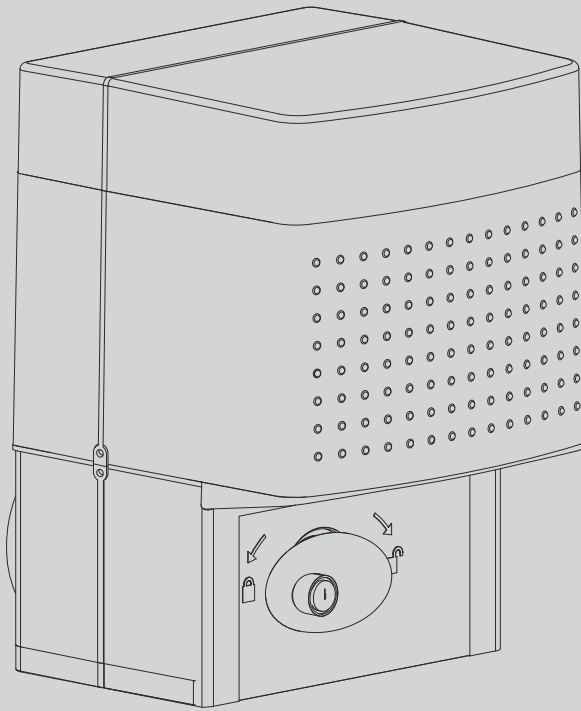




D81131000100_03 17-07-12

ATTUATORE PER CANCELLI SCORREVOLI A CREMAGLIERA
ACTUATOR FOR RACK SLIDING GATES
ACTIONNEUR POUR PORTAILS COULISSANTS A CREMAILLIERE
TRIEB FÜR SCHIEBETORE MIT ZAHNSTANGE
SERVOMOTOR PARA CANCELAS CORREDERAS DE CREMALLERA
ACTUATOR VOOR SCHUIFHEKKEN MET TANDHEUGEL



ISTRUZIONI D'USO E DI INSTALLAZIONE
INSTALLATION AND USER'S MANUAL
INSTRUCTIONS D'UTILISATION ET D'INSTALLATION
INSTALLATIONS-UND GEBRAUCHSANLEITUNG
INSTRUCCIONES DE USO Y DE INSTALACION
INSTALLATIEVOORSCHRIFTEN

ICARO
ICARO FM

BFT

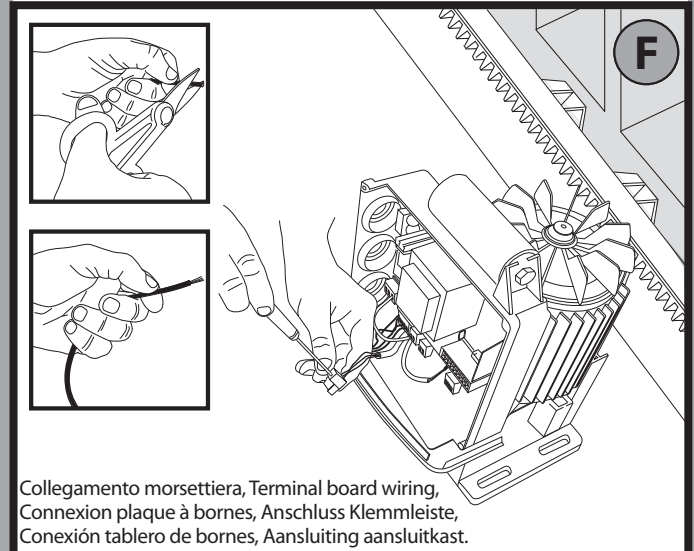
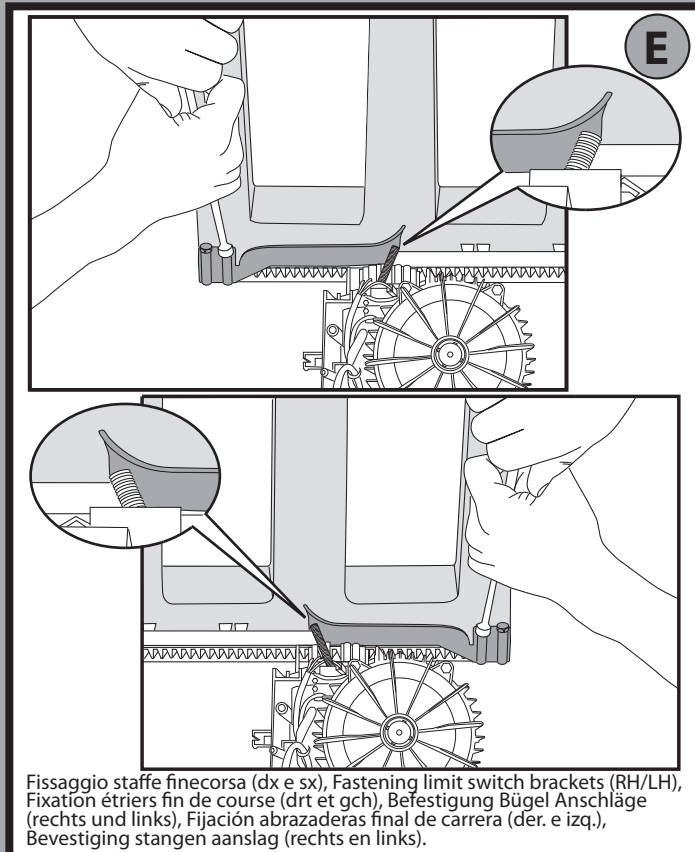
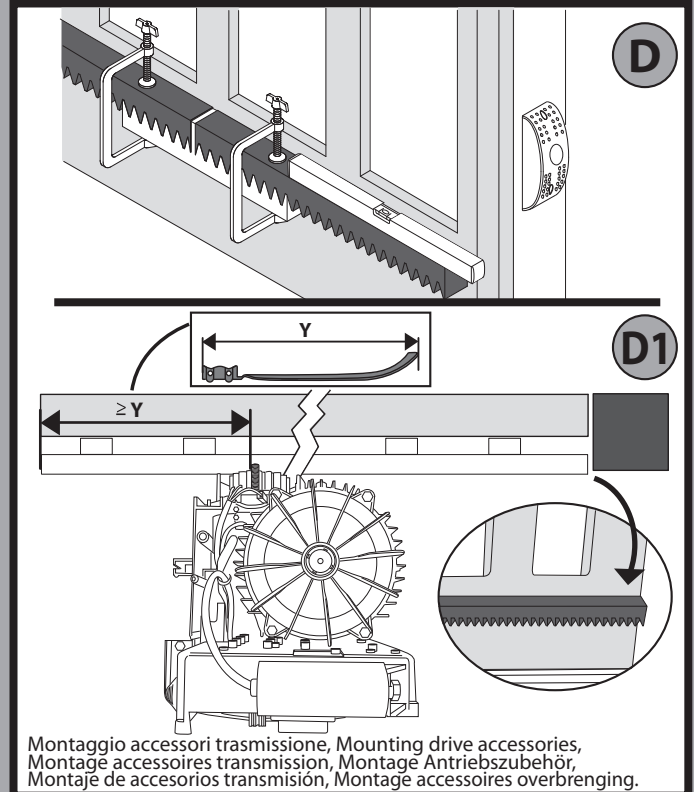
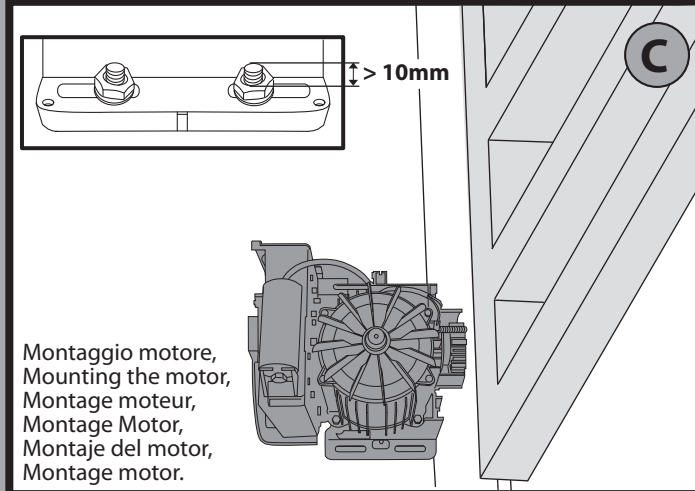
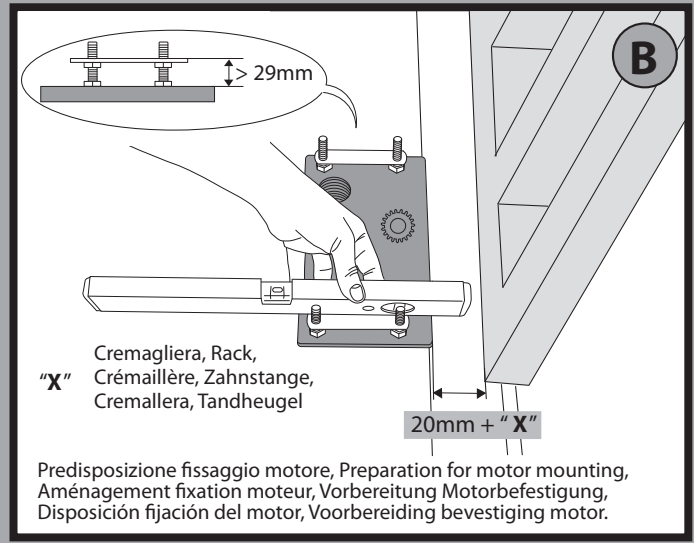
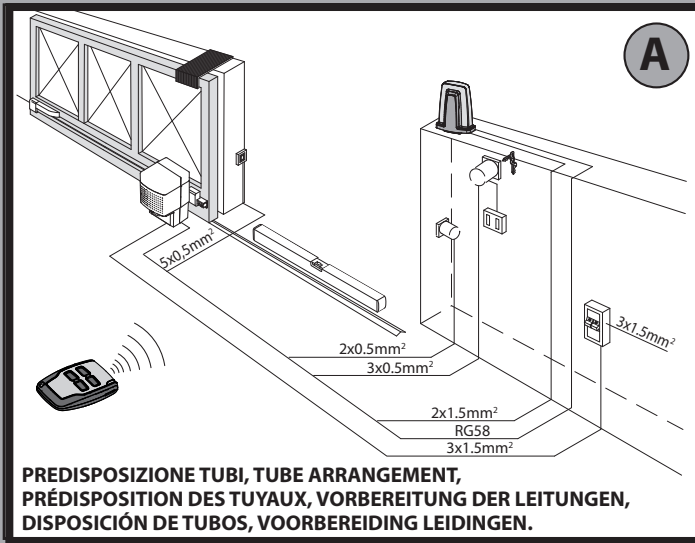


AZIENDA CON SISTEMA DI GESTIONE
INTEGRATO CERTIFICATO DA DNV
= UNI EN ISO 9001:2008 =
UNI EN ISO 14001:2004

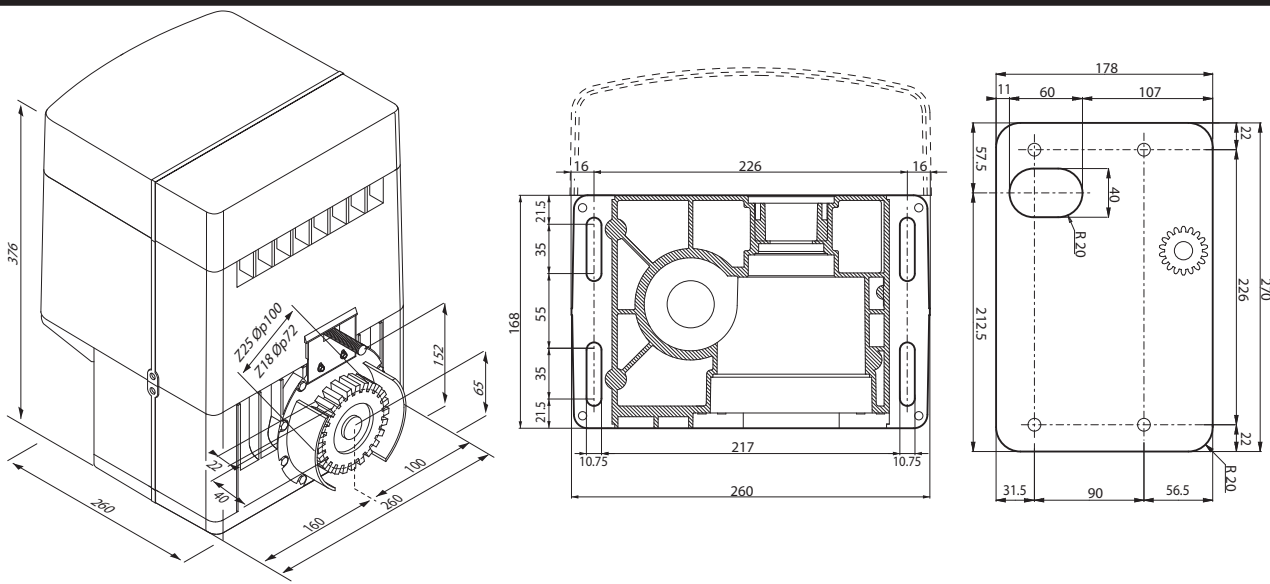
INSTALLAZIONE VELOCE-QUICK INSTALLATION-INSTALLATION RAPIDE SCHNELLINSTALLATION-INSTALACIÓN RÁPIDA - SNELLE INSTALLATIE

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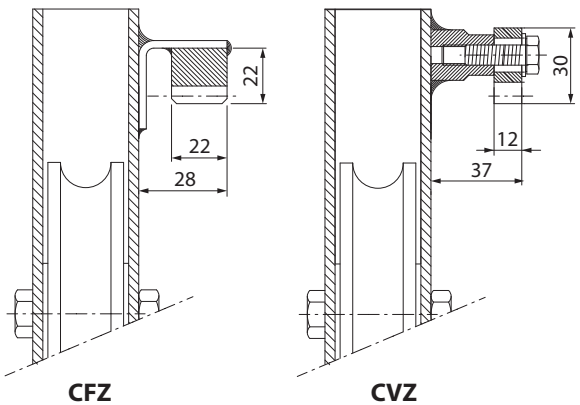
- !** a) Prima di iniziare con l'installazione bisogna leggere le avvertenze.
 a) Before commencing installation, make sure you read the warnings.
 a) Avant de commencer l'installation lisez les avertissements.
 a) Vor der Installation müssen die Hinweise gelesen werden.
 a) Antes de comenzar con la instalación es necesario leer las advertencias.
 a) Voor met de installatie te beginnen moet u de waarschuwingen lezen.
- b) Oltre alle figure, bisogna seguire le indicazioni date nel paragrafo corrispondente a pag.6
 b) In addition to the figures, you must follow the instructions given in the relevant section on page 6
 b) Suivez non seulement les figures mais aussi les indications données dans le paragraphe correspondant à la page 6
 b) Außer den Abbildungen müssen die Angaben im entsprechenden Abschnitt auf Seite 6 befolgt werden
 b) Además de las figuras, es necesario seguir las indicaciones dadas en el apartado correspondiente en pág. 6
 b) Volg niet alleen de figuren, maar ook de aanwijzingen die in de paragraaf op pag. 6 staan



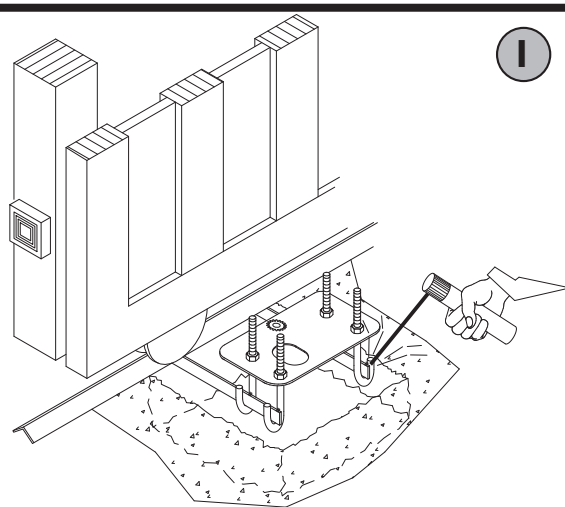
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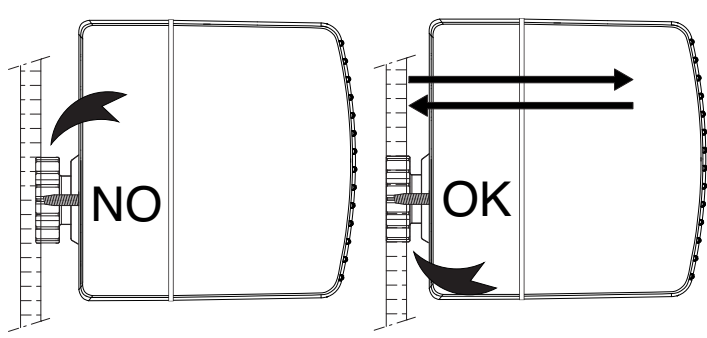
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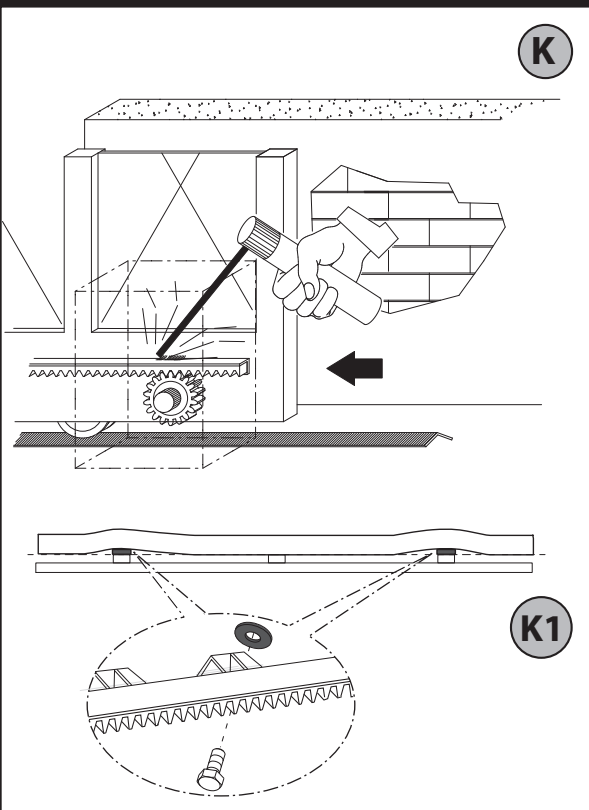
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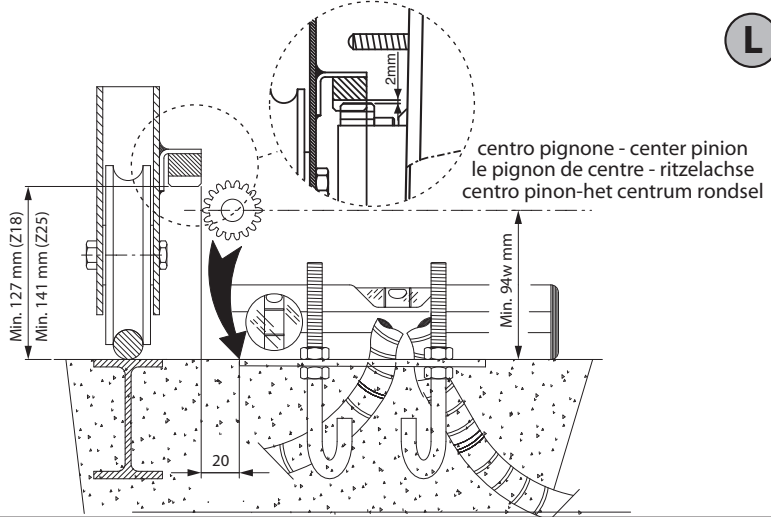
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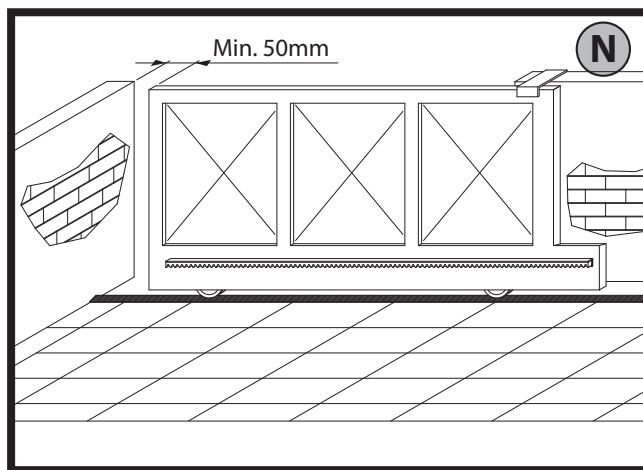
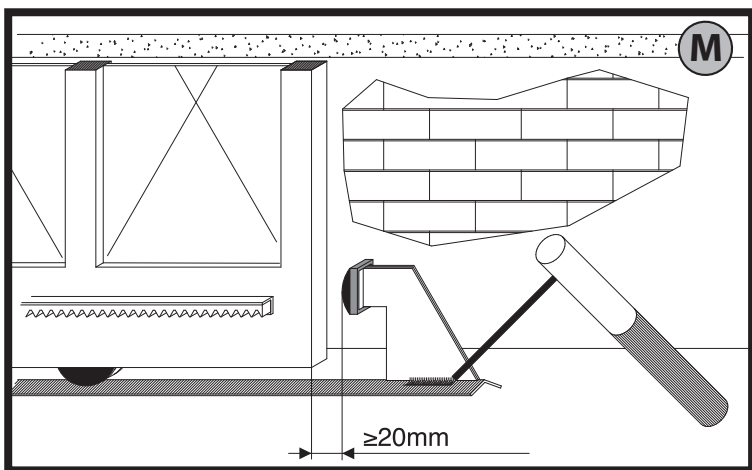
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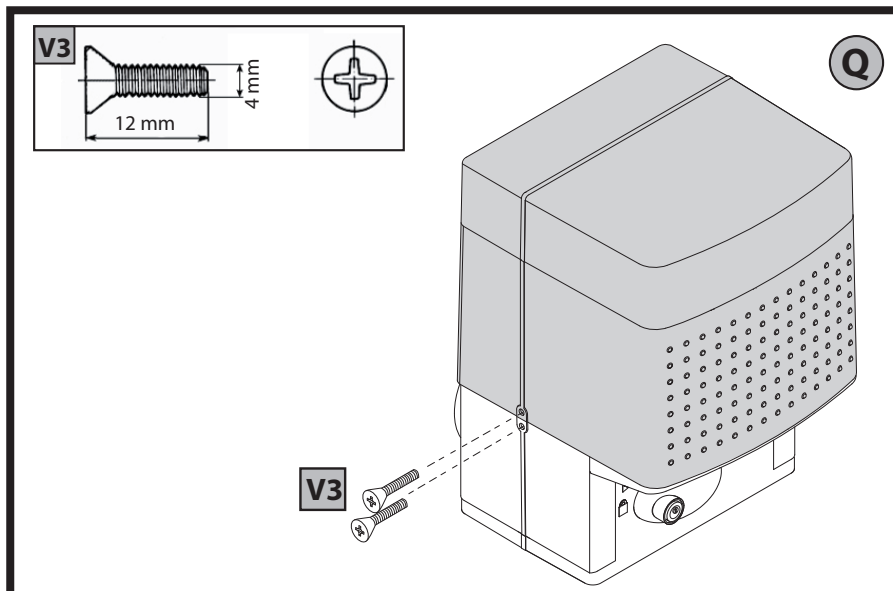
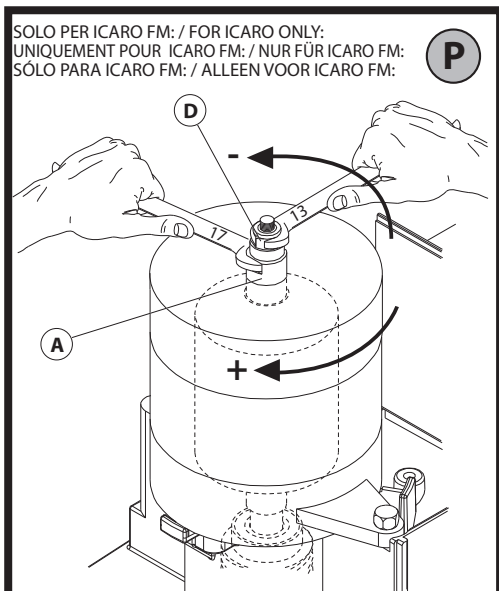


K1



*	**	***
ROSSO	MARRONE	NERO
RED	BROWN	BLACK
ROUGE	MARRON	NOIR
ROT	BRAUN	NERO
ROJO	MARON	NEGRO
ROOD	BRUIN	ZWART

M	B	N
MARRONE	BLU	NERO
BROWN	BLUE	BLACK
MARRON	BLEU	NOIR
BRAUN	BLAU	SCHWARZ
MARRÓN	AZUL	NEGRO
BRUIN	BLAUW	ZWART



INSTALLER WARNINGS

WARNING! Important safety instructions. Carefully read and comply with all the warnings and instructions that come with the product as incorrect installation can cause injury to people and animals and damage to property. The warnings and instructions give important information regarding safety, installation, use and maintenance. Keep hold of instructions so that you can attach them to the technical file and keep them handy for future reference.

GENERAL SAFETY

This product has been designed and built solely for the purpose indicated herein. Uses other than those indicated herein might cause damage to the product and create a hazard.

- The units making up the machine and its installation must meet the requirements of the following European Directives, where applicable: 2004/108/EC, 2006/95/EC, 2006/42/EC, 89/106/EC, 99/05/EC and later amendments. For all countries outside the EEC, it is advisable to comply with the standards mentioned, in addition to any national standards in force, to achieve a good level of safety.
- The Manufacturer of this product (hereinafter referred to as the "Firm") disclaims all responsibility resulting from improper use or any use other than that for which the product has been designed, as indicated herein, as well as for failure to apply Good Practice in the construction of entry systems (doors, gates, etc.) and for deformation that could occur during use.
- Before installing the product, make all structural changes required to produce safety gaps and to provide protection from or isolate all crushing, shearing and dragging hazard areas and danger zones in general in accordance with the provisions of standards EN 12604 and 12453 or any local installation standards. Check that the existing structure meets the necessary strength and stability requirements.
- Before commencing installation, check the product for damage.
- The Firm is not responsible for failure to apply Good Practice in the construction and maintenance of the doors, gates, etc. to be motorized, or for deformation that might occur during use.
- Make sure the stated temperature range is compatible with the site in which the automated system is due to be installed.
- Do not install this product in an explosive atmosphere: the presence of flammable fumes or gas constitutes a serious safety hazard.
- Disconnect the electricity supply before performing any work on the system. Also disconnect buffer batteries, if any are connected.
- Before connecting the power supply, make sure the product's ratings match the mains ratings and that a suitable residual current circuit breaker and overcurrent protection device have been installed upline from the electrical system. Have the automated system's mains power supply fitted with a switch or omnipolar thermal-magnetic circuit breaker with a contact separation that meets code requirements.
- Make sure that upline from the mains power supply there is a residual current circuit breaker that trips at no more than 0.03A as well as any other equipment required by code.
- Make sure the earth system has been installed correctly: earth all the metal parts belonging to the entry system (doors, gates, etc.) and all parts of the system featuring an earth terminal.
- Installation must be carried out using safety devices and controls that meet standards EN 12978 and EN 12453.
- Impact forces can be reduced by using deformable edges.
- In the event impact forces exceed the values laid down by the relevant standards, apply electro-sensitive or pressure-sensitive devices.
- Apply all safety devices (photo-cells, safety edges, etc.) required to keep the area free of impact, crushing, dragging and shearing hazards. Bear in mind the standards and directives in force, Good Practice criteria, intended use, the installation environment, the operating logic of the system and forces generated by the automated system.
- Apply all signs required by current code to identify hazardous areas (residual risks). All installations must be visibly identified in compliance with the provisions of standard EN 13241-1.
- Once installation is complete, apply a nameplate featuring the door/gate's data.
- This product cannot be installed on leaves incorporating doors (unless the motor can be activated only when the door is closed).
- If the automated system is installed at a height of less than 2.5 m or is accessible, the electrical and mechanical parts must be suitably protected.
- Install any fixed controls in a position where they will not cause a hazard, away from moving parts. More specifically, hold-to-run controls must be positioned within direct sight of the part being controlled and, unless they are key operated, must be installed at a height of at least 1.5 m and in a place where they cannot be reached by the public.
- Apply at least one warning light (flashing light) in a visible position, and also attach a Warning sign to the structure.
- Attach a label near the operating device, in a permanent fashion, with information on how to operate the automated system's manual release.
- Make sure that, during operation, mechanical risks are avoided or relevant protective measures taken and, more specifically, that nothing can be banged, crushed, caught or cut between the part being operated and surrounding parts.
- Once installation is complete, make sure the motor automation settings are correct and that the safety and release systems are working properly.
- Only use original spare parts for any maintenance or repair work. The Firm disclaims all responsibility for the correct operation and safety of the automated system if parts from other manufacturers are used.
- Do not make any modifications to the automated system's components unless explicitly authorized by the Firm.
- Instruct the system's user on what residual risks may be encountered, on the control systems that have been applied and on how to open the system manually in an emergency. Give the user guide to the end user.
- Dispose of packaging materials (plastic, cardboard, polystyrene, etc.) in accordance with the provisions of the laws in force. Keep nylon bags and polystyrene out of reach of children.

WIRING

WARNING! For connection to the mains power supply, use: a multicore cable with a cross-sectional area of at least 5x1.5mm² or 4x1.5mm² when dealing with three-phase power supplies or 3x1.5mm² for single-phase supplies (by way of example, type H05VV-F cable can be used with a cross-sectional area of 4x1.5mm²). To connect auxiliary equipment, use wires with a cross-sectional area of at least 0.5mm².

- Only use pushbuttons with a capacity of 10A-250V or more.
- Wires must be secured with additional fastening near the terminals (for example, using cable clamps) in order to keep live parts well separated from safety extra low voltage parts.
- During installation, the power cable must be stripped to allow the earth wire to be connected to the relevant terminal, while leaving the live wires as short as possible. The earth wire must be the last to be pulled taut in the event the cable's fastening device comes loose.

WARNING! safety extra low voltage wires must be kept physically separate from low voltage wires.

Only qualified personnel (professional installer) should be allowed to access live parts.

CHECKING THE AUTOMATED SYSTEM AND MAINTENANCE

Before the automated system is finally put into operation, and during maintenance work, perform the following checks meticulously:

- Make sure all components are fastened securely.
- Check starting and stopping operations in the case of manual control.
- Check the logic for normal or personalized operation.
- For sliding gates only: check that the rack and pinion mesh correctly with 2 mm of play along the full length of the rack; keep the track the gate slides on clear and free of debris at all times.
- For sliding gates and doors only: make sure the gate's running track is straight and horizontal and that the wheels are strong enough to take the weight of the gate.
- For cantilever sliding gates only: make sure there is no dipping or swinging during operation.
- For swing gates only: make sure the leaves' axis of rotation is perfectly vertical.
- Check that all safety devices (photo-cells, safety edges, etc.) are working properly and that the anti-crush safety device is set correctly, making sure that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.
- Impact forces can be reduced by using deformable edges.
- Make sure that the emergency operation works, where this feature is provided.
- Check opening and closing operations with the control devices applied.
- Check that electrical connections and cabling are intact, making extra sure that insulating sheaths and cable glands are undamaged.
- While performing maintenance, clean the photo-cells' optics.
- When the automated system is out of service for any length of time, activate the emergency release (see "EMERGENCY OPERATION" section) so that the operated part is made idle, thus allowing the gate to be opened and closed manually.
- If the power cord is damaged, it must be replaced by the manufacturer or their technical assistance department or other such qualified person to avoid any risk.
- If "D" type devices are installed (as defined by EN12453), connect in unverified mode, foresee mandatory maintenance at least every six months

WARNING!

Remember that the drive is designed to make the gate/door easier to use and will not solve problems as a result of defective or poorly performed installation or lack of maintenance

SCRAPPING

Materials must be disposed of in accordance with the regulations in force. There are no particular hazards or risks involved in scrapping the automated system. For the purpose of recycling, it is best to separate dismantled parts into like materials (electrical parts - copper - aluminium - plastic - etc.).

DISMANTLING

If the automated system is being dismantled in order to be reassembled at another site, you are required to:

- Cut off the power and disconnect the whole electrical system.
- Remove the actuator from the base it is mounted on.
- Remove all the installation's components.
- See to the replacement of any components that cannot be removed or happen to be damaged.

Anything that is not explicitly provided for in the installation manual is not allowed. The operator's proper operation can only be guaranteed if the information given is complied with. The Firm shall not be answerable for damage caused by failure to comply with the instructions featured herein.

While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed opportune to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

1) FOREWORD

The **ICARO/ICARO FM** actuator offers ample installation versatility, thanks to the extremely low position of the pinion, the compactness of the actuator and to the height and depth which can be very easily adjusted. It is equipped with a clutch unit between motor shaft and worm screw in an oil bath to guarantee greater safety. The emergency manual release can be activated very easily by means of a knob featuring a personalised key.

The gate stop is controlled by electromechanical end-of-stroke microswitches or, for very cold areas, by proximity sensors.

The control board can be built-in or installed onto a separate cabinet.

“Installation must be carried out by qualified personnel (professional installer, according to EN 12635), in compliance with Good Practice and current code”



2) TECHNICAL SPECIFICATIONS

MOTOR	
Power supply	220-230V 50/60 Hz (*)
Motor	220-230V 50/60 Hz (*)
Power input	750W
Pinion module	4 mm 18 or 25 teeth
Leaf speed	9m/min (18 teet) /12m/min (25 teeth)
Max. leaf weight	with pinion Z18 20.000 N(≈2000 kg)
	with pinion Z25 10.000 N(≈1000 kg)
Max. torque	40Nm
Impact reaction	ICARO: Obstacle detection device (Encoder)
	ICARO FM: Clutch unit
Lubrication	ERGOIL
Manual operation	Knob-operated mechanical release
Type of use	intensive
Environmental conditions	from -15°C to +60°C
Protection rating	IP55
Noise level	<70dBA
Operator weight	25 kg
Dimensions	See Fig. G

(*) Special supply voltages to order.

3) TUBE ARRANGEMENT Fig.A

Install the electrical system referring to the standards in force for electrical systems CEI 64-8, IEC 364, harmonization document HD 384 and other national standards.

4) PREPARATION FOR MOTOR MOUNTING FIG.B

- Make a hole in the ground to accommodate the concrete pad, with anchors embedded in the base plate for fastening the gearbox assembly, keeping to the distances featured in **FIG.B**.
- To keep the base plate in the right position during installation, it may be useful to weld two iron plates under the track to which the anchors can then be welded (**FIG.I**).

5) MOUNTING THE MOTOR FIG.C

6) MOUNTING DRIVE ACCESSORIES FIG.D-D1

7) RACK CENTRING WITH RESPECT TO PINION FIG.J-K1-L

⚠ DANGER - Welding must be performed by a competent person issued with the necessary personal protective equipment as prescribed by the safety rules in force FIG.K.

8) FASTENING LIMIT SWITCH BRACKETS FIG.E

The runners must lock the gate before this intercepts the mechanical backstops placed on the track. The closing end-of-stroke runner adjustment must be made in such a way as to leave a clearance of approximately 50mm between the gate and the fixed swing leaf, as prescribed by the current safety standards, otherwise fit an electric edge at least 50mm thick **FIG.N**.

9) STOPS FIG.M

⚠ DANGER - The gate must be fitted with mechanical stops to halt its travel both when opening and closing, thus preventing the gate from coming off the top guide. Said stops must be fastened firmly to the ground, a few centimetres beyond the electric stop point.

10) MANUAL RELEASE (See USER GUIDE -FIG.2-).

Warning Do not JERK the gate open and closed, instead push it GENTLY to the end of its travel.

11) TERMINAL BOARD WIRING Fig. F

Once suitable electric cables have been run through the raceways and the automated device's various components have been fastened at the predetermined points, the next step is to connect them as directed and illustrated in the diagrams contained in the relevant instruction manuals. Connect the live, neutral and earth wire (compulsory). The mains cable must be clamped in the relevant cable gland (**FIG.O-ref.P1**), and the accessories' wires in the cable gland (**FIG.O-ref.P2**), while the earth wire with the yellow/green-coloured sheath must be connected in the relevant terminal (**FIG.O-ref.GND**).

FIG.O-ref.P3: limit switch wiring.



WARNING! The ICARO actuator does not feature mechanical safety clutch adjustment, making it essential to use a control panel with the electronic torque control feature.

FOR ICARO FM ONLY:



WARNING! The ICARO FM actuator features mechanical safety clutch adjustment, making it essential to disable the encoder function.

12) ADJUSTMENT OF SAFETY CLUTCH FIG. P

Loading of clutch:

Keep the motor shaft still with the special spanner (CH 17), and tighten the nut located on top of the loading spring (CH 13).

Release of the clutch:

Carry out the same operation as above but turn the nut (CH 13) counterclockwise.

Make sure the operating force is not too low, so as to avoid useless stops of the gate due to deposits on the rail. However it is important to observe the anti-squash safety limits regulations.



13) SEE THE CONTROL UNIT'S USER GUIDE FOR INFORMATION ON SETTING THE MOTOR'S PARAMETERS

14) FASTENING THE COVER Fig. Q