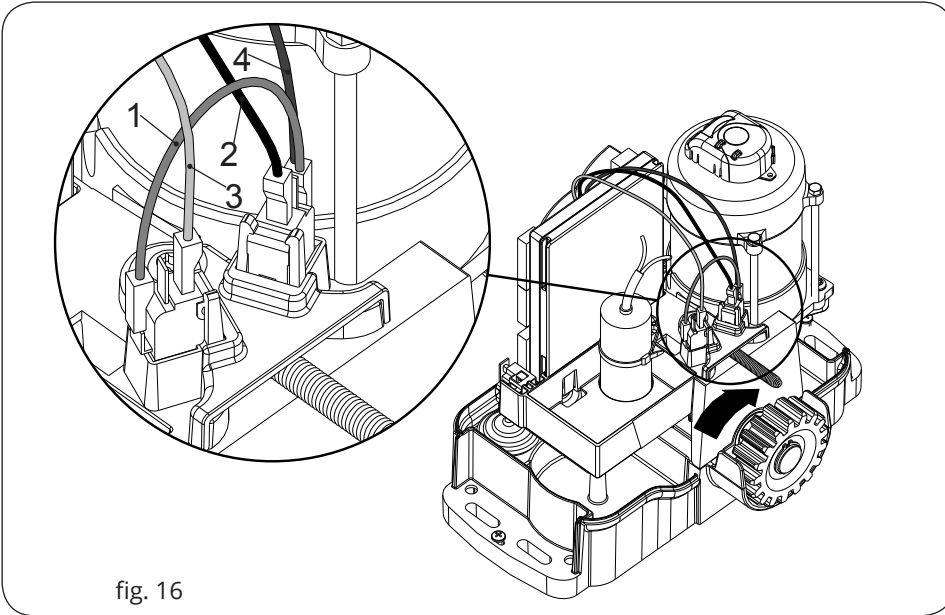


fig. 16

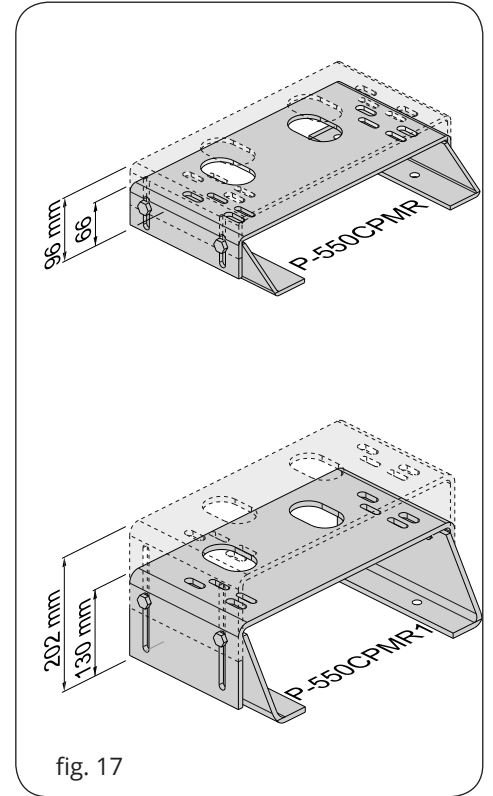


fig. 17

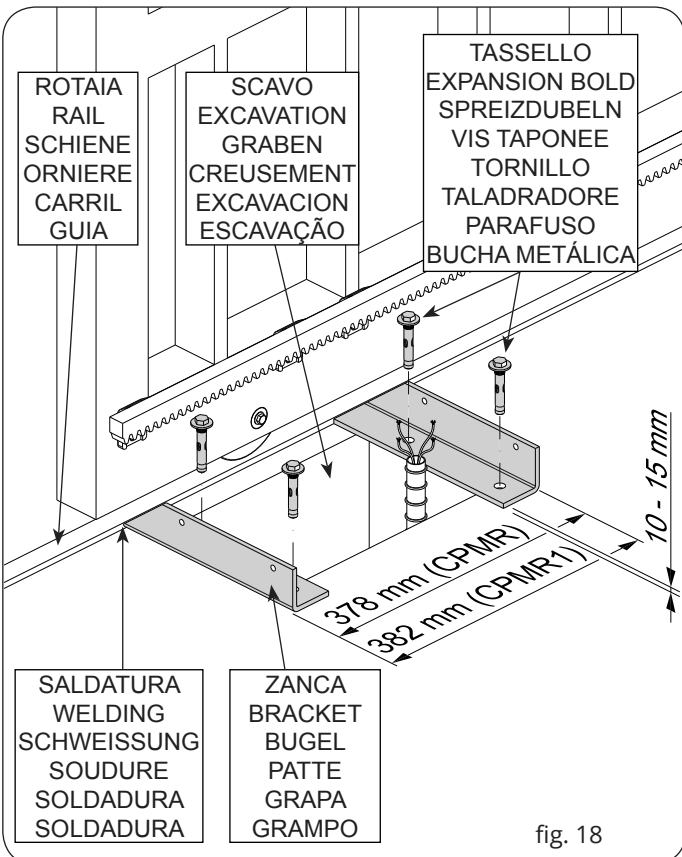


fig. 18

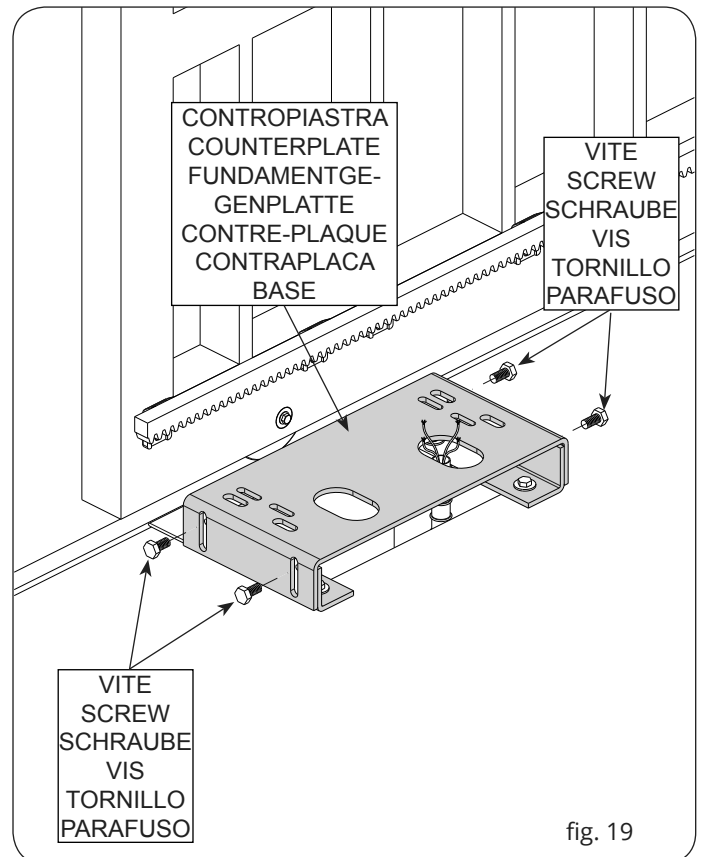


fig. 19

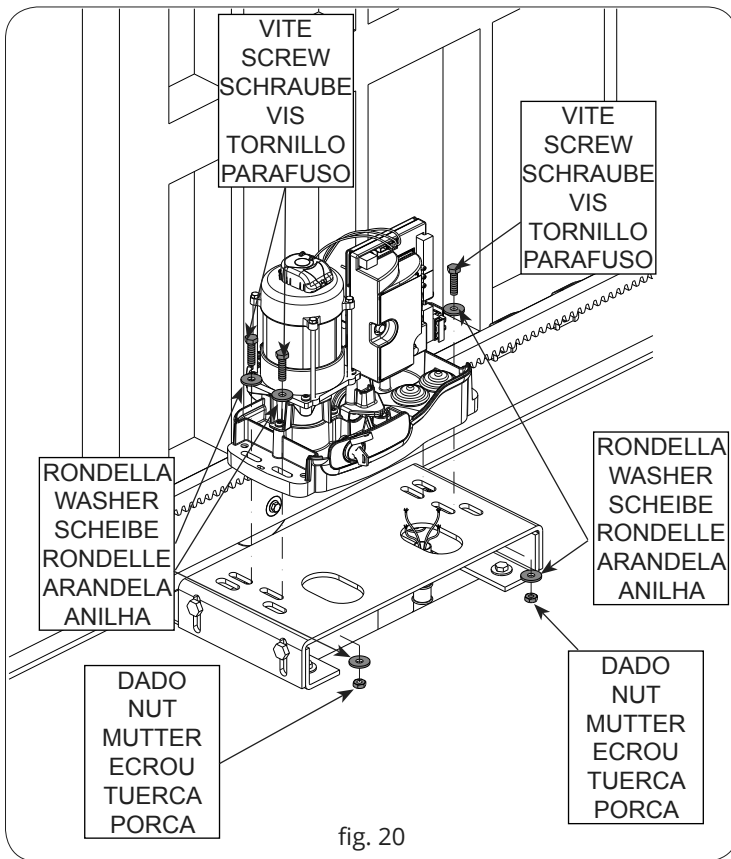


fig. 20

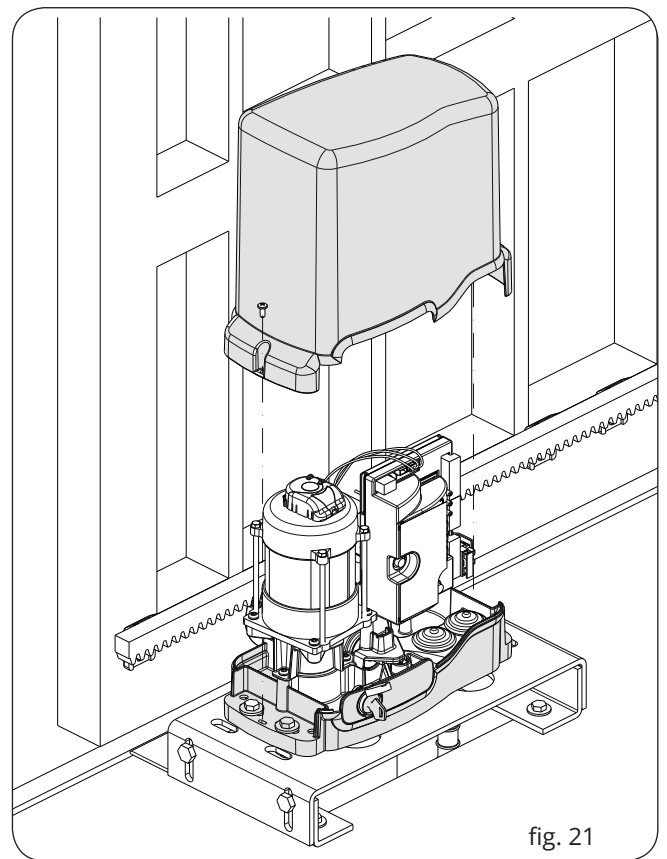


fig. 21



Lasciare i cavi avvolti nel motore e su se stessi.  
Leave the cables wrapped in the motor and on themselves.



fig. 22



<b>T-ONE3B</b>	Motoriduttore per cancelli fino a 400 Kg, motore 24V DC, quadro elettrico incorporato.	Gearmotor for gates up to 400 Kg, 24V DC motor, built-in control unit.	Getriebemotor für Tore bis 400 Kg, 24V DC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 400 Kg, moteur 24V DC, centrale incorporée.	Motorreductor para verjas de hasta 400 Kg, motor de 24V DC, central incorporada.	Motorreductor para portões até 400Kg, 24V DC, quadro incorporado
<b>T-ONE5B</b>	Motoriduttore per cancelli fino a 600 Kg, motore 12V DC, quadro elettrico incorporato.	Gearmotor for gates up to 600 Kg, 12V DC motor, built-in control unit.	Getriebemotor für Tore bis 600 Kg, 12V DC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 600 Kg, moteur 12V DC, centrale incorporée.	Motorreductor para verjas de hasta 600 Kg, motor de 12V DC, central incorporada.	Motorreductor para portões até 600Kg, 12V DC, quadro incorporado
<b>T-ONE8BR</b>	Motoriduttore per cancelli fino a 800 Kg, motore 12V DC, quadro elettrico incorporato.	Gearmotor for gates up to 800 Kg, 12V DC motor, built-in control unit.	Getriebemotor für Tore bis 800 Kg, 12V DC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 800 Kg, moteur 12V DC, centrale incorporée.	Motorreductor para verjas de hasta 800 Kg, motor de 12V DC, central incorporada.	Motorreductor para portões até 800Kg, 12V DC, quadro incorporado
<b>T-ONE10B</b>	Motoriduttore per cancelli fino a 1000 Kg, motore 12V DC, quadro elettrico incorporato.	Gearmotor for gates up to 1000 Kg, 12V DC motor, built-in control unit.	Getriebemotor für Tore bis 1000 Kg, 12V DC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 1000 Kg, moteur 12V DC, centrale incorporée.	Motorreductor para verjas de hasta 1000 Kg, motor de 12V DC, central incorporada.	Motorreductor para portões até 1000Kg, 12V DC, quadro incorporado
<b>T-ONE5E</b>	Motoriduttore per cancelli fino a 500 kg, motore 230V AC con quadro elettrico incorporato.	Gearmotor for gates up to 500 Kg, 230V AC motor, built-in control unit.	Getriebemotor für Tore bis 500 Kg, 230V AC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 500 Kg, moteur 230V AC, centrale incorporée.	Motorreductor para verjas de hasta 500 Kg, motor de 230V AC, central incorporada.	Motorreductor para portões até 500Kg, 230V AC, quadro incorporado
<b>T-ONE8E</b>	Motoriduttore per cancelli fino a 800 kg, motore 230V AC con quadro elettrico incorporato.	Gearmotor for gates up to 800 Kg, 230V AC motor, built-in control unit.	Getriebemotor für Tore bis 800 Kg, 230V AC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 800 Kg, moteur 230V AC, centrale incorporée.	Motorreductor para verjas de hasta 800 Kg, motor de 230V AC, central incorporada.	Motorreductor para portões até 800Kg, 230V AC, quadro incorporado
<b>T-ONEXLE</b>	Motoriduttore per cancelli fino a 1200 kg, motore 230V AC con quadro elettrico incorporato.	Gearmotor for gates up to 1200 Kg, 230V AC motor, built-in control unit.	Getriebemotor für Tore bis 1200 Kg, 230V AC Motor, mit eingebauter Steuerzentrale.	Motoréducteur pour portails jusqu'à 1200 Kg, moteur 230V AC, centrale incorporée.	Motorreductor para verjas de hasta 1200 Kg, motor de 230V AC, central incorporada.	Motorreductor para portões até 1200Kg, 230V AC, quadro incorporado

### DATI TECNICI - TECHNICAL DATA - TECHNISCHE DATEN - DONNÉES TECHNIQUES - DATOS TÉCNICOS - DADOS TÉCNICOS

	T-ONE3B	T-ONE5B	T-ONE8BR	T-ONE10B	T-ONE5E	T-ONE8E	T-ONEXLE
Frequenza - Frequency - Frequenz Fréquence - Frecuencia - Frequência	50 - 60 Hz						
Alimentazione - Power - Stromversorgung Alimentation - Alimentación - Alimentação	230 V AC						
Motore - Motor - Motor - Moteur - Motor - Motor	24 V DC	18 V DC	24 V DC	18 V DC	230 V AC		
Condensatore - Condenser - Kondensator Condensateur - Condensador - Condensador	-				12 µf		
Corrente assorbita - Absorbed current Stromaufnahme - Courant absorbé Corriente absorbida - Corriente absorvida	1,3 A	1,05 A	1,05 A	1,1 A	1,2 A	1,3 A	2,1 A
Potenza assorbita - Absorbed power Leistungsaufnahme - Puissance absorbée Potencia absorbida - Potência absorvida	200 W	250 W	300 W	300 W	220 W	240 W	340 W
Spinta max. - Max. thrust - Max. Schub Poussée max. - Empuje máx. - Pico de Força	320 N	980 N	980 N	1080 N	920 N	1160 N	1310 N
Giri in uscita - Output revolutions - Drehzahl am Ausgang - Tours à la sortie - Revoluciones en salida - Rotações à saída	50 rpm		65 rpm	50 rpm	48 rpm		
Velocità anta - Leaf speed - Flügelgeschwindigkeit Vitesse du vantail - Velocidad hoja - Velocidade da folha	14 m/min		24 m/min	14 m/min	10,5 m/min		
Grado di protezione - Protection level - Schutzart Degré de protection - Grado de protección Grau de protecção	IP 54						
Ciclo di lavoro - Work cycle - Arbeitszyklus Cycle de travail - Ciclo de trabajo - Factor de serviço	100%				40% (see diagram)		
Temperatura di esercizio - Operating temperature Betriebstemperatur - Temperature de fonctionnement - Temperatura de trabalho	-20°C ÷ +55°C						
Rapporto di riduzione - Reduction ratio Untersetzungsverhältnis - Rapport de réduction Relación de reducción - Rácio de redução	1/30						
Intervento termoprotezione - Thermal protection trips at - Eingreifen des Wärmeschutzes - Intervention protection thermique - Activación termoprotección Ativação protecção térmica	-				150°C		
Peso max. cancello - Max. gate weight - Torgewicht max. - Poids max portail - Peso máximo de la cancela - Peso máximo portão	400 Kg	600 Kg	800 Kg	1000 Kg	500 Kg	800 Kg	1200 Kg
Modulo pignone - Pinion module - Ritzel modul Module pignon - Módulo piñón - Módulo pinhão	4						

**⚠** Quando il sistema in 12V DC è alimentato unicamente dalla batteria (in caso di black-out oppure in abbinamento con pannello fotovoltaico), le prestazioni espresse dal motoriduttore (forza e velocità) si riducono del 30% ca.

**⚠** When the system is in the 12V DC mode and is powered by the battery only (in the event of a power failure or when used in conjunction with a photovoltaic panel), the gear motor's output (power and speed) is reduced by approximately 30%.

**⚠** Anmerkung: wenn das 12V DC System nur über Batterie gespeist ist (bei Stromausfall oder in Kombination mit einem Photovoltaicpaneel), verringern sich die Leistungen des Getriebemotors (Kraft und Geschwindigkeit) um ca. 30%.


**⚠** Attention : quand le système à 12V CC est alimenté uniquement par la batterie (en cas de coupure de courant ou bien en association avec un panneau photovoltaïque), les performances du motoréducteur (force et vitesse) diminuent d'environ 30%.

**⚠** Nota: cuando el sistema de 12V DC es alimentado únicamente por la batería (en caso de corte de corriente, o bien combinado con panel fotovoltaico), las prestaciones del motorreductor (fuerza y velocidad) se reducen en un 30%.

**⚠** Nota : Quando o sistema de 12VDC é alimentado unicamente pela bateria (em caso de falha de corrente ou quando usado em combinação com painel fotovoltaico) as prestações do motor (velocidade e força) reduzem-se aproximadamente em 30%.

## 1. INSTALLATION WARNINGS - GENERAL SAFETY REQUIREMENTS

- 1) **Carefully read all instructions before installation, as they provide important instructions regarding the safety, installation, operation and maintenance. Incorrect installation or use of the product may lead to serious physical injury.**
- 2) Never leave packaging materials (plastic, polystyrene etc.) within the reach of children as they constitute a potential hazard.
- 3) Keep the instructions in a safe place for future consultation.
- 4) This product has been designed and constructed exclusively for the use specified in this documentation. Any other use not specified herein may impair product integrity and/or constitute a hazard.
- 5) TAU declines all liability for improper use or use other than as specified for this automation.
- 6) Never install the product in explosive atmospheres.
- 7) The mechanical elements must comply with the requirements as stated in the standards EN 12604 and EN 12605. For non European member states, in addition to the national reference standards, the above-mentioned standards must be observed to ensure an adequate level of safety.
- 8) TAU is not responsible for failure to observe Good Practice in construction of the gates/doors to be power-operated, nor any deformations occurring during use.
- 9) Considering the hazards that may occur during installation and use of T-ONE, maximum safety is only ensured if the product is installed in strict observance of current legislation, standards and regulations. This chapter contains general warnings, while other important warnings are provided in chapters "3.1 Preliminary checks" and "8. Testing and commissioning".

 **According to the most recent legislation, the installation of a power-operated gate or door must be in full observance of the standards envisaged by European Directive 2006/42/EC (Machinery Directive) and in particular the standards: EN 12445; EN 12453 and EN 12635, which enable the declaration of presumed conformity.**

- 10) Before installation, an assessment of the associated risks must be made, including a list of the essential safety requirements as envisaged in Appendix I of the Machinery Directive, specifying the relative solutions adopted. Note that the risk assessment is one of the documents included in the automation Technical documentation.
- 11) Check whether other devices are needed to complete the T-ONE automation on the basis of the specific conditions of use and dangers present; take into account all risks of impact, crushing, shearing, dragging etc. and other hazards in general.
- 12) Installation must be performed in compliance with the standards EN 12453 and EN 12445.
- 13) Before performing any operations on the system, disconnect from the mains and detach the batteries.
- 14) On the automation power line, install a device for disconnection from the power mains with a gap between contacts equal to or greater than 3 mm. Use of a 6A thermal magnetic circuit breaker with multi-pole switch is recommended.
- 15) Check upline of the system that there is a residual current circuit breaker with a threshold of 0.03 A.
- 16) Ensure that the earthing system is to professional standards and connected to the metal section of the gate/door.
- 17) The automation is equipped with an intrinsic anti-crushing safety device comprising a torque control. The trip threshold must in all cases be checked as stated in the standards specified in point 12.
- 18) The safety devices (standard EN 12978) enable the protection of danger areas from **risks associated with mechanical movements** such as crushing, dragging and shearing.
- 19) The use of at least one luminous indicator is recommended for each system, as well as a warning notice fixed suitably to the frame structure, in addition to the devices specified in point 18.
- 20) TAU declines all liability for the safety and efficient operation of the automation in the event of using system components not produced by TAU.
- 21) For maintenance, use exclusively original TAU parts.
- 22) Never modify components that are part of the automation system.
- 23) The installer must provide all information regarding manual operation of the system in the event of an emergency and supply the system User with the "User Guide" enclosed with the product.
- 24) Never allow children or other persons to stay in the vicinity of the product during operation.
- 25) Keep all radio controls or other pulse supplier device out of the reach of children to prevent inadvertent activation of the automation.
- 26) Transit should only occur with the automation stationary.
- 27) The user must never attempt to repair or intervene directly on the product; always contact qualified personnel for assistance.
- 28) Before accessing internal terminals under the cover of T-ONE, disconnect all power circuits. If the disconnect device is not in a visible location, affix a notice stating "CAUTION: MAINTENANCE IN PROGRESS".
- 29) Maintenance: at least every six months, make a general check of the system, with special reference to the efficiency of the safety devices (including, when envisaged, the operator thrust force) and release mechanisms.
- 30) All actions not expressly envisaged in these instructions are strictly prohibited.

**All documentation related to the system should be kept inside or in the immediate vicinity of the control unit.**

## 2. PRODUCT DESCRIPTION AND INTENDED USE (fig. 1)

T-ONE is an electromechanical gearmotor for the automatic movement of sliding gates for residential applications, and is equipped with an electronic control unit with built-in receiver for radio control.

There are several versions available: 12V DC and 230V AC.

The irreversible system guarantees mechanical blocking of the gate when the motor is not operating. A practical and safe release system with personalised key enables manual movement of the gate in the event of a malfunction or power failure.

 **The T-ONE operator has been designed and constructed to control vehicle access. Never use for other purposes.**

- |                            |                     |
|----------------------------|---------------------|
| 1. Gearmotor               | 4. Manual release   |
| 2. Electronic control unit | 5. Protection guard |
| 3. Pinion                  |                     |

### 2.1. Product application limits and dimensions (fig. 2)

The data regarding the performance of T-ONE3B, T-ONE6B, T-ONE8BR, T-ONE10B, T-ONE5A, T-ONE8A and T-ONEXLA are stated in the chapter "TECHNICAL SPECIFICATIONS" and are the only values that ensure the correct assessment for suitability of use.

In general the series T-ONE is able to automate gates with a weight of up to 400Kg (T-ONE3B), 500 Kg (T-ONE5A), 600Kg (T-ONE6B), 800 Kg (T-ONE8BR and T-ONE8A), 1000 Kg (T-ONE10B) and 1200 Kg (T-ONEXLA).

#### **Maximum operating curve:**

This curve enables identification of the maximum operating time (T) according to the frequency of use (F).

E.g.: The T-ONE5A gearmotor can operate without interruption at a frequency of use of 40%.

To guarantee optimal operation, the unit must operate within the operating range below the curve.

**Important:** the curve is obtained at a temperature of 15 °C.  
Exposure to direct sunlight may reduce the frequency of use by up to 20%

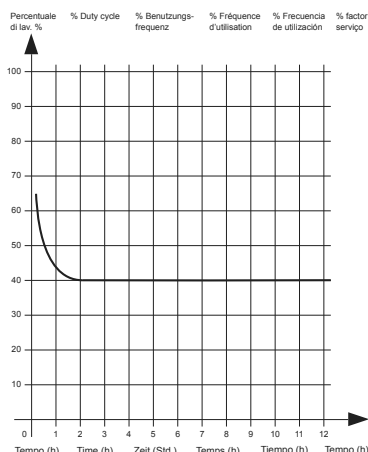
**Calculating the frequency of use:**

This is the percentage of the effective operating time (opening and closing) with respect to the total time of the cycle (opening + closing + pause time).

The calculation formula is as follows: 
$$\%F = \frac{Ta+Tc}{Ta+Tc+Tp+Ti} \times 100$$

where:

- Ta = Opening time
- Tc = Closing time
- Tp = Pause time
- Ti = Interval time between one complete cycle and the next



**2.2\_ Typical system**

Figure 3 shows a typical automation system for a sliding gate using T-ONE.

N°	Description	N°	Description
1	Key-operated selector switch	8	Flashing light with built-in aerial
2	Fixed primary edge (optional)	9	Gearmotor
3	Photocells	10	“Closed” limit switch bracket
4	Mobile primary edge	11	Wireless system
5	“Open” limit switch bracket	12	Floor-mounted end stops
6	Rack	13	Secondary mobile edge (optional)
7	Secondary fixed edge (optional)		

**Wiring:**  
The typical system in figure 3 also shows the cables required for connecting the various devices; the table specifies the cable specifications.

Connection	Cable type	Ref.	230 V AC	12 V DC
a:	Mains power line	a	3x1,5mm <sup>2</sup>	3x1,5mm <sup>2</sup>
b:	Flashing light	b	2x0,5mm <sup>2</sup>	2x0,5mm <sup>2</sup>
c:	Antenna	c	RG58	RG58
d:	Photocells (TX)	d	2x0,5mm <sup>2</sup> (TX)	2x0,5mm <sup>2</sup> (TX)
e:	Photocells (RX)	e	4x0,5mm <sup>2</sup> (RX)	4x0,5mm <sup>2</sup> (RX)
f:	Key-operated selector switch	f*	3x0,5mm <sup>2</sup>	3x0,5mm <sup>2</sup>
g:	Primary sensitive edge	g	2x0,5mm <sup>2</sup>	2x0,5mm <sup>2</sup>
h:	Mobile edges	h	2x0,5mm <sup>2</sup>	2x0,5mm <sup>2</sup>

\* If art. P-300TSL is also installed, envisage a cable 5x0.5 mm for the key selector switch.

**Notes:**  
• If the power cable is longer than 30 m, a cable with a larger cross-section is required (3 x 2.5 mm<sup>2</sup>) and safety earthing is necessary in the vicinity of the automation.

- Place the control unit (external versions) in the immediate vicinity of the motors.
- Be careful not to run cables for auxiliary devices inside raceways housing other cables supplying power to large loads or lights with electronic starters.
- In the event control pushbuttons or indicator lights are installed inside homes or offices several metres from the actual control unit, it is advisable to decouple the signal by means of a relay in order to avoid induced interference.

**3. INSTALLATION**

- T-ONE must be installed by qualified personnel, in compliance with local legislation, standards, regulations and these instructions.
- Use on gates with a gradient or slope is NOT allowed.

**3.1. Preliminary checks**

Before installing T-ONE, perform the following checks:

- Ensure that all material used is in perfect condition, suitable for use and compliant with standards.
- Ensure that the gate structure is suitable for automation.

- Ensure that the weight of the leaf is within the application limits as specified in paragraph 2.1 “Application limits”
- Ensure that there are no points of increased friction at any point of gate travel, both in opening and closing.
- Ensure that there is no risk of gate derailing or risks of exit from the tracks
- Check resistance of the mechanical overtravel stops, ensuring there are no deformations even if the gate impact is strong on stopping.
- Check that the leaf is balanced and therefore does not move if left stationary in any position.
- Make sure that the fixing zone is not subject to flooding. If necessary, mount the gearmotor raised from the ground.
- Ensure that the gearmotor fixing zone enables safe and easy manual movement and release.
- Ensure that the selected surfaces for installation of the various devices are solid, protected from the risk of impact and guarantee a stable fixture.
- Ensure that parts of the automation cannot come into contact with water or other liquids
- Never place T-ONE in the vicinity of flames or heat sources; in potentially explosive, particularly acid or saline atmospheres, this may damage T-ONE and cause malfunctions or hazardous situations.
- If the gate leaf incorporates a pedestrian access door or if this door is positioned in the gate movement area, ensure that this does not prevent normal gate travel; if necessary install a compatible interlock system
- Connect the control unit to an electric power line equipped with an earthing system.
- The mains power line must be protected by an adequate thermal magnetic and residual current circuit breaker device.

### 3.2. Mechanical installation

#### Site location:

- Choose a position similar to the outlined area in fig. 4 when fixing the unit directly to the ground (lay one or two conduits for routing electrical wiring, 1 fig. 4) if in concrete, or as shown in fig. 5 when an excavation is required, fig. 5A (right-hand closure) or fig. 5B (left-hand closure).

#### Base preparation:

- Dig the foundations to a depth of at least 15 cm with sufficient width. Fit a protective sheath for routing the electric cables.

#### Fixing the foundation plate assembly (model 400CPO):

- On completion of excavations, prepare the foundation plate assembly by bending the anchor elements in the plate on the same section mounting the inserts (1, fig. 6) for fixing the gearmotor by means of screws. Embed the anchor elements in concrete while leaving the inserts exposed for gearmotor fixture; the foundation plate assembly must be perfectly flat at 1 or 2 cm from ground level and at a distance of approx. 42 mm from the gate (fig. 6).

#### Fixing the foundation plate assembly (model 400CPOR):

- Assemble the foundation plate as shown in fig. 8.
- The foundation plate must be positioned as shown in fig. 8A (right-hand closure) or fig. 8B (left-hand closure) to guarantee correct meshing of the pinion and rack.
- Make a foundation plinth as shown in fig. 5 and install the foundation plate, envisaging one or more conduit sheaths for routing the electric cables. Check perfect positioning of the plate using a spirit level. Wait for the cement to set.
- Lay the electric cables for connection to the accessories and electrical mains as shown in fig. 3.

To facilitate connections, leave an excess length of cables of approx. 30 cm from the hole in the foundation plate.

Alternatively, a height adjustable base plate (P-550CPMR or P-550CPMR1 - fig. 17) can be used. In this case the fixed ties must be welded to the track and after locked with 4 expansion bold M12x120 (see fig. 18). The adjustable base plate is then secured as indicated in fig. 19. In this way the gearmotor can be adapted to an already existing system; the measurements indicated in fig. 18 must be respected.

#### Fixing the gearmotor (on foundation plate assembly model 400CPO):

- Anchor the gearmotor using 4 screws M8x30 and relative washers, as shown in fig. 7.
- Pass all cables through the holes on the base of the foundation plate assembly.
- If the rack is already present, insert the 4 stud bolts M8x30 (1 fig. 7 - optional) and 4 nuts M8 (2 fig. 7 - optional) to adjust the pinion at the correct height, leaving 1÷2 mm of play from the rack, checking perfect levelling of the gearmotor with a spirit level.

#### Fixing the gearmotor (on foundation plate assembly model 400CPOR):

- Anchor the gearmotor to the foundation plate assembly as shown in fig. 9, using 4 nuts M8 and 8 washers.
- Pass all cables through the holes on the base of the foundation plate assembly.
- If the rack is already present, adjust nuts (1 fig. 9) to set the pinion at the correct height, leaving 1÷2 mm of play from the rack, checking perfect levelling of the gearmotor with a spirit level.

#### Fixing the rack (model 400CN):

- Release the gearmotor as described in the paragraph “MANUAL RELEASE”.
- Open the leaf completely, position the first section of the rack aligned with the edge of the gate and check that the start of the rack corresponds to the start of the leaf as shown in figure 10. Check that there is a clearance of 1÷2 mm between the pinion and rack.
- After positioning the first section of the rack aligned with the edge of the gate, mark the drilling point on the gate, drill a Ø 4 mm hole and insert the self-tapping screw Ø 6,3 mm.
- Manually move the gate, checking that the rack is positioned on the pinion and repeat the operations described in the previous point.
- Move another rack element up against the previous one, using the dovetail connection to mesh the teeth of the two elements as shown in fig. 10.
- Manually move the gate and proceed with the fixing operations as per the first element, through to complete coverage of the gate.

**It is very important to observe the installation measurements and distance between the gear teeth and rack teeth as shown in figures 6 and 10.**

**Note: the rack must slide on the gear of the gearmotor throughout the entire length of its tooth (fig. 6).**

#### Fixing the rack (model 400CFZ12):

- Mount the three threaded pawls on the rack element (A fig. 11) positioning them on the upper section of the slot. This will ensure clearance on the slot for future adjustments when required.
- Manually move the leaf to the opening position.
- Position the first section of the rack aligned with the edge of the gate, and weld the threaded pawl onto the gate as shown in fig. 11.
- Manually move the gate, checking that the rack is positioned on the pinion and weld the second and third pawl.
- Move another rack element up against the previous one, using a rack element to mesh the teeth of the two elements as shown in fig. 11.
- Manually move the gate and weld the three threaded pawls through to complete coverage of the gate.

**It is very important to observe the installation measurements and distance between the gear teeth and rack teeth as shown in figures. 9 and 11.**


**Note: the rack must slide on the gear of the gearmotor throughout the entire length of its tooth (fig. 9).**


#### Fixing and adjusting the limit switch pads (T-ONE5A / T-ONE8A / T-ONEXLA):

- With the relative stud bolts, fix the “opening” and “closing” limit switch brackets at the ends of the rack as shown in figure 10 and 11. Take into

consideration that when the limit switches trip, the leaf continues to move by a further 2÷3 cm; therefore the limit switch brackets should be positioned with a suitable margin on the mechanical stops.

**It is also recommended to slightly lubricate the point of contact of the limit switch pad with the spring, to facilitate sliding and prevent compression of the latter.**


 **Note: to ensure complete safety, mechanical stops (floor-mounted end stops), if not already present, with rubber caps MUST be fitted, as shown in fig. 3.**

 **A single factor or combination of factors (thermal expansion, climate, frequency of use, etc.) may result in the position the gate stops in changing over the course of the day, both when opening and when closing. Consequently, we cannot guarantee that the gate will always stop in the same position.**

### 3.3. Version with chain pinion: T-ONEC Series

The door can also be power-operated as shown in fig. 12. Pass the chain as shown in fig. Fig. 12 also shows the type of chain required (pitch 1/2" x 5/16").

### 3.4. Adjustment of the electronic clutch (T-ONE3B, T-ONE6B, T-ONE8BR and T-ONE10B), and electric clutch (T-ONE5A, T-ONE8A and T-ONEXLA)


 **IMPORTANT: Ensure that the impact force measured at the points as envisaged by the standard EN 12445 is less than the value specified in standard EN 12453.**

- All motors in the T-ONE series are equipped with a settable encoder for obstacle detection during travel. The maximum thrust torque can then be set by means of the relative potentiometer on the card.

### 3.5. Installation of various devices

To install the other devices envisaged, refer to the relevant instructions. Check in figure 3 the devices that can be connected to T-ONE.

## 4. ELECTRICAL CONNECTIONS

 **Before proceeding, ensure that the gearmotor is not connected to the electrical mains.**

- To make the connections, remove the cover from the gearmotor, route the power cables through the holes on the foundation plate assembly (if used) and through the lower body of the gearmotor, then prepare them for connection to the terminal board of the control card housed in the electrical components support.
- Use cables with a minimum section of 2.5 mm<sup>2</sup> for the power circuits (T-ONE3B, T-ONE6B, T-ONE8BR and T-ONE10B) and 1.5 mm<sup>2</sup> (T-ONE5A, T-ONE8A and T-ONEXLA), 0.5 mm<sup>2</sup> for the control circuits.

For connections to the control cards consult the relative instruction booklets:


- K120M for T-ONE3B;
- K125M for T-ONE6B;
- K126MA for T-ONE8BR and T-ONE10B;
- K580M for T-ONE5A, T-ONE8A and T-ONEXLA.

## 5. 12V BATTERY INSTALLATION (T-ONE6B, T-ONE8BR and T-ONE10B)

If a battery is to be fitted on the gearmotor to guarantee operation in the event of a power failure, remove the cover and insert it in the relative seat (fig. 13); then connect the power cables to the tabs.

## 6. MANUAL RELEASE

In the event of a power failure, raise the cover from the lock, insert the relative key and turn as shown in fig. 14. Then, as shown in fig. 15, pull the lever outwards to enable manual movement of the gate.

 **DC versions feature a safety micro-switch in the release lever ("A", pic. 15). In case the gate operator stays released for more than 5 seconds, the operator will perform a cycle at a slow speed to reset the operating parameters to the values originally saved (see "Restoring automatic operation").**


## 7. LIMIT SWITCH (T-ONE5A / T-ONE8A / T-ONEXLA)

The series T-ONE (230 Vac) has been designed to operate with an electro-mechanical micro-switch type limiter. The cables are connected as shown in fig. 16:

- 1= grey (common);
- 2= orange (F.C. close - NC contact);
- 3= red (F.C. Open - NC contact);
- 4= grey (common).


As shown in fig. 16, when the gear rotates clockwise and the spring moves as shown, if gate travel does not stop, invert the position of the red and orange wires on the terminal board of the control card.

## 8. FINAL CHECKS AND START-UP

 **T-ONE must be connected to the power mains by skilled and qualified personnel, in possession of all requirements for full compliance with all legal provisions, standards and regulations.**

Immediately after powering up T-ONE, perform a number of simple checks:

1. Ensure that the leds on the control card are lit.
2. Ensure that the motor does not activate any gate movement and that the flashing light is off.

 **If this is not so, disconnect the control unit from the power supply immediately and check the electrical connections carefully.**

Other useful information for troubleshooting can be found in chapter 7.6 "Troubleshooting".

For other parameter settings, such as gate travel learning, clutch adjustment, deceleration, automatic closure time, obstacle detection sensitivity

etc., refer to the instructions of the electronic cards.

## 9. TESTING AND COMMISSIONING

This is the most important phase of automation set-up to ensure maximum system safety. The test can also be performed as a periodic check of automation devices.



**Testing of the entire system must be performed by skilled and qualified personnel, who are responsible for the tests required to verify the solutions adopted according to the risks present, and for ensuring observance of all legal provisions, standards and regulations, with particular reference to all requirements of the standard EN12445 which establishes the test methods for testing automations for power-operated gates.**

### 9.1\_ Testing

Each automation component, such as sensitive edges, photocells, emergency stop, etc., requires a specific testing phase; for these devices take care to follow the procedures specified in the respective instruction manual.

To test T-ONE, perform the following sequence of operations:

Ensure that all specifications in this manual, and in particular chapter "1 WARNINGS" have been strictly observed;

2. Using the control or stop devices envisaged (key-operated selector switch, control pushbuttons, radio transmitters, etc.) perform gate opening and closing tests, ensuring that the leaf movement corresponds to specifications.
3. Check operation of all system safety devices one at a time (photocells, sensitive edges, emergency stop etc.);
4. To test photocells and in particular that there is no interference with other devices, pass a cylinder (diameter 5 cm, length 30 cm) through the optic axis joining the pair of photocells, first close to the TX and then the RX and then mid-way between the two. Ensure that in all cases the device engages, changing from the active status to alarm status and vice versa. Also check that the envisaged action is generated in the control unit, for example: that during the Closing manoeuvre, the door inverts the current movement.
5. If hazardous situations generated by the moving leafs are protected by means of impact force limitation, measure the force as specified in the standard EN 12445. If the settings "speed" and "garmotor force" control are used as an auxiliary function with the system for reduction of impact force, test and identify the setting that obtains the best results.

### 9.2\_ Commissioning



**Commissioning can only be performed after positive results of all test phases on T-ONE and other devices present. Partial or "makeshift" commissioning is strictly prohibited.**

- Prepare the automation technical documentation (to be conserved for at least 10 years), which must contain the following documents: an overall layout diagram of the automation, electrical wiring diagram, risk assessment and relative solutions adopted, manufacturer's declaration of conformity for all devices used (for T-ONE use the CE declaration of conformity enclosed) copy of instruction manual for operation and the automation maintenance schedule.
- Affix a dataplate on the gate, specifying at least the following data: type of automation, name and address of manufacturer (responsible for commissioning), serial number, year of construction and CE mark.
- Permanently fix a label or plate in the vicinity of the gate, stating the procedures for release and manual manoeuvres.
- Compile the automation declaration of conformity and deliver to the owner.
- Compile the manual "Instructions and warnings for automation operation" and deliver to the owner.
- Prepare the automation maintenance schedule (including all instructions for the maintenance of individual devices) and deliver to the owner.
- Before commissioning the automation, ensure that the owner is adequately informed in writing of all associated risks and hazards (for example of the manual of instructions and warnings for automation operation).

## 10. OPERATION

The garmotors in the series T-ONE have been designed to move horizontal sliding gates with leafs of a maximum weight of 400 kg (**T-ONE3B**), 500 kg (**T-ONE5A**), 600 Kg (**T-ONE6B**), 800 kg (**T-ONE8BR** and **T-ONE8A**), 1000Kg (**T-ONE10B**) and 1200 Kg (**T-ONEXLA**).



**Use of the device for other purposes or in other circumstances than as specified is strictly prohibited.**

The electronic control unit installed enables selection of the operating mode:

**automatic:** a control pulse activates gate opening and closing;

**semiautomatic:** a control pulse activates gate opening or closing;

In the event of a power failure, the gate can still operate thanks to the option of manual control, possible by means of the **manual release device**. The models **T-ONE3B**, **T-ONE6B**, **T-ONE8BR** and **T-ONE10B**, with the optionals batteries power supply guarantee normal automation operation also in the event of a power failure.

Note that this is an automatic device and mains powered, and therefore when used the due precautions must be taken. The following in particular is recommended:

- Never touch the device with wet hands and/or wet or bare feet;
- Disconnect the power supply before opening the controls box and/or garmotor;
- Never touch the motor before ensuring it is completely cool;
- Only move the gate when it is completely visible;
- Perform periodic maintenance;
- In the event of a fault, disconnect the power supply and only move the gate manually when possible and in safety. Do not intervene on the gate; call an authorised technician for assistance.



**CLEANING OF THE AUTOMATION WITH WATER JETS OR SIMILAR DEVICES IS STRICTLY PROHIBITED. NEVER DIRECT WATER JETS DIRECTLY ONTO THE AUTOMATION.**

## 11. MAINTENANCE

The garmotors in the T-ONE series are low maintenance products. However efficient operation also depends on the condition of the gate: Therefore a number of simple operations are described below to maintain gate efficiency.



**Caution: No person other than the maintenance engineer (who must be a specialised technician) must be allowed to operate the automatic gate during maintenance.**

Therefore disconnect the device from the power mains to avoid the risk of electric shock. However, if the power supply is required for a number of checks, ensure that the control devices are controlled or disabled (remote controls, pushbutton panels etc.) with the exception of the device used by the maintenance engineer.

Routine maintenance

Each of the following operations must be performed when deemed necessary and in any event every 6 months in the case of domestic use (approx. 3000 work cycles) and every 2 months in the case of intensive use, e.g. apartment block (every 3000 work cycles).

#### **Gate**

- Lubricate (with a grease pump) the gate sliding wheels;
- Check the condition and stability of the rack;

#### **Automation system**

- Check operation of the safety devices (photocells, pneumatic edge, torque limiter, etc.);

#### Special maintenance

If more complex operations are required on mechanical parts, the gearmotor should be removed to enable repairs in the manufacturer's workshop by technicians or other authorised centre.

## **12. OPTIONAL ACCESSORIES**

The range of T-ONE motors can be completed with the following optional accessories:

- P-650ESE03 external manual release with armour-plated case;
- P-400FCM magnetic limit switch.

## **13. NOISE LEVELS**

Airborne noise generated by the gearmotor in normal operating conditions is constant and does not exceed 70 dB.

## **14. SCRAPPING**

All materials must be disposed of in observance of current standards.

If the automation is to be scrapped there are no particular dangers or risks associated with the automation itself.

In the case of material recovery, separate components according to the waste category (electrical parts - copper - aluminium - plastic, etc.).

## **15. DISASSEMBLY**

If the automation is disassembled for subsequent re-assembly in another site:

- Disconnect the power supply and the entire electrical system;
- Remove the gearmotor from the fixing base;
- Disassemble all system components;
- If some components cannot be removed or are damaged, replace.

## **16. MALFUNCTIONS TROUBLESHOOTING**

#### ***The gate does not open, the motor does not work.***

- Check that the photocells or sensitive edges are not dirty, engaged or misaligned. Proceed according to the case in hand
- Check that the electrical equipment is powered correctly, check all fuses.
- Check that all functions are correct via the control unit diagnostic leds (see relative instructions). Locate the cause of the fault. If the leds indicate that a start command persists, check that there are no radio controls, start pushbuttons or other devices that keep the start contact activated (closed).
- If the control unit does not work, replace.

If results are negative after the above proposed solutions, replace the gearmotor.

#### ***The gate does not open, the motor turns but there is no movement.***

- The manual release is still engaged. Restore power operated functions.
- Check that the gate is up against the mechanical limit stops. Manually release the gate, move it and restore power-operated functions. Check and correct the position of the limit switch pads.
- Check that there are no defects in mechanical set-up of the gate.

If results are negative after the above proposed solutions, replace the gearmotor.

## **17. GUARANTEE: GENERAL CONDITIONS**

TAU guarantees this product for a period of 24 months from the date of purchase (as proved by the sales document, receipt or invoice).

This guarantee covers the repair or replacement at TAU's expense (ex-works TAU: packing and transport at the customer's expense) of parts that TAU recognises as being faulty as regards workmanship or materials.

For visits to the customer's facilities, also during the guarantee period, a "Call-out fee" will be charged for travelling expenses and labour costs.

#### **The guarantee does not cover the following cases:**

- If the fault was caused by an installation that was not performed according to the instructions provided by the company inside the product pack.
- If original TAU spare parts were not used to install the product.
- If the damage was caused by an Act of God, tampering, overvoltage, incorrect power supply, improper repairs, incorrect installation, or other reasons that do not depend on TAU.
- If a specialised maintenance man does not carry out routine maintenance operations according to the instructions provided by the company inside the product pack.
- Wear of components.

The repair or replacement of pieces under guarantee does not extend the guarantee period.

In case of industrial, professional or similar use, this warranty is valid for 12 months.

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The data described in this handbook are purely a guide. TAU reserves the right to change them in any moment.

The manufacturer reserves the right to modify or improve products without prior notice. Any inaccuracies or errors found in this handbook will be corrected in the next edition.

When opening the packing please check that the product is intact. Please recycle materials in compliance with current regulations.

**This product may only be installed by a qualified fitter. The manufacturer declines all liability for damage to property and/or personal injury deriving from the incorrect installation of the system or its non-compliance with current law (see Machinery Directive).**

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**MANUFACTURER'S DECLARATION OF INCORPORATION**  
**(in accordance with European Directive 2006/42/EC App. II.B)**

Manufacturer: TAU S.r.l.  
Address: Via E. Fermi, 43  
36066 Sandrigo (Vi)  
ITALY

**Declares** under its sole responsibility, that the product: *Electromechanical actuator*  
designed for automatic movement of: *Sliding Gates*  
for use in a: *Residential / Communities*  
complete with: *Electronic control unit and radioreceiver*

Model: *T-ONE*  
Type: *T-ONE3B / T-ONE5B / T-ONE8BR / T-ONE10B / T-ONE5E /  
T-ONE8E / T-ONEXLE*  
Serial number: *SEE SILVER LABEL*  
Commercial name: *AUTOMATION FOR SLIDING GATES*

Has been produced for incorporation on an access point (*sliding gate*) or for assembly with other devices used to move such an access point, to constitute a machine in accordance with the Machinery Directive 2006/42/EC.

**Also declares** that this product complies with the essential safety requirements of the following EEC directives:

- **2014/35/EU Low Voltage Directive**
- **2014/30/EU Electromagnetic Compatibility Directive**

and, where required, with the Directive:

- **2014/53/EU Radio equipment and telecommunications terminal equipment**

Also declares that ***it is not permitted to start up the machine*** until the machine in which it is incorporated or of which it will be a component has been identified with the relative declaration of conformity with the provisions of Directive 2006/42/EC.

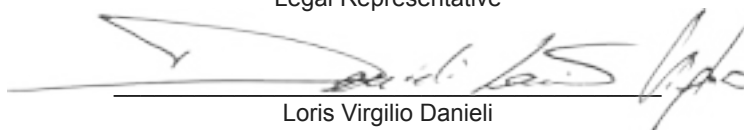
The following standards and technical specifications are applied:

EN 61000-6-2; EN 61000-6-3; EN 60335-1; ETSI EN 301 489-1 V1.9.2; ETSI EN 301 489-3 V1.6.1;  
EN 300 220-2 V2.4.1; EN 12453:2000; EN 12445:2000; EN 60335-2-103

The manufacturer undertakes to provide, on sufficiently motivated request by national authorities, all information pertinent to the quasi-machinery.

Sandrigo, 18/07/2017

Legal Representative

  
Loris Virgilio Danieli

Name and address of person authorised to draw up all pertinent technical documentation:

*Loris Virgilio Danieli - via E. Fermi, 43 - 36066 Sandrigo (Vi) Italy*



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Tel +39 0444 750190 - Fax +39 0444 750376  
info@tauitalia.com - www.tauitalia.com



Foglietto illustrativo  
CARTA - Raccolta differenziata. Segui le indicazioni del tuo comune. (N.B.: togliere i punti metallici)

*Instruction leaflet*  
*PAPER - Waste separation. Follow the instructions of your city hall. (Note: remove the staples)*