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ENGLISH

CE DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1 40069 Zola Predosa Bologna ITALY

Declares that: Operator mod. **B 604 24V** with 230 Vac power supply

- is built to be incorporated in 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 other following EEC directives:
  73/23/EEC and subsequent amendment 93/68/EEC.
  89/336/EEC and subsequent amendment 92/31/EEC and 93/68/EEC

Furthermore, the manufacturer declares that the machinery must not be put into service until the machine into which it will be incorporated or of which it will become a part has been identified and its conformity to the conditions of Directive 98/37/EC has been declared.

Bologna, 30-06-2007

Managing Director
A. Bassi

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.

B 604 AUTOMATED SYSTEM

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The **B 604** automated system is an electronic barrier designed for vehicle accesses

The automated system mainly consists of three parts:

- A motor body which integrates the non-reversing low voltage motor, the control board, the flashing light, the balancing spring and the release system.
- The rod of which several types are available according to installation requirements.
- The securing support, available for on-wall or on-column installation.

The built-in control unit was positioned to facilitate all the wiring, programming and adjustment operations.

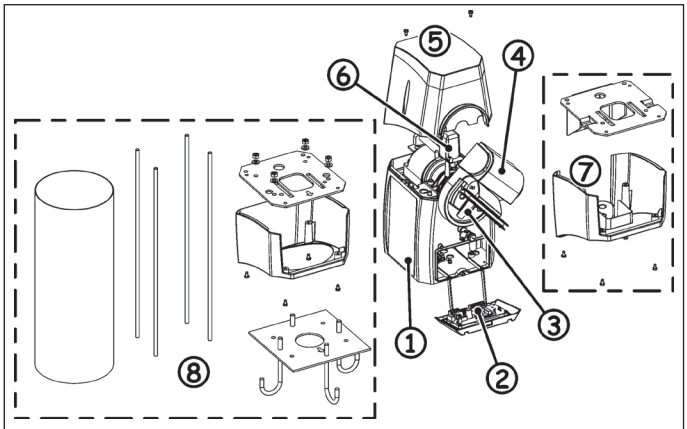
A handy manual release, protected by a personalised key, makes it possible to move the rod manually in the event of a power cut.

Before you begin to install the barrier, read all the instructions carefully. Incorrect installation or incorrect use of the automated system could be a source of danger to people.

The automated system was designed and built for vehicle access only - do not use for any other purpose.

Anything not expressly specified in these instructions is not permitted.

1. DESCRIPTION OF COMPONENTS



Pos.	Description
①	Motor body
②	Control unit
③	Release device
④	Rod carrying pocket
⑤	Covering housing
⑥	Flashing light
⑦	Wall mounting kit (not supplied)
⑧	Column kit (not supplied)

Fig. 1

2. TECHNICAL SPECIFICATIONS

MODEL	B 604
Power supply	230/115 Vac 50/60Hz
Motor power supply	24 Vdc
Absorbed power	80 W
Absorbed current	0.35 A
Max. torque.	130 Nm
Opening time	3 sec (1)
Max beam length	4 m
Max consecutive cycles	100
Operating ambient temperature	-20 ÷ +55°C
Motor body weight	20 Kg
Protection class	IP 44
Dimensions	See fig. 2

(1) The indicated opening time refers to a correct installation without any slow downs

3. DIMENSIONS

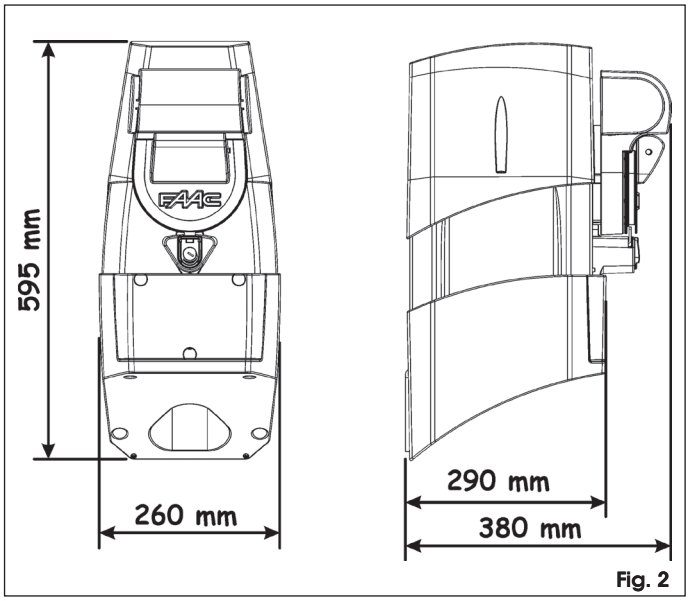


Fig. 2

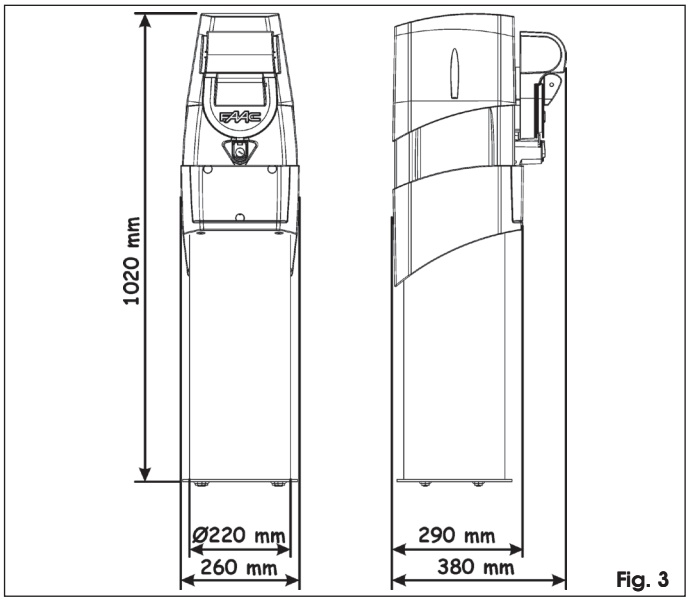


Fig. 3

4. ELECTRIC PREPARATIONS (standard system)

Fig.4 shows an installation with column support. The electrical cables to be prepared are the same as those for on-wall installation; for the position of the cables, refer to paragraph 4.3.

To lay cables, use adequate rigid or flexible tubes.

Always separate connection cables of low voltage accessories and control cables from power cables. Use separate sheaths.

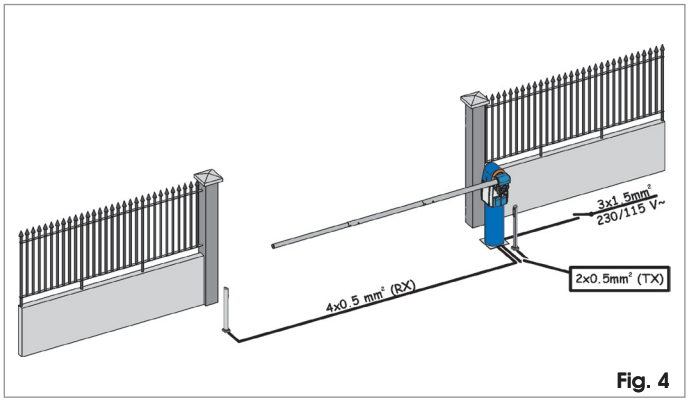


Fig. 4

4. INSTALLING THE AUTOMATED SYSTEM

4.1. PRELIMINARY CHECKS

To ensure safety of users and an efficiently operating automatic system, make sure the following conditions are observed:

- When moving, the beam must not, on any account, meet any obstacles or overhead power cables.
- the characteristics of the ground (for on-column applications) or of the wall (for on-wall applications) must guarantee stable and safe fastening of the automated system.
- make sure that an efficient earth socket for connection of the operator is supplied.
- check if the minimum manoeuvring spaces, as shown in Fig. 5, are respected

If dimension "X", indicated in Fig.5, is less than 500 mm, the indicated zone MUST BE protected by a protection device conforming to standard UNI EN 12978.

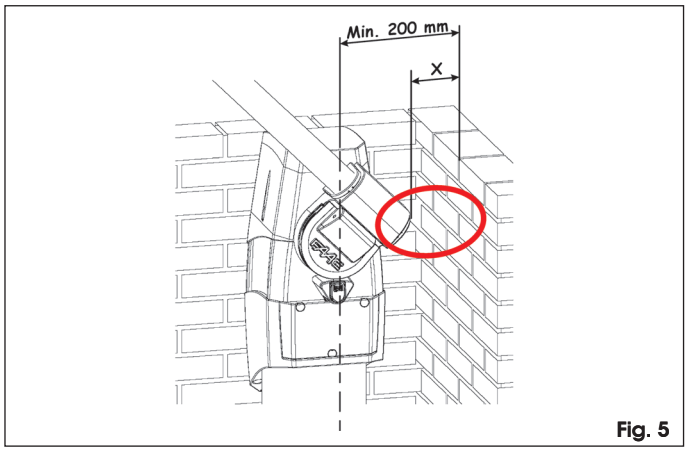


Fig. 5

4.2. ON-COLUMN INSTALLATION

4.2.1. WALLING THE FOUNDATION PLATE

1. Assemble the foundation plate as shown in Fig.6.

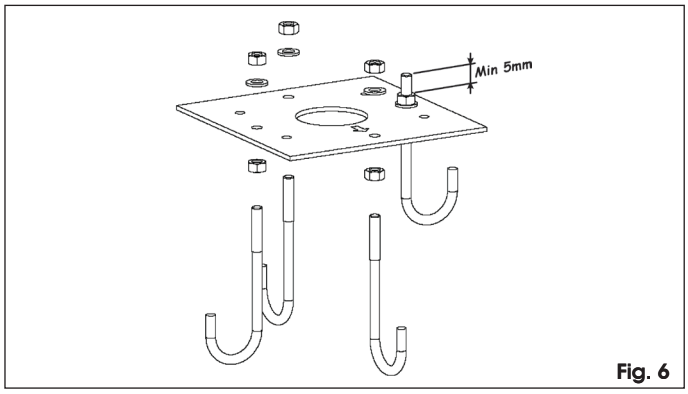


Fig. 6

2. Make a foundation plinth as shown in Fig. 7.

The dimensions of the plinth shown in the figure, refer to the minimum dimensions enabling correct positioning of the plate. They can vary according to the type of soil on which the plate must be positioned.

1. Screw the four supplied tie-rods, Fig.7 ref.①, in the respective holes, the ones with the welded nuts.
2. Wall the foundation plate as shown in Fig.7, supplying one or more sheaths for routing electrical cables.

An arrow is marked on the foundation plate. This arrow must point upward, be visible even after the plate has been walled in, and must be oriented toward the release device.

1. Using a spirit level, check if the plate is perfectly level.
2. Wait for the cement to set.

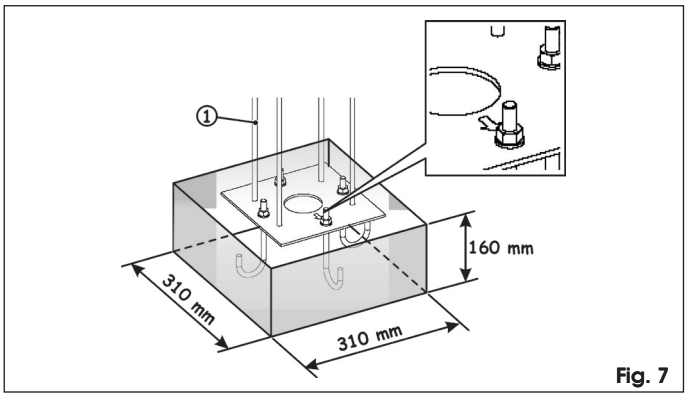


Fig. 7

4.2.2. INSTALLING THE COLUMN

When the cement has set, the column and the automated system can be installed, according to the following instructions:

1. Position the support tube, (Fig. 8 ref.①), on the foundation plate.
2. Insert the plastic housing, (Fig.8 ref.②) and leave it to rest on the ground.

The plastic housing cannot be installed later.

1. Position the upper plate (Fig.8 ref.③) routing the connection cables through the square pocket (Fig.8 ref.④) and allow them to come out for a length of at least 600 mm.
2. Tighten the 4 securing nuts.

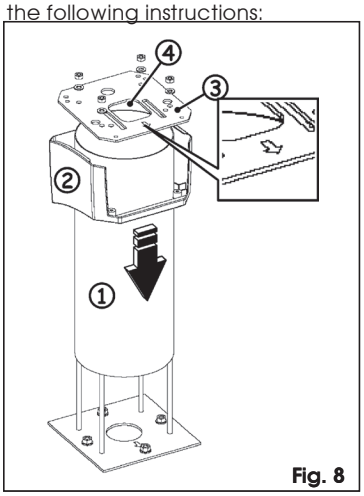


Fig. 8

The top plate, like the foundation plate, is marked with an arrow. Both plates must be oriented in the same way.

4.2.3. POSITIONING THE MOTOR BODY

When you have finished installing the column, position and secure the motor body:

1. Unscrew the securing screws of the upper housing (Fig.9 ref.①) and remove the housing (Fig.9 ref. ②)
2. Unscrew the three screws (Fig.9 ref.③) securing the board cover (Fig.9 ref. ④)
3. Install the three supplied cable grippers in the respective holes under the motor body (Fig.10 ref.①) respecting the orientation shown in Fig. 10.
4. Insert the cables coming out of the column in the cable grippers you have just installed, and route them out from the central compartment for a length of about 20 cm.
5. Tighten the cable grippers.

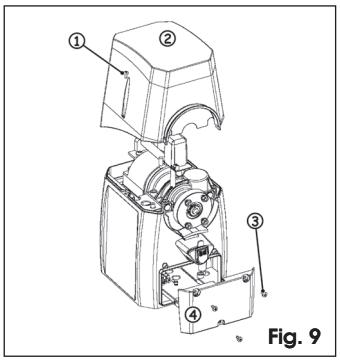


Fig. 9

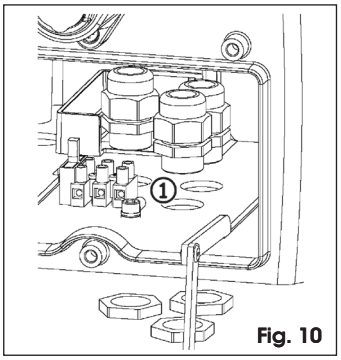


Fig. 10

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6. Position the cables inside the motor body and close the central compartment.
7. Position the motor body above the column, inserting the guides of the central support in the two rectangular pockets on the top plate of the column.
8. Leave the excessive cables inside the column.
9. Re-open the central compartment and tighten the two screws (Fig. 11 ref. ①.
10. Tighten the two rear screws (Fig. 12 ref. ①.

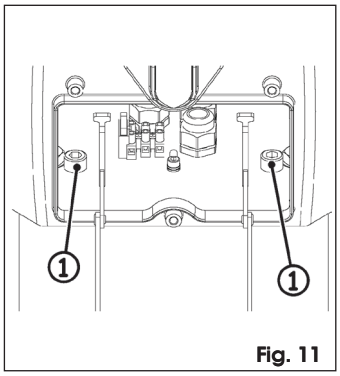


Fig. 11

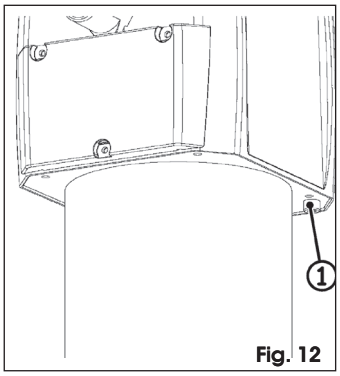


Fig. 12

11. Position the lower housing (Fig. 13 ref. ①) and secure it with the four supplied screws

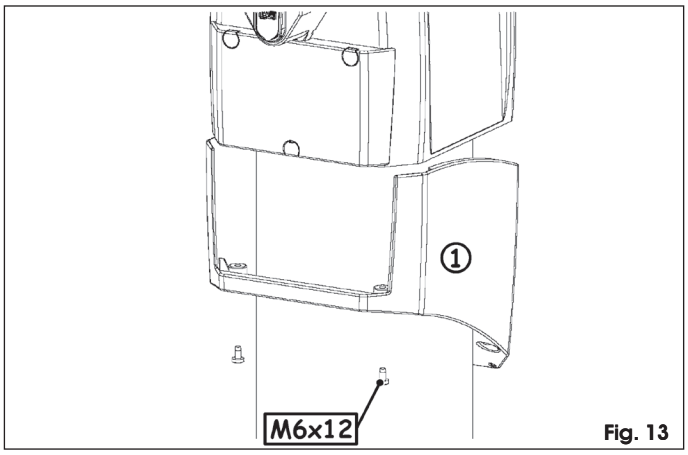


Fig. 13

4.3. ON-WALL INSTALLATION

In on-wall applications, the electric cables can be embedded in the wall, allowing them to come out of the pocket (Fig. 14 ref. ①), or they can be installed externally, using adequate tubes or sheaths. To ascertain the position of the cables, refer to chapter 4.3.1.

4.3.1. POSITIONING THE WALL SUPPORT

To correctly position the wall support bracket, follow the instructions below:

1. Define the position of the bracket, taking into account the dimension of Fig. 14. We advise you to install the automated system so that the rod is at a height of about one meter off the ground.
2. Fix the motor support in the determined position, using four expansion plugs with M10 screws, and respecting the orientation in Fig. 15.
3. When you carry out the fixing operations, use a spirit level to check if the support is perfectly horizontal.

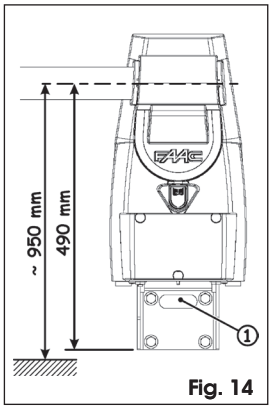


Fig. 14

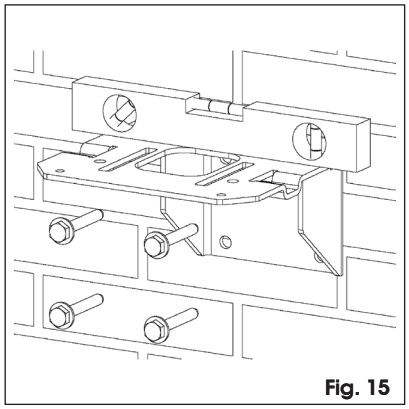


Fig. 15

4.3.2. POSITIONING THE MOTOR BODY

When you have finished installing the motor support, position and secure the motor body:

1. Unscrew the securing screws of the upper housing (Fig. 16 ref. ①) and remove the housing (Fig. 16 ref. ②)
2. Unscrew the three screws (Fig. 16 ref. ③) securing the board cover (Fig. 16 ref. ④)
3. Install the three supplied cable grippers in the respective holes under the motor body (Fig. 17 ref. ①) respecting the orientation shown in Fig. 17.

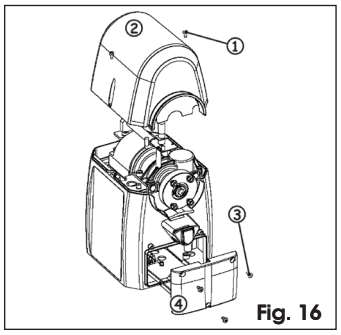


Fig. 16

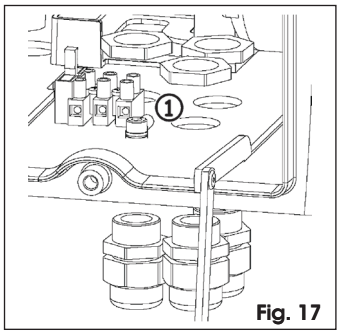


Fig. 17

4. Position the cables inside the motor body and close the central compartment.
5. Position the motor body above the support, inserting the guides of the central support in the two rectangular pockets on the support.
6. Re-open the central compartment and tighten the other two screws (Fig. 18 ref. ①).
7. Secure the motor body with the two rear screws (Fig. 19 ref. ①).

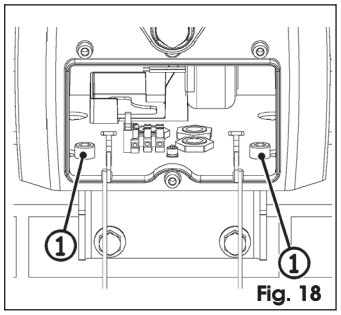


Fig. 18

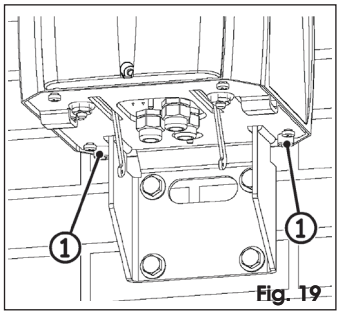


Fig. 19

8. Insert the power cables in the cable grippers and make them come out from the central compartment for a length of about 20 cm.
9. Tighten the cable grippers.
10. Install the lower housing, using the four supplied screws, Fig. 20.

Three pre-perforated facilities are available on the lower housing for routing any external tubes.

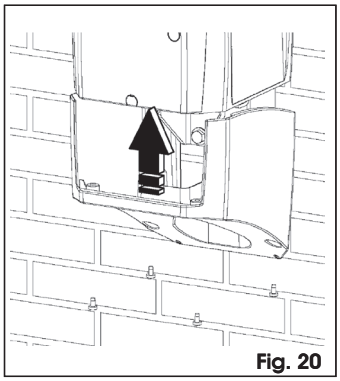


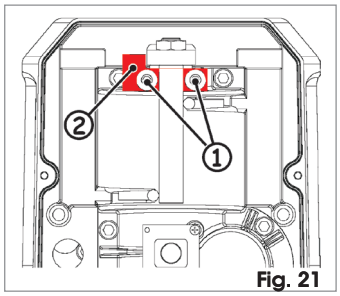
Fig. 20

4.4. CLOSING DIRECTION

The B 604 automated system is supplied designed for **rightward** *closing of the beam, looking at the automated system from the release device side.*

Procedure for modifying the closing direction of the beam:

1. Unscrew the two screw (Fig. 21 ref. ①), which are on the top part of the beam.
2. Remove the stop plate (Fig. 21 ref. ②).
3. Re-position the plate you have just removed, and turn it by 180° with respect to the original position (Fig. 22 ref. ①)
4. Re-secure all parts with the two screws (Fig. 22 ref.②).



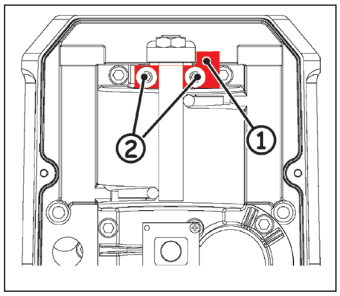


Fig. 21

4.5. SECURING THE ROD

⚠ ***The pictures below refer to a leftward closing installation. For a rightward closing installation, the pictures of the door bearing rod and the release unit must be reversed.***

The B 604 automated system can be coupled to three different types of rod:

- Single rod L=4 m.
- Telescopic rod L=3.15 m.
- Single rod L=3 m with lights or edge in rubber.

All three rods are fastened to the barrier in the same way; just use the relevant pocket.

To secure the rod, follow the instructions below:

1. Assemble the rod-carrier plate (Fig. 23 ref. ①) with the pocket for the selected rod (Fig. 23 ref. ②) only using the two rear screws.
2. Tighten the two screws.
3. Fit the selected rod between the pocket and the plate.

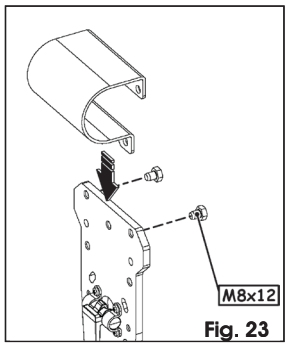


Fig. 23

⚠ ***There is a hole at the end of the rod. The hole must be oriented in order to allow insertion of the safety screw (Fig. 24 ref. ①), thus preventing the rod from slipping down when in vertical position.***

4. Orient the rod correctly and fit the safety screw.

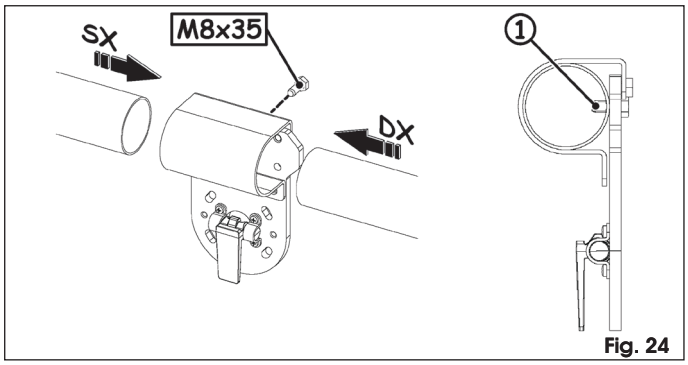


Fig. 24

5. Complete securing the rod with the other two screws, Fig.25.
6. Position all these parts on the drive disk (Fig.26 ref. ①) respecting - for leftward closing - the orientation shown in the figure.

The rod must always be installed vertically, irrespective of the closing direction.

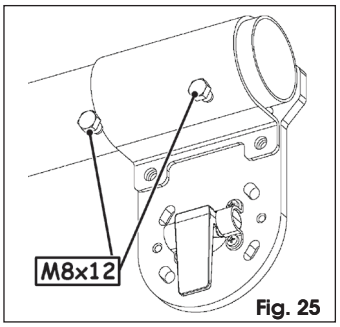


Fig. 25

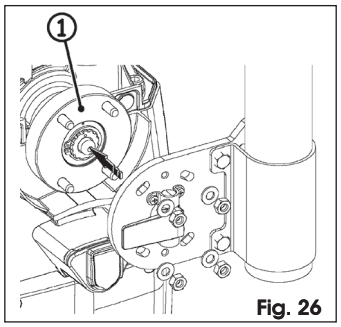


Fig. 26

7. Check if the rod is perfectly vertical and secure the four nuts.

5. START-UP

- Wire the control unit according to your needs, following the relevant instructions.
- Connect the power cable to the screw terminal inside the motor body.

To connect the 230/115 Vac power cable, respect the indications in Fig. 27

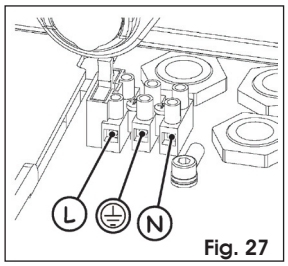


Fig. 27

- Turn the key to the **OPERATION** position, see paragraph 7.
- Power up the system and check if all connected accessories are operating correctly, addressing special attention to the safety devices.
- Perform the programming procedure following the instructions for the control unit.
- If necessary, correct the rod position, adjusting the securing nuts of the rod-bearing plate.
- When you have finished programming the control unit, and controlled correct operation of the automated system, close the central compartment with the three supplied screws, and position the covering plugs as shown in Fig. 28.
- Position the rear housing of the rod-bearing plate (Fig. 29 ref. ①), coupling it in the two free holes on the plate (Fig. 29 ref. ②).

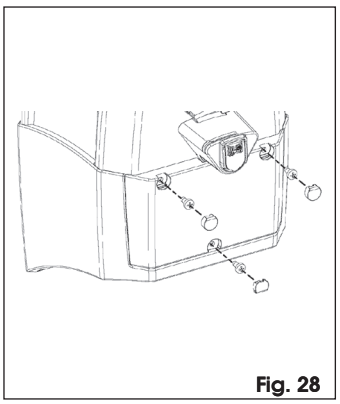


Fig. 28

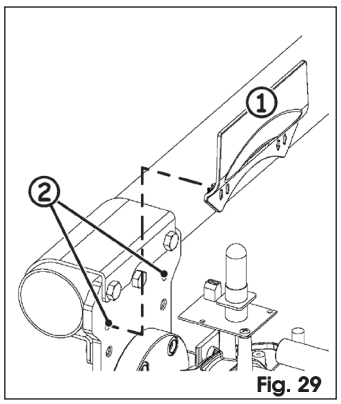


Fig. 29

- Re-position the top housing, Fig. 30.
- Turn the key to the **STOP** position, see paragraph 6.
- Position the housing that covers the release device, as shown in Fig. 31, and secure it using the two supplied screws.

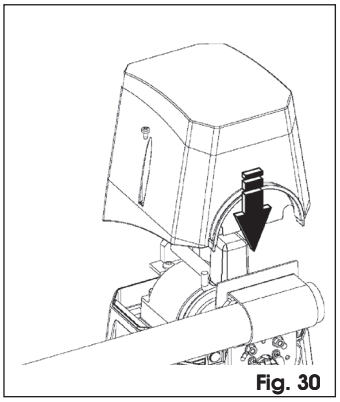


Fig. 30

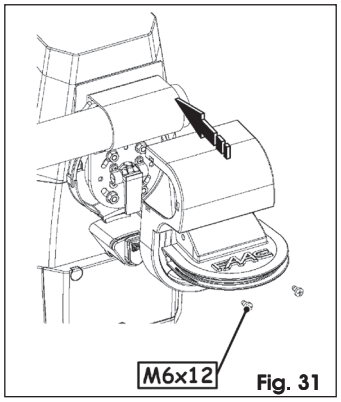


Fig. 31

- Turn the key back to the **OPERATION** position, see paragraph 7.

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- Position the rear plug of the release housing (Fig. 32 ref. ①)
- Open, on the front plug, the pre-perforated facility for the type of installed rod, see Fig. 33 and fasten it to the release housing.

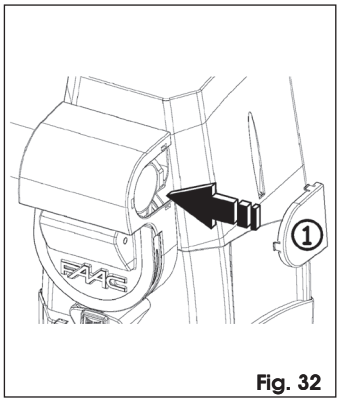

Fig. 32

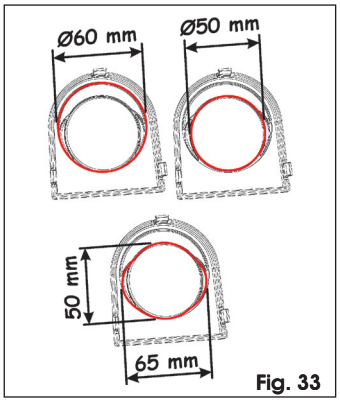

Fig. 33

- Explain, to the end-user, the correct use and operation of the automated system.
- Hand the "USER'S GUIDE" to the user and compile the enclosed maintenance register.

6. MANUAL OPERATION

In the event of a power cut or malfunction of the automated system, the beam can be moved manually as follows:

1. Insert the personalised key and take the beam to its "**STOP**" position rotating it anti-clockwise until it stops, Fig. 34.

The key acts on a safety microswitch which positions the control unit in ***STOP*** *position, avoiding dangerous situations during the release manoeuvre or during maintenance of the automated system.*

When the key is in STOP position, power to the automated system is not cut off.

1. Open the release cover, Fig. 35.
2. Pull the release lever until it stops, (Fig. 36 ref. ①)
3. Move the rod manually, Fig. 37.

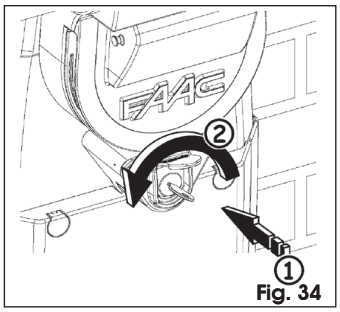

Fig. 34

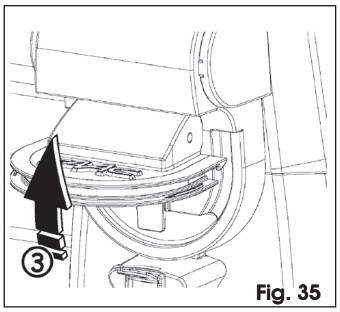

Fig. 35

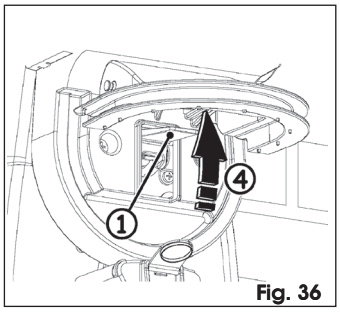

Fig. 36

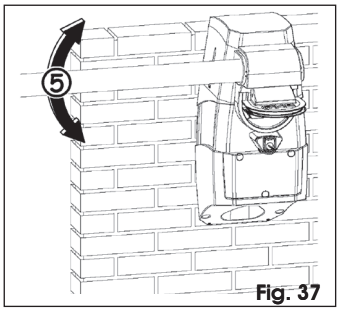

Fig. 37

7. RESTORING NORMAL OPERATION MODE

To prevent an involuntary pulse from putting the automated system into operation, power down the system before restoring normal operation.

1. Lower the release lever.
2. Close the release cover.
3. Move the rod manually up to the point where manual movement is no longer possible.
4. Take the key back to the "**OPERATION**" position, turning it clockwise until it stops.
5. Remove the key and re-power up the system.

Following the manual manoeuvre, the first cycle could occur without the programmed slow downs, run a couple of cycles to check if the memory stored cycle is correctly restored.

8. AVAILABLE ACCESSORIES

The following accessories are available for the B 604 automated system.

BATTERY KIT

With the battery kit application, some manoeuvres can be carried out in the event of a power cut.

The number of possible manoeuvres depends on the time since power was cut, on the condition of the batteries, on the number of accessories connected to the control unit, on ambient temperature, and on the general conditions of the automated system.

Installation procedure for the battery kit:

Cut power to the system.

1. Open the central compartment.
2. Position the batter kit on the left of the transformer, see Fig.38.
3. Connect the battery kit cables to the control unit, following the connection lay-out shown in the control unit instructions.
4. Close the central compartment and restore mains power.

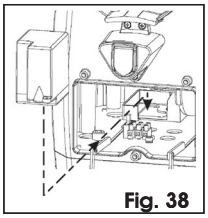
Fig. 38

BALANCING KIT

The length of the rods can be reduced with the balancing kit.
The table below shows the minimum lengths obtainable by using the balancing kit:

TYPE OF ROD	STANDARD L m	min. L m
Telescopic rod	3.15	2.30
Fixed rod	4	2.80
Rod with lights	3	2.40
Rod with rubber edge	3	2.20

The rod lengths cannot be reduced beyond the value shown in the table.

9. 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.
If the rod has to be removed for maintenance jobs, follow the installation instructions in reverse order.

The rod can be removed only if it is in vertical position. Removing the rod when in horizontal position could cause dangerous situations.

10. 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.

10.1. REPLACEMENT OF FLASHING LAMP

Procedure for replacing the lamp of the integrated flashing light:

1. Make sure that the rod is in horizontal position.
2. Cut power to the system.
3. Remove the top housing, unscrewing the securing screws.
4. Replace the lamp (use lamp: **E14 24V Max. 15W**).
5. Re-position the top housing.
6. Power up the system.