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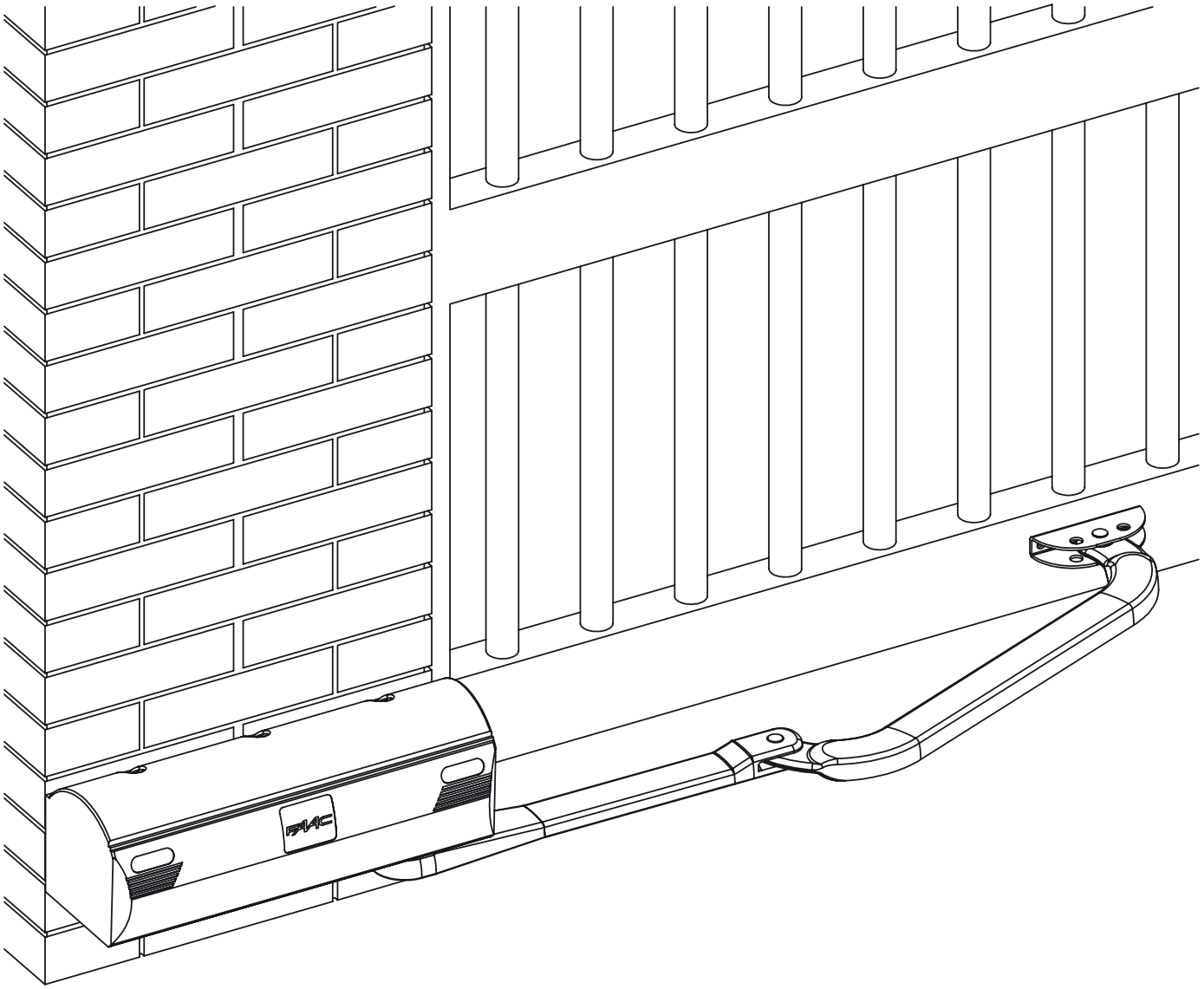

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CE DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.

Address: Via Calari, 10 - 40069 - Zola Predosa - Bologna - ITALY

Declares that: Operator mod. **390 / 390 24** with 230 V~ 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 2006/42/EEC;
- 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 2006/42/EEC and subsequent modifications.

Bologna, December 30, 2009

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.

Thank you for choosing our product. FAAC is sure that it will give you all the performances you are looking for. All our products are the result of a long experience in the field of the automated systems.

In the middle of the handbook you will find a detachable brochure with the images for the installation.

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.

IMPORTANT NOTES FOR INSTALLER

- **Before starting the installation of the operator read this manual completely.**
- **Keep this manual for future reference.**
- **Smooth operation and specifications are obtained only declared following the directions given in this handbook and with accessories and safety devices FAAC.**
- **The lack of a mechanical clutch device requires to ensure an adequate level of security automation, the use of a central control device with an electronically controlled clutch.**
- **The automation was designed and built to control vehicular access. Avoid any other use.**
- **The operator can not be used to handle emergency exit routes or gates installed on emergency (escape routes).**
- **If there is built-in anti motorize from a door to the walkway is required to add a safety switch on the door, connected on the entry of STOP, to inhibit the operation of automation with door open.**
- **Everything that is not expressly stated in this manual is not allowed.**

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS

With reference to Figure 1

Pos	Description
①	Guard
②	Operator securing base-plate
③	Release wrench
④	Release
⑤	Gearmotor
⑥	Transmission shaft
⑦	Straight lever of articulated arm
⑧	Curved lever of articulated arm
⑨	Front coupling

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
Nominal Torque	170 Nm	140 Nm
Starting capacitor	8 µF	/
Leaf max length ①	3 m	
Thermal protection for winding	140 °C	/
Reduction ratio	1:700	
Angular velocity	8 °/sec	
Ambient temperature	-20 °C +55 °C	
Use frequency at 20°C	S3 - 30%	S3 - 100%
Cycles / hour at 20°C	>30	>100
Noise	<70 dB(A)	
Weight of gearmotor	11.5 Kg	
Protection class	IP 44	
Gearmotor overall dimension	Vedi Fig. 2	

① An electrolock should be installed in the event of leaves exceeding 2 metres, in order to guarantee the leaf blocking.

2. ELECTRICAL EQUIPMENT (standards system)

With reference to Figure 3

Pos.	Description	Cables	
		230 Vac	24 Vdc
①	Operators	4x1 mm²	2x1.5mm²
②	TX photocells	2x0.5 mm²	
③	RX photocells	4x0.5 mm²	
④	Key selector	2x0.5 mm²	
⑤	Flashing lamp	2x1.5 mm²	
⑥	Control unit	3x1.5 mm² (power supply)	
⑦	Mechanical stops	—	

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

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

For the motor cable to use a sheath suitable for outdoor use, a hand that is piped in special ducts always external use.

3. INSTALLATION OF AUTOMATION

3.1. 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.

3.2. INSTALLATION DIMENSIONS

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

INWARD OPENING (Fig. 5)			
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

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

OUTWARD OPENING (Fig. 6)			
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	

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3.3. 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 4.)
- 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 5.)
- Make the electrical connections of the selected electronic appliance, observing the annexed instructions.

3.4. 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.

4. 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.

5. 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.

6. 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.

7. 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.***

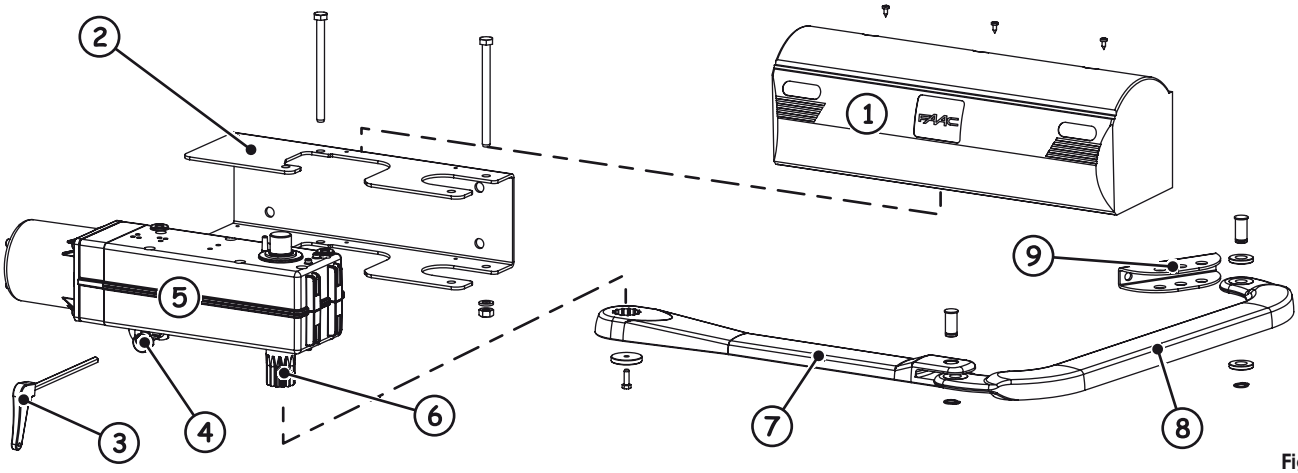

Fig. 1

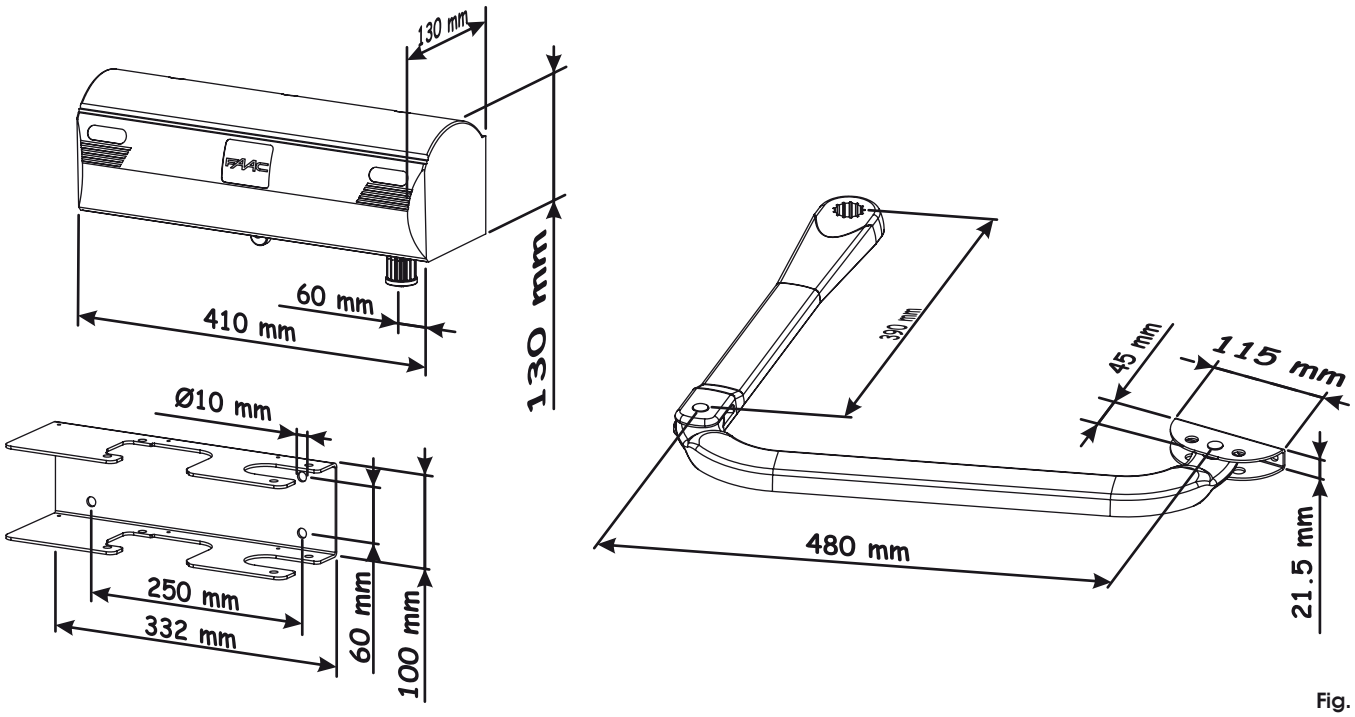

Fig. 2

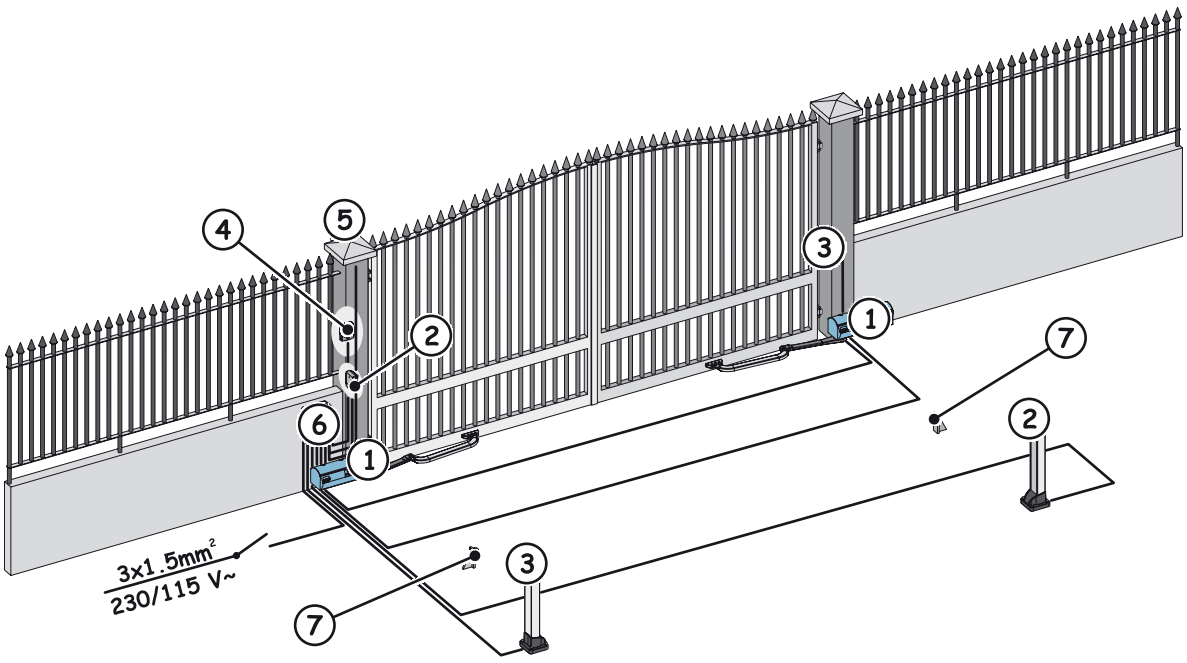

Fig. 3

Immagini - Images - Images - Imágenes - Bilder - Afbeeldingen

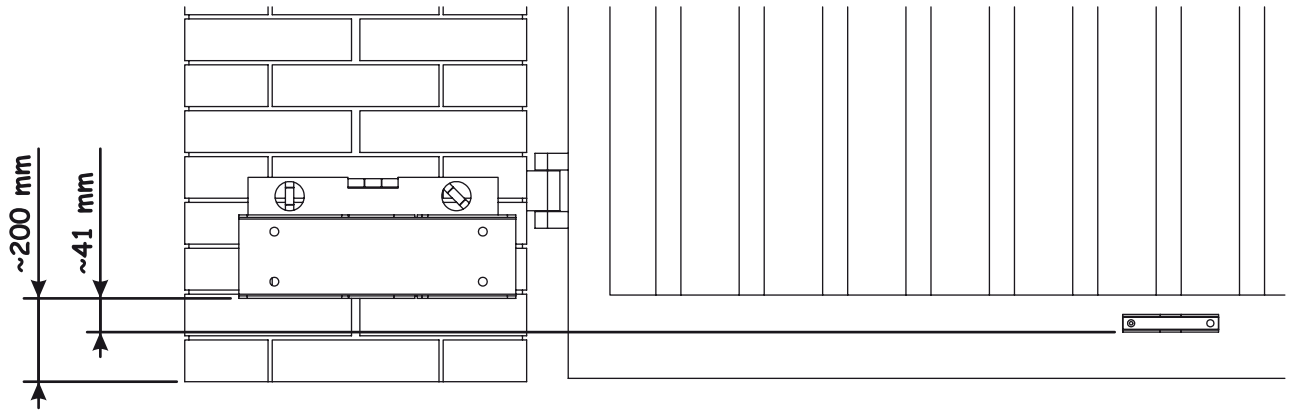

Fig. 4

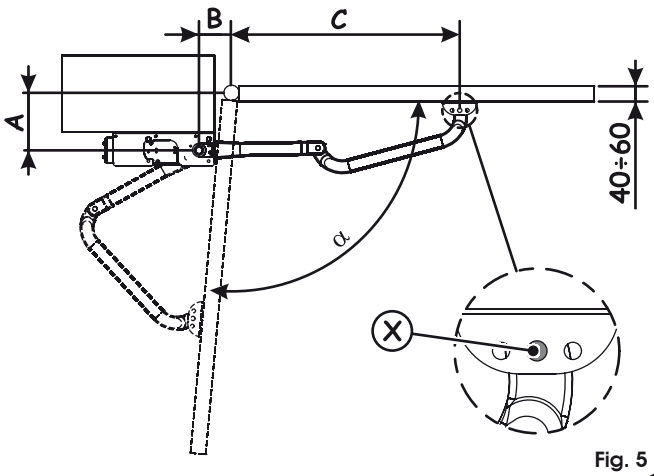

Fig. 5

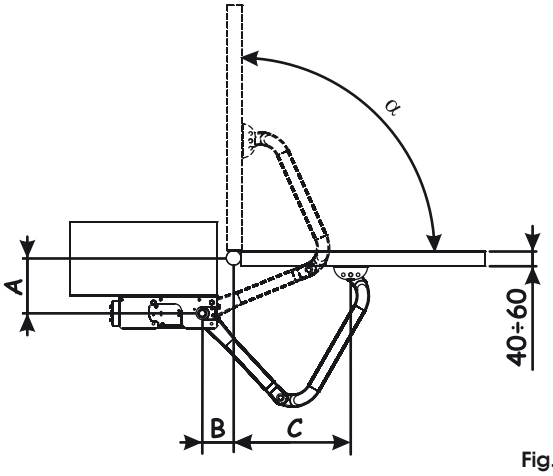

Fig. 6

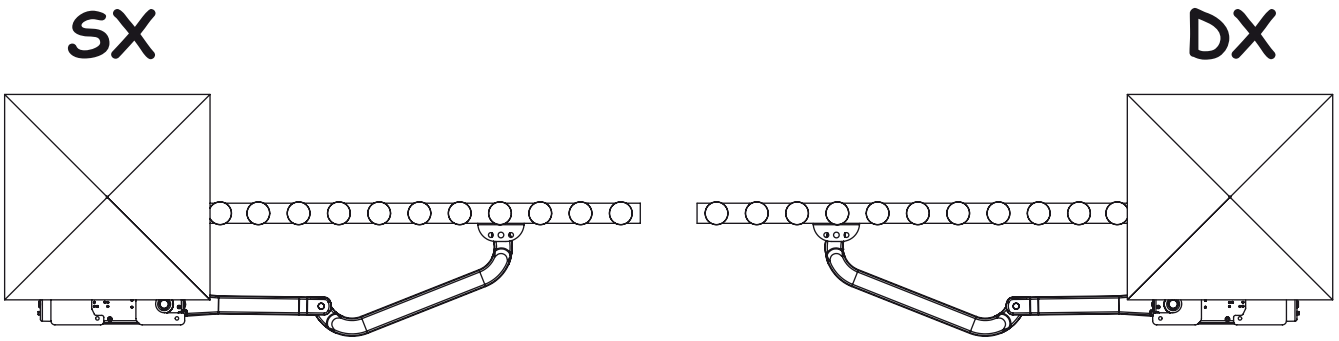

Fig. 7

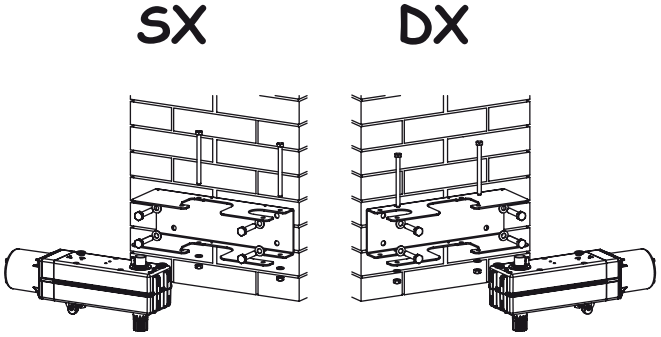

Fig. 8

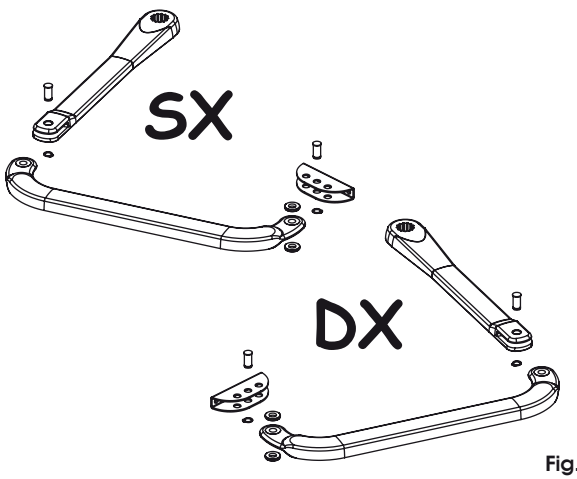

Fig. 9