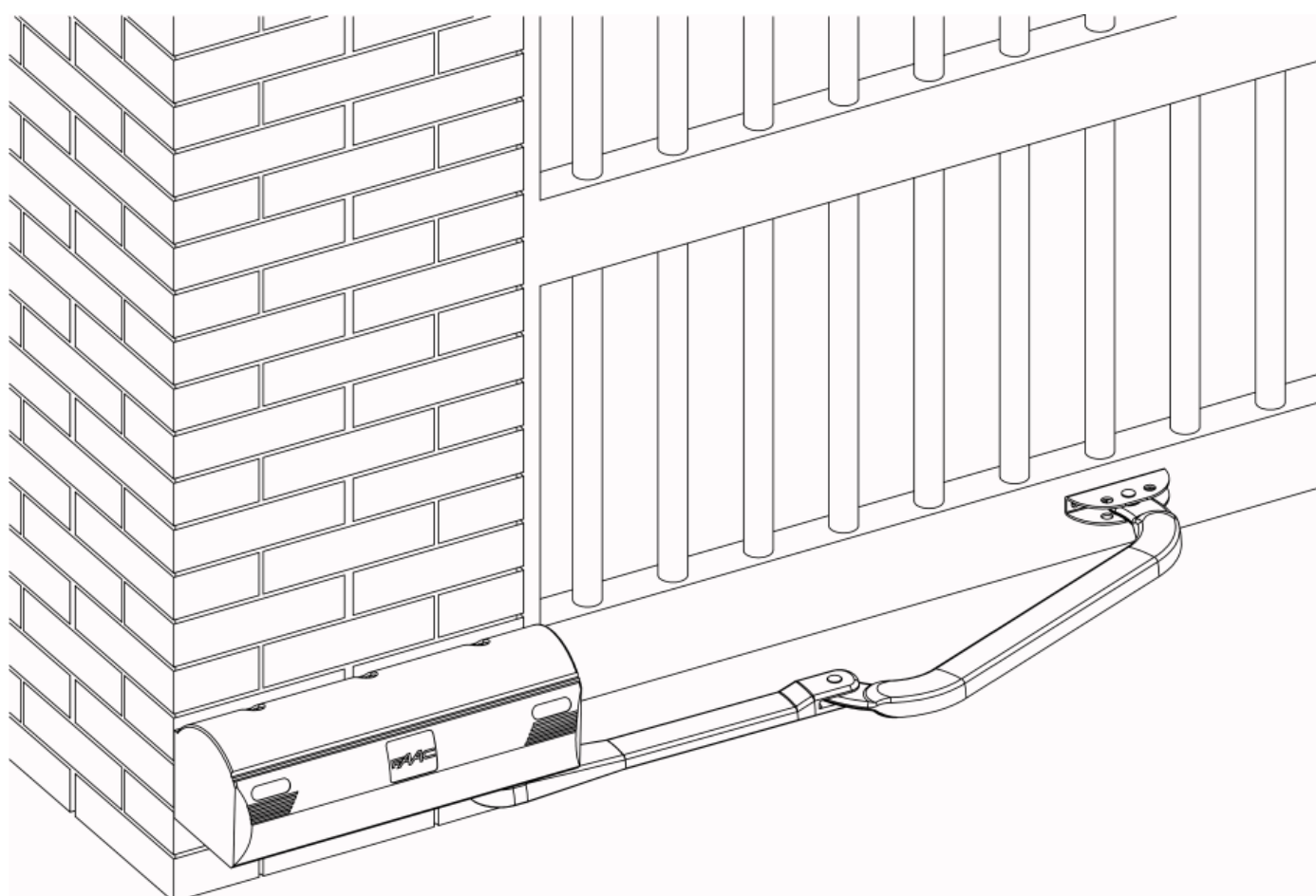


390



FAAC

ITALIANO

AVVERTENZE PER L'INSTALLATORE OBBLIGHI GENERALI PER LA SICUREZZA



ATTENZIONE! È importante per la sicurezza delle persone seguire attentamente tutta l'istruzione. Una errata installazione o un errato uso del prodotto può portare a gravi danni alle persone.

1. Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.
2. I materiali dell'imballaggio (plastica, polistirolo, ecc.) non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.
3. Conservare le istruzioni per riferimenti futuri.
4. Questo prodotto è stato progettato e costruito esclusivamente per l'utilizzo indicato in questa documentazione. Qualsiasi altro utilizzo non espressamente indicato potrebbe pregiudicare l'integrità del prodotto e/o rappresentare fonte di pericolo.
5. FAAC declina qualsiasi responsabilità derivata dall'uso improprio o diverso da quello per cui l'automatismo è destinato.
6. Non installare l'apparecchio in atmosfera esplosiva: la presenza di gas o fumi infiammabili costituisce un grave pericolo per la sicurezza.
7. Gli elementi costruttivi meccanici devono essere in accordo con quanto stabilito dalle Norme EN 12604 e EN 12605.
8. Per i Paesi extra-CEE, oltre ai riferimenti normativi nazionali, per ottenere un livello di sicurezza adeguato, devono essere seguite le Norme sopra riportate.
9. FAAC non è responsabile dell'inosservanza della Buona Tecnica nella costruzione delle chiusure da motorizzare, nonché delle deformazioni che dovessero intervenire nell'utilizzo.
10. L'installazione deve essere effettuata nell'osservanza delle Norme EN 12453 e EN 12445. Il livello di sicurezza dell'automazione deve essere C+D.
11. Prima di effettuare qualsiasi intervento sull'impianto, togliere l'alimentazione elettrica e scollegare le batterie.
12. Prevedere sulla rete di alimentazione dell'automazione un interruttore onnipolare con distanza d'apertura dei contatti uguale o superiore a 3 mm. È consigliabile l'uso di un magnetotermico da 6A con interruzione onnipolare.
13. Verificare che a monte dell'impianto vi sia un interruttore differenziale con soglia da 0,03 A.
14. Verificare che l'impianto di terra sia realizzato a regola d'arte e collegarvi le parti metalliche della chiusura.
15. L'automazione dispone di una sicurezza intrinseca antischiacciamento costituita da un controllo di coppia. E' comunque necessario verificarne la soglia di intervento secondo quanto previsto dalle Norme indicate al punto 10.
16. I dispositivi di sicurezza (norma EN 12978) permettono di proteggere eventuali aree di pericolo da Rischi meccanici di movimento, come ad Es. schiacciamento, convogliamento, cesoiamento.
17. Per ogni impianto è consigliato l'utilizzo di almeno una segnalazione luminosa nonché di un cartello di segnalazione fissato adeguatamente sulla struttura dell'infisso, oltre ai dispositivi citati al punto "16".
18. FAAC declina ogni responsabilità ai fini della sicurezza e del buon funzionamento dell'automazione, in caso vengano utilizzati componenti dell'impianto non di produzione FAAC.
19. Per la manutenzione utilizzare esclusivamente parti originali FAAC.
20. Non eseguire alcuna modifica sui componenti facenti parte del sistema d'automazione.
21. L'installatore deve fornire tutte le informazioni relative al funzionamento manuale del sistema in caso di emergenza e consegnare all'Utente utilizzatore dell'impianto il libretto d'avvertenze allegato al prodotto.
22. Non permettere ai bambini o persone di sostare nelle vicinanze del prodotto durante il funzionamento.
23. L'applicazione non può essere utilizzata da bambini, da persone con ridotte capacità fisiche, mentali, sensoriali o da persone prive di esperienza o del necessario addestramento.
24. Tenere fuori dalla portata dei bambini radiocomandi o qualsiasi altro datore di impulso, per evitare che l'automazione possa essere azionata involontariamente.
25. Il transito tra le ante deve avvenire solo a cancello completamente aperto.
26. L'utente utilizzatore deve astenersi da qualsiasi tentativo di riparazione o d'intervento e deve rivolgersi solo ed esclusivamente a personale qualificato FAAC o centri d'assistenza FAAC.
27. Tutto quello che non è previsto espressamente in queste istruzioni non è permesso.

ENGLISH

IMPORTANT NOTICE FOR THE INSTALLER GENERAL SAFETY REGULATIONS



ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.

1. Carefully read the instructions before beginning to install the product.
2. Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
3. Store these instructions for future reference.
4. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
5. FAAC declines all liability caused by improper use or use other than that for which the automated system was intended.
6. Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.
7. The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605.
8. For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
9. FAAC is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorised, or for any deformation that may occur during use.
10. The installation must conform to Standards EN 12453 and EN 12445. The safety level of the automated system must be C+D.
11. Before attempting any job on the system, cut out electrical power and disconnect the batteries.
12. The mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater. Use of a 6A thermal breaker with all-pole circuit break is recommended.
13. Make sure that a differential switch with threshold of 0.03 A is fitted upstream of the system.
14. Make sure that the earthing system is perfectly constructed, and connect metal parts of the means of the closure to it.
15. The automated system is supplied with an intrinsic anti-crushing safety device consisting

of a torque control. Nevertheless, its tripping threshold must be checked as specified in the Standards indicated at point 10.

16. The safety devices (EN 12978 standard) protect any danger areas against mechanical movement Risks, such as crushing, dragging, and shearing.
17. Use of at least one indicator-light is recommended for every system, as well as a warning sign adequately secured to the frame structure, in addition to the devices mentioned at point "16".
18. FAAC declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by FAAC are used.
19. For maintenance, strictly use original parts by FAAC.
20. Do not in any way modify the components of the automated system.
21. The installer shall supply all information concerning manual operation of the system in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.
22. Do not allow children or adults to stay near the product while it is operating.
23. The application cannot be used by children, by people with reduced physical, mental, sensorial capacity, or by people without experience or the necessary training.
24. Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
25. Transit through the leaves is allowed only when the gate is fully open.
26. The User must not in any way attempt to repair or to take direct action and must solely contact qualified FAAC personnel or FAAC service centres.
27. Anything not expressly specified in these instructions is not permitted.

FRANÇAIS

CONSIGNES POUR L'INSTALLATEUR

RÈGLES DE SÉCURITÉ



ATTENTION! Il est important, pour la sécurité des personnes, de suivre à la lettre toutes les instructions. Une installation erronée ou un usage erroné du produit peut entraîner de graves conséquences pour les personnes.

1. Lire attentivement les instructions avant d'installer le produit.
2. Les matériaux d'emballage (matière plastique, polystyrène, etc.) ne doivent pas être laissés à la portée des enfants car ils constituent des sources potentielles de danger.
3. Conserver les instructions pour les références futures.
4. Ce produit a été conçu et construit exclusivement pour l'usage indiqué dans cette documentation. Toute autre utilisation non expressément indiquée pourrait compromettre l'intégrité du produit et/ou représenter une source de danger.
5. FAAC décline toute responsabilité qui dériverait d'usage improprie ou différent de celui auquel l'automatisme est destiné.
6. Ne pas installer l'appareil dans une atmosphère explosive: la présence de gaz ou de fumées inflammables constitue un grave danger pour la sécurité.
7. Les composants mécaniques doivent répondre aux prescriptions des Normes EN 12604 et EN 12605.
8. Pour les Pays extra-CEE, l'obtention d'un niveau de sécurité approprié exige non seulement le respect des normes nationales, mais également le respect des Normes susmentionnées.
9. FAAC n'est pas responsable du non-respect de la Bonne Technique dans la construction des fermetures à motoriser, ni des déformations qui pourraient intervenir lors de l'utilisation.
10. L'installation doit être effectuée conformément aux Normes EN 12453 et EN 12445. Le niveau de sécurité de l'automatisme doit être C+D.
11. Couper l'alimentation électrique et déconnecter la batterie avant toute intervention sur l'installation.
12. Prévoir, sur le secteur d'alimentation de l'automatisme, un interrupteur onnipolaire avec une distance d'ouverture des contacts égale ou supérieure à 3 mm. On recommande d'utiliser un magnétothermique de 6A avec interruption onnipolaire.
13. Vérifier qu'il y ait, en amont de l'installation, un interrupteur différentiel avec un seuil de 0,03 A.
14. Vérifier que la mise à terre est réalisée selon les règles de l'art et y connecter les pièces métalliques de la fermeture.
15. L'automatisme dispose d'une sécurité intrinsèque anti-écrasement, formée d'un contrôle du couple. Il est toutefois nécessaire d'en vérifier le seuil d'intervention suivant les prescriptions des Normes indiquées au point 10.
16. Les dispositifs de sécurité (norme EN 12978) permettent de protéger des zones éventuellement dangereuses contre les Risques mécaniques du mouvement, comme l'écrasement, l'acheminement, le cisaillement.
17. On recommande que toute installation soit dotée au moins d'une signalisation lumineuse, d'un panneau de signalisation fixé, de manière appropriée, sur la structure de la fermeture, ainsi que des dispositifs cités au point "16".
18. FAAC décline toute responsabilité quant à la sécurité et au bon fonctionnement de l'automatisme si les composants utilisés dans l'installation n'appartiennent pas à la production FAAC.
19. Utiliser exclusivement, pour l'entretien, des pièces FAAC originales.
20. Ne jamais modifier les composants faisant partie du système d'automatisme.
21. L'installateur doit fournir toutes les informations relatives au fonctionnement manuel du système en cas d'urgence et remettre à l'Usager qui utilise l'installation les "Instructions pour l'Usager" fournies avec le produit.
22. Interdire aux enfants ou aux tiers de stationner près du produit durant le fonctionnement.
23. Ne pas permettre aux enfants, aux personnes ayant des capacités physiques, mentales et sensorielles limitées ou dépourvues de l'expérience ou de la formation nécessaires d'utiliser l'application en question.
24. Eloigner de la portée des enfants les radiocommandes ou tout autre générateur d'impulsions, pour éviter tout actionnement involontaire de l'automatisme.
25. Le transit entre les vantaux ne doit avoir lieu que lorsque le portail est complètement ouvert.
26. L'utilisateur doit s'abstenir de toute tentative de réparation ou d'intervention et doit s'adresser uniquement et exclusivement au personnel qualifié FAAC ou aux centres d'assistance FAAC.
27. Tout ce qui n'est pas prévu expressément dans ces instructions est interdit.

ESPAÑOL

ADVERTENCIAS PARA EL INSTALADOR REGLAS GENERALES PARA LA SEGURIDAD



ATENCIÓN! Es sumamente importante para la seguridad de las personas seguir atentamente las presentes instrucciones. Una instalación incorrecta o un uso impropio del producto puede causar graves daños a las personas.

1. Leer detenidamente las instrucciones antes de instalar el producto.
2. Los materiales del embalaje (plástico, poliestireno, etc.) no deben dejarse al alcance

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CE DECLARATION OF CONFORMITY FOR MACHINES (DIRECTIVE 98/37/EC)

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1 - 40069 - Zola Predosa - Bologna - ITALY

Declares that: Operator mod. **390 / 390 24** with 230 Vac power supply

- is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provisions of Directive 98/37/EC;
- conforms to the essential safety requirements of the following EEC directives:
 - 2006/95/EC Low Voltage directive.
 - 2004/108/EC Electromagnetic Compatibility directive.



and also declares that it is prohibited to put into service the machinery until the machine in which it will be integrated or of which it will become a component has been identified and declared as conforming to the conditions of Directive 89/392/EEC and subsequent modifications assimilated in Italian National legislation under Presidential decree No.459 of 24 July 1996.

Bologna, 30 May 2008

Managing Director
A. Marcellan


Notes on reading the instruction

Read this installation manual to the full before you begin installing the product.

The symbol  indicates notes that are important for the safety of persons and for the good condition of the automated system.
The symbol  draws your attention to the notes on the characteristics and operation of the product.

These instructions apply to the following model:

390

The external automation with articulated arms automates residential swing-leaf gates with leaves of up to 3m in length, and is ideal for applications on large pilasters without the need to provide niches (sometimes required to observe the installation dimensions of piston driven devices).

It consists of an irreversible electro-mechanical operator with guard and an articulated-arm activation system to be fitted to the gate with the appropriate accessories.

The irreversible system ensures the gate is mechanical locked when the motor is not operating. No lock need be installed for leaves up to 2m in length.

A manual release makes it possible to move the gate in the event of a power-cut or fault.

⚠ To obtain anti-crushing protection, you have to use electronic appliances with a torque control electronic device.

The automation was designed and manufactured to control access of vehicles. Avoid any other use whatever.

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS

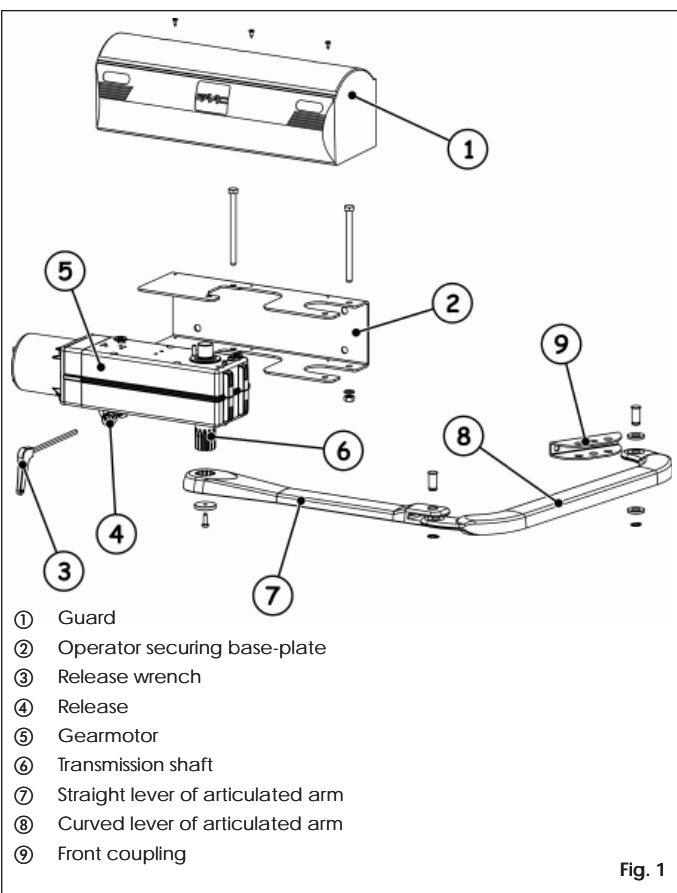


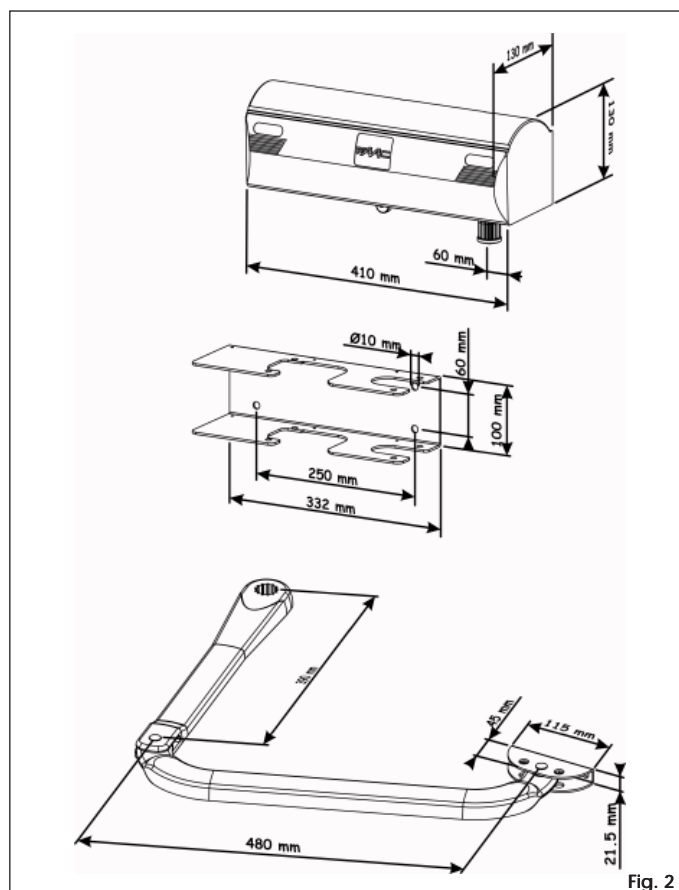
Fig. 1

TAB. 1 TECHNICAL SPECIFICATION OF OPERATOR

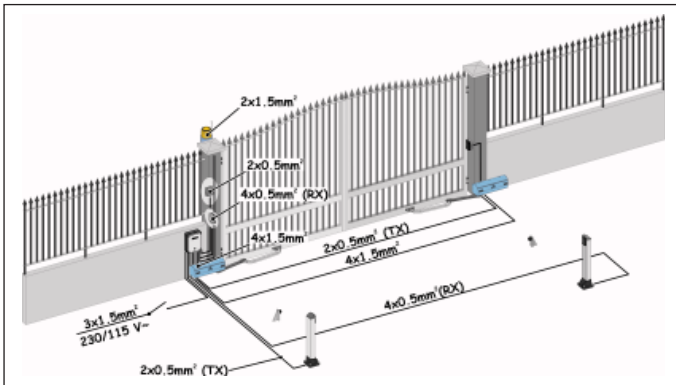
MODEL	390	
Power supply	230V~ 50Hz	24 Vdc
Power absorption	280 W	40 W
Current absorption	1.2 A	2 A
Max torque	250 Nm	200 Nm
Starting capacitor	8 µF	/
Leaf max length [Ⓞ]	3 m	
Thermal protection for winding	140 °C	/
Reduction ratio	1:700	
Angular velocity	8 °/sec	
Ambient temperature	-20 °C +55 °C	
Use frequency	S3 - 30%	S3 - 100%
Cycles / hour	>30	>100
Weight of gearmotor	11.5 Kg	
Protection class	IP 44	
Gearmotor overall dimension	Vedi Fig. 2	

[Ⓞ] An electrolock should be installed in the event of leaves exceeding 2 metres, in order to guarantee the leaf blocking.

2. DIMENSIONS



3. ELECTRICAL EQUIPMENT (standards system)



- ① Operators
- ② Photocells
- ③ Electronic equipment
- ④ Key-operated push-button
- ⑤ Radio receiver
- ⑥ Flashlight

Fig. 3

To lay electrical cables, use adequate rigid and/or flexible tubes.

Always separate low voltage accessories from those operating at 230/115 V~. To avoid any interference, always use separate sheaths.

4. INSTALLATION OF AUTOMATION

4.1. PRELIMINARY CHECKS

To ensure safety and an efficient automation, make sure the following requirements are met:

- The gate structure must be suitable for automation. In particular, make sure it is sufficiently sturdy and rigid, and that its dimensions are in line with those indicated in the technical specifications.
- Make sure that the leaves move properly and uniformly, without any irregular friction during their entire travel.
- Check if hinges are in good condition.
- Make sure the travel limit mechanical stops are present. We advise you to carry out any metalwork jobs before installing the automation.

4.2. INSTALLATION DIMENSIONS

Establish the installation position of the operator by consulting Fig. 4-5-6.

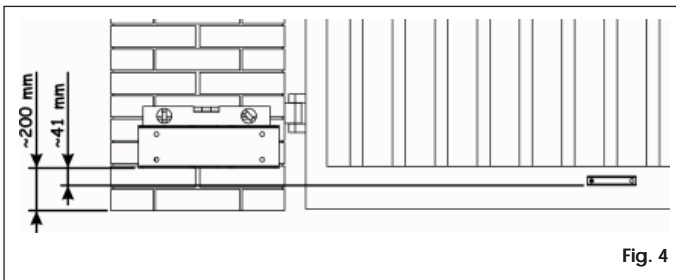
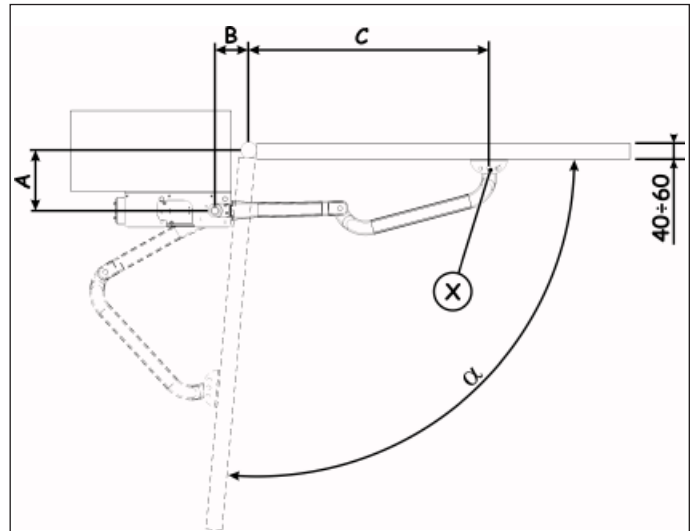


Fig. 4

4.2.1. RECOMMENDED DIMENSIONS FOR INWARD OPENING

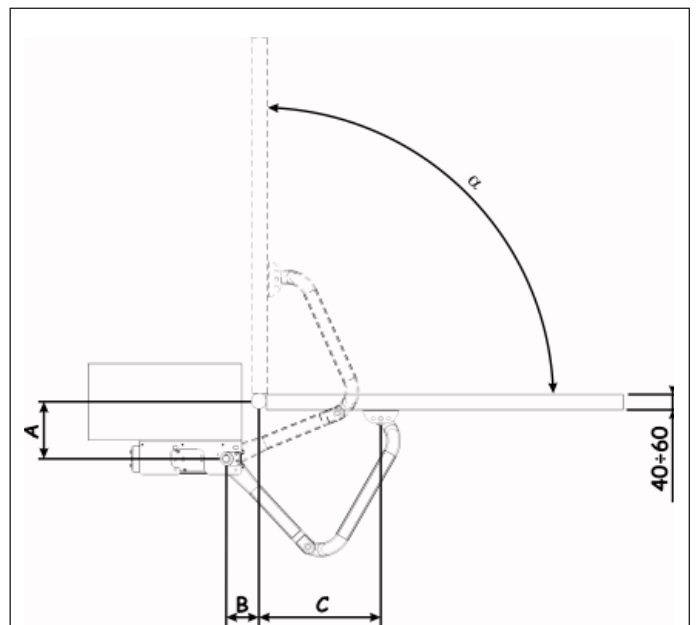


A (mm)	B (mm)	C max. (mm)	α (°)
60 ÷ 110	110 ÷ 130	730	90
110 ÷ 160		720	
160 ÷ 210		710	
210 ÷ 260		700	
260 ÷ 310		690	
310 ÷ 360		670	
60 ÷ 110	190 ÷ 210	650	120
110 ÷ 160	230 ÷ 250	600	
160 ÷ 210	290 ÷ 310	540	
210 ÷ 260	310 ÷ 330	510	120

Fig. 5

As for 120° openings the curved arm must be fixed to the hole marked with the letter "X".

4.2.2. RECOMMENDED DIMENSIONS FOR OUTWARD OPENING

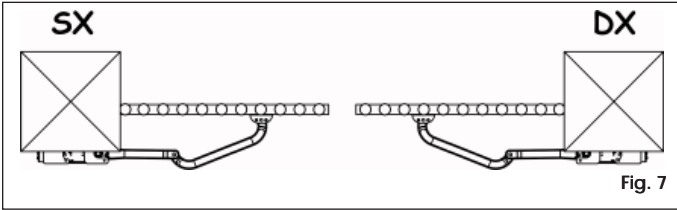


A (mm)	B (mm)	C max. (mm)	α (°)
60 ÷ 110	110 ÷ 130	430	90
110 ÷ 160		380	
160 ÷ 210		330	
210 ÷ 260		280	
260 ÷ 310		240	

Fig. 6

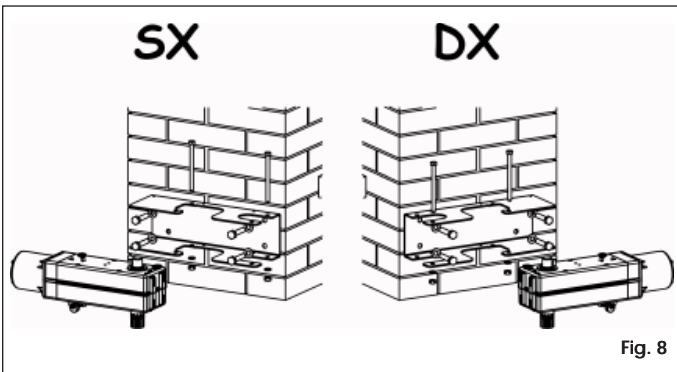
4.3. INSTALLATION STEPS

The operator, base-plate and articulated arm are designed either for right-hand or left-hand (Fig. 7) installation.

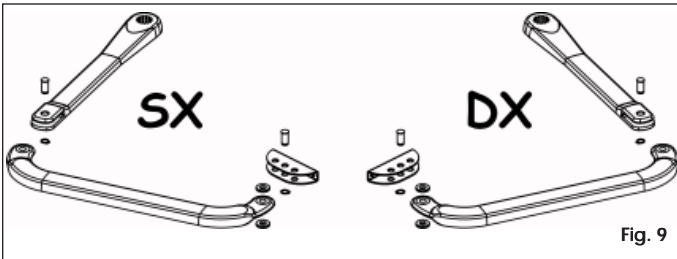


- Secure the base-plate to the pilaster, using Ø10 screws and suitable expansion plugs (Fig. 8), and check it is perfectly horizontal.
- Fit the gearmotor unit on the base-plate and secure it with the two screws, nuts and flexible washers (Fig.8).

The transmission shaft must always face downward.

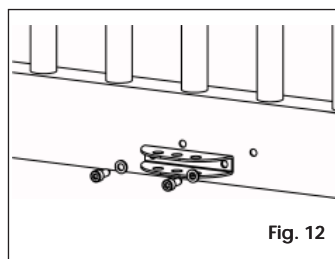
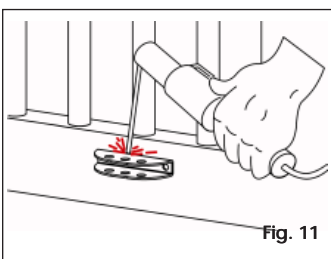
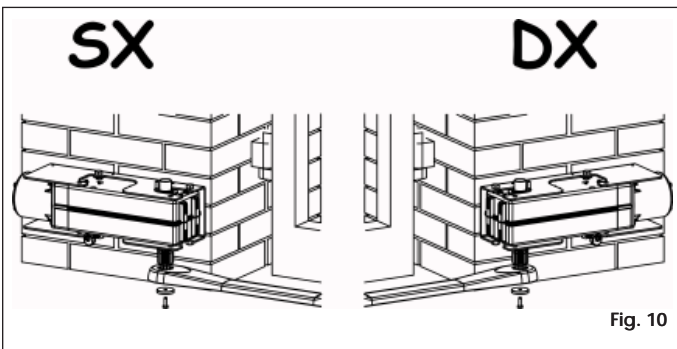


- Assemble the articulated arm and front coupling as shown in Fig. 9.



- Fit the straight lever of the articulated arm on the gearmotor shaft and tighten it with the supplied screw and washer (Fig. 10).
- Release the operator (chapter 5.)
- Establish the securing position of the front coupling on the leaf, observing dimension "C" defined previously (chapter 4.2). Check that arm and coupling are perfectly horizontal.

The coupling may be welded directly onto the leaf (Fig. 11) or screwed by using the threaded inserts (Fig. 12).



- In both cases, mark the position of the front fitting and provisionally remove the coupling from the arm in order to secure it.
- After having fastened the front fitting, mount the arm again
- Fit the guards on the operator (Fig. 10).
- Re-lock the operator (chapter 6.)

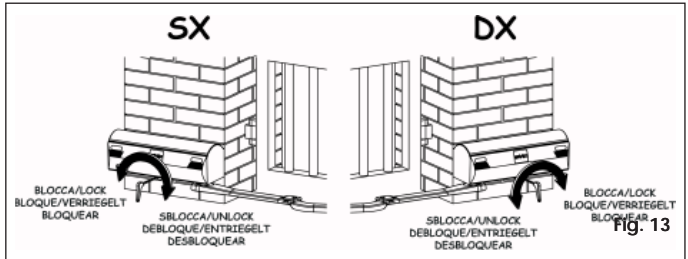
- Make the electrical connections of the selected electronic appliance, observing the annexed instructions.

4.4. TEST OF THE AUTOMATION

When you have finished installation, carefully check the operating efficiency of the automation and of all accessories connected to it, safety devices in particular.

Hand the "User's Guide" page to the Client, and describe how the operator should function and be used correctly, stressing the potentially dangerous areas of the automation.

5. MANUAL OPERATING MODE



If the gate has to be operated manually in the event of a power-cut or fault to the automation, use the release device as follows:

- Cut power to the system.**

- Fit the supplied Allen wrench and turn it by about a half turn until it stops, in the direction shown in Fig. 13, depending on type of installation.
- Move the gate by hand.

6. RESTORING NORMAL OPERATING MODE

- To avoid an involuntary pulse from activating the gate during the manoeuvre, before re-locking the operator, switch off power to the system.**

- Fit the supplied Allen wrench and turn it by about a half turn until it stops, in the direction shown in Fig. 13, depending on type of installation.
- make sure that the gate cannot be moved manually.
- Restore power to the system.

7. MAINTENANCE

To ensure correct long-term operation and a constant level of safety, we advise you to generally control the system at least every 6 months. In the "User's Guide" booklet, there is a form for recording jobs.

8. REPAIRS

- The User must not in any way attempt to repair or to take direct action and must solely contact qualified FAAC personnel or FAAC service centres.**

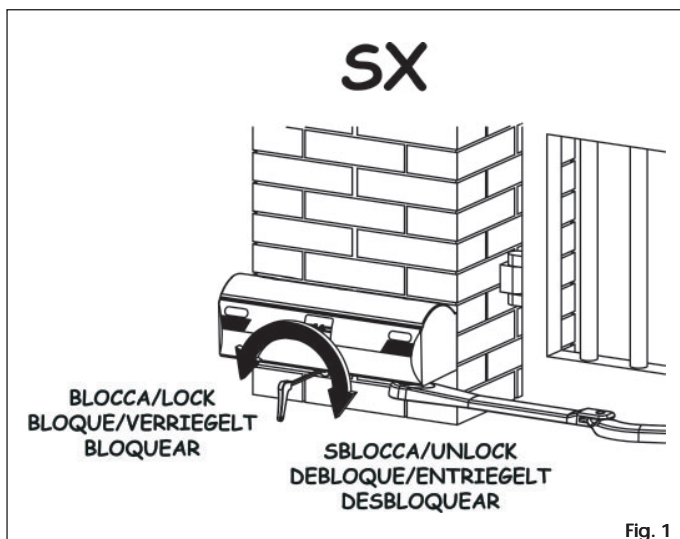


Fig. 1

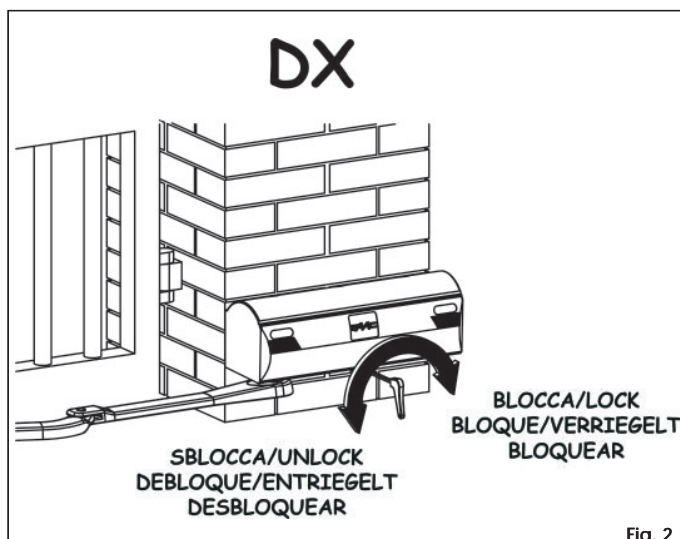


Fig. 2

⚠ Read the instructions carefully before using the product, and keep them for future consultation

⚠ The User must not in any way attempt to repair or to take direct action and must solely contact qualified FAAC personnel or FAAC service centres.

GENERAL SAFETY REGULATIONS

If used correctly, the automation will ensure a high degree of safety.

Some simple rules regarding behaviour will avoid any accidental trouble:

1. Do not pass through the leaves while they are moving. Before passing through the leaves, wait until they are fully open.
2. Do not, on any account, stand between the leaves.
3. Do not stand near the automation and do not allow children and other people to stand there, especially while it is operating.
4. Keep remote controls or any other pulse generator well away from children to prevent the automation from being activated involuntarily.
5. Do not allow children to play with the automation.
6. The application cannot be used by children, by people with reduced physical, mental, sensorial capacity, or by people without experience or the necessary training.
7. Do not willingly obstruct movement of the leaves.
8. Do not allow branches or shrubs to interfere with leaf movement.
9. Keep illuminated signalling systems efficient and clearly visible.
10. Do not attempt to activate the leaves manually unless you have released them first of all.
11. In the event of a malfunction, release the leaves to allow access and wait for qualified personnel to take appropriate action.
12. After enabling manual operating mode, switch off the power supply to the system before restoring normal operating mode.
13. Do not make any alterations to the components of the automation.
14. The User must not in any way attempt to repair or to take direct action and must solely contact qualified FAAC personnel or FAAC service centres.
15. Call in qualified personnel at least every 6 months to check the efficiency of the automation, safety devices and earth connection.

DESCRIPTION

These instructions apply to the following model:

390,

390 automation for residential swing-leaf gates consists of an irreversible electro-mechanical operator with guard and an articulated-arm activation system fitted to the gate with the appropriate accessories.

The irreversible system ensures the gate is mechanically locked when the motor is not operating. No lock need be installed for leaves up to 2 m in length.

A manual release makes it possible to move the gate in the event of a power-cut or fault.

The operators are supervised by an electronic control unit, housed in a container adequately protected against atmospheric agents.

The leaves are normally in closed position.

When the electronic control unit receives an opening command by remote control or by any other pulse generator, it activates the operator to rotate the leaves until they are sufficiently open to provide access.

If automatic operating mode was set, the leaves close on their own after the selected pause time has elapsed.

If semi-automatic operating mode was set, a second pulse must be sent to allow the leaves to close again.

A stop pulse (if supplied) always stops movement.

For detail on operation of the automation under different operational logics, consult the installation technician.

The automations include safety devices (photocells, sensitive edges,...) which prevent the leaves from moving when there is an obstacle in the area they protect.

The light indicates that leaves are moving.

MANUAL OPERATING MODE

If the gate has to be operated manually in the event of a power-cut or fault to the automation, use the release device as follows:

⚠ Cut power to the system.

- Fit the supplied Allen wrench and turn it by about a half turn until it stops, in the direction shown in Fig. 13, depending on type of installation.
- Move the gate by hand.

RESTORING NORMAL OPERATING MODE

⚠ To avoid an involuntary pulse from activating the gate during the manoeuvre, before re-locking the operator, switch off power to the system.

- Fit the supplied Allen wrench and turn it by about a half turn until it stops, in the direction shown in Fig. 13, depending on type of installation.
- make sure that the gate cannot be moved manually.
- Restore power to the system.