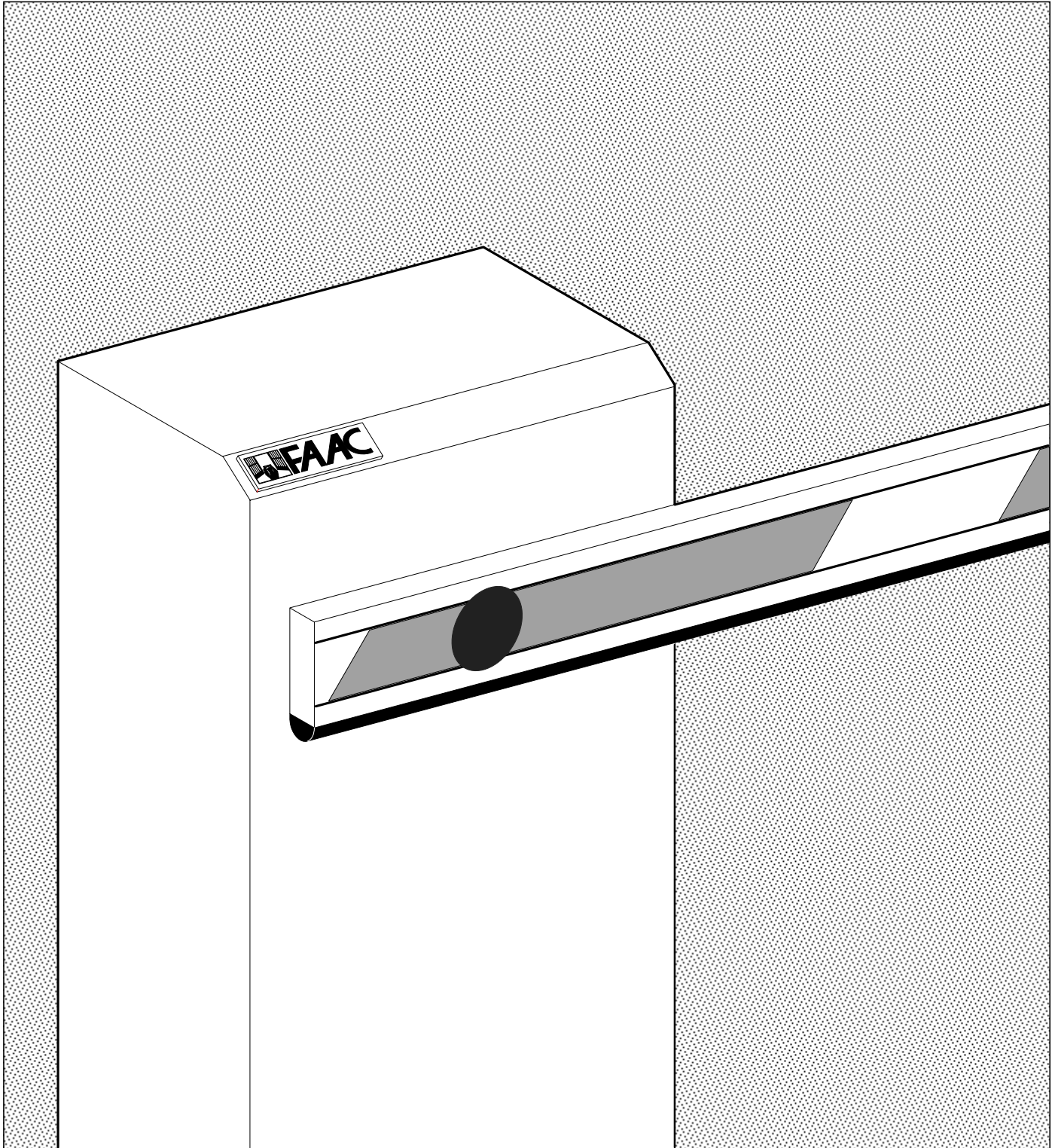


VSS LIMITED
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620/640/642 & 624 MPS



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Tel.: 051/6172411 - Tlx.: 521087
Fax: 051/758518

Timbro del Rivenditore/Distributor's Stamp/Timbre de l'Agent:
Fachhändlerstempel/Sello del Revendedor:

DICHIARAZIONE DI CONFORMITÀ

SECONDO LE NORME ISO/IEC GUIDA 22 EN 45014

NOME DEL FABBRICANTE: FAAC S.p.A.
INDIRIZZO DEL FABBRICANTE: FAAC S.p.A. Via Benini, 1 40069 - Zola Predosa BOLOGNA - ITALY

Dichiara, sotto la propria esclusiva responsabilità, che i prodotti:

Modelli/Serie: 402 - 422 - 400 - 750 - 760 - 746 - 844 - 820 - 860 - 590.1 - 593 - 580 - 595 - 550 - 500 RC - 503 RC - 560 - 630 - 620 - 640 - 642 - 770 - 748 - 412 - 401 MPS - 402 MPS - 444 MPS - 440 MPS - 844 MP - 844 MP - 844 B/C - 400 B/C - INTELLIGENT LAMP - T 10 - T 11 - T 20 - T 21 - FAAC SWITCH - METAL DIGIKEY - DIGICARD - DECODER - DETECTOR F4 - MINISERVICE - GRUPPO ANTIPANICO - SCHEDA RELE - SCHEDA FSW - SCHEDA SLAVE - SCHEDA RSA - SCHEDA PRELAMP - FOTOSWITCH - MINIBEAM - FAAC LAMP - FAAC MULTILAMP - FAAC BILAMP - FAAC MINILAMP - 226 L - 226 M - 226 T - 220 M - 220 T - 227 - 200 B.T. - 200 MPS - UNIDEC - 900

ai quali questa dichiarazione si riferisce, sono conformi alle norme:
EN 50081-1 (1992)
EN 50082-1 (1992)

in base a quanto previsto dalla direttiva EMC 89/336/CEE.

Note aggiuntive:
questi prodotti sono stati sottoposti a test in una configurazione tipica omogenea (tutti prodotti di costruzione FAAC S.p.A.).

Bologna, 20 Dicembre 1995

Il Presidente
L'Amministratore Delegato

DECLARATION OF CONFORMITY

IN ACCORDANCE WITH ISO/IEC STANDARDS GUIDE 22 EN 45014

NAME OF MANUFACTURER: FAAC S.p.A.
ADDRESS OF MANUFACTURER: FAAC S.p.A. Via Benini, 1 40069 - Zola Predosa BOLOGNA - ITALY

The above company attests, under its sole responsibility, that the products:

Model / Series: 402 - 422 - 400 - 750 - 760 - 746 - 844 - 820 - 860 - 590.1 - 593 - 580 - 595 - 550 - 500 RC - 503 RC - 560 - 630 - 620 - 640 - 642 - 770 - 748 - 412 - 401 MPS - 402 MPS - 444 MPS - 440 MPS - 844 MP - 844 MP - 844 B/C - 400 B/C - INTELLIGENT LAMP - T 10 - T 11 - T 20 - T 21 - FAAC SWITCH - METAL DIGIKEY - DIGICARD - DECODER - DETECTOR F4 - MINISERVICE - GRUPPO ANTIPANICO - SCHEDA RELE - SCHEDA FSW - SCHEDA SLAVE - SCHEDA RSA - SCHEDA PRELAMP - FOTOSWITCH - MINIBEAM - FAAC LAMP - FAAC MULTILAMP - FAAC BILAMP - FAAC MINILAMP - 226 L - 226 M - 226 T - 220 M - 220 T - 227 - 200 B.T. - 200 MPS - UNIDEC - 900

referred to in this declaration, meet the following standards:
EN 50081-1 (1992)
EN 50082-1 (1992)

in accordance with the provisions as specified in the EMC directive 89/336/CEE.

Notes:
These products have been subject to testing procedures carried out under standardised conditions (all products manufactured by FAAC S.p.A.).

Bologna, 20 December 1995

The Chairman
The Managing Director

DECLARATION DE CONFORMITE

SUIVANT ISO/IEC GUIDE 22 EN 45014

NOM DU FABRICANT: FAAC S.p.A.
ADRESSE DU FABRICANT: FAAC S.p.A. Via Benini, 1 40069 - Zola Predosa BOLOGNA - ITALIE

atteste sous sa propre responsabilité, que les produits:

Modèles/Série: 402 - 422 - 400 - 750 - 760 - 746 - 844 - 820 - 860 - 590.1 - 593 - 580 - 595 - 550 - 500 RC - 503 RC - 560 - 630 - 620 - 640 - 642 - 770 - 748 - 412 - 401 MPS - 402 MPS - 444 MPS - 440 MPS - 844 MP - 844 MPS - 844 B/C - 400 B/C - INTELLIGENT LAMP - T 10 - T 11 - T 20 - T 21 - FAAC SWITCH - METAL DIGIKEY - DIGICARD - DECODER - DETECTOR F4 - MINISERVICE - GRUPPO ANTIPANICO - SCHEDA RELE - SCHEDA FSW - SCHEDA SLAVE - SCHEDA RSA - SCHEDA PRELAMP - FOTOSWITCH - MINIBEAM - FAAC LAMP - FAAC MULTILAMP - FAAC BILAMP - FAAC MINILAMP - 226 L - 226 M - 226 T - 220 M - 220 T - 227 - 200 B.T. - 200 MPS - UNIDEC - 900

faisant l'objet de cette déclaration, répondent aux normes:
EN 50081-1 (1992)
EN 50082-1 (1992)

conformément à la directive EMC 89/336/CEE.

Note supplémentaire:
ces produits ont été soumis à des essais dans une configuration typique homogène (tous les produits sont fabriqués par FAAC S.p.A.).

Bologna, le 3 décembre 1995

Le Président
L'Administrateur délégué

DECLARACIÓN DE CONFORMIDAD

SEGUN LAS NORMAS ISO/IEC GUÍA 22 EN 45014

NOMBRE DEL FABRICANTE: FAAC S.p.A.
DIRECCIÓN DEL FABRICANTE: FAAC S.p.A. Via Benini, 1 40069 - Zola Predosa BOLOGNA - ITALIA

Declara, bajo su propia y exclusiva responsabilidad, que los productos

Modelos/Serie: 402 - 422 - 400 - 750 - 760 - 746 - 844 - 820 - 860 - 590.1 - 593 - 580 - 595 - 550 - 500 RC - 503 RC - 560 - 630 - 620 - 640 - 642 - 770 - 748 - 412 - 401 MPS - 402 MPS - 444 MPS - 440 MPS - 844 MP - 844 MPS - 844 B/C - 400 B/C - INTELLIGENT LAMP - T 10 - T 11 - T 20 - T 21 - FAAC SWITCH - METAL DIGIKEY - DIGICARD - DECODER - DETECTOR F4 - MINISERVICE - GRUPPO ANTIPANICO - SCHEDA RELE - SCHEDA FSW - SCHEDA SLAVE - SCHEDA RSA - SCHEDA PRELAMP - FOTOSWITCH - MINIBEAM - FAAC LAMP - FAAC MULTILAMP - FAAC BILAMP - FAAC MINILAMP - 226 L - 226 M - 226 T - 220 M - 220 T - 227 - 200 B.T. - 200 MPS - UNIDEC - 900

a los cuales esta declaración se refiere son conformes a las normas:
EN 50081-1 (1992)
EN 50082-1 (1992)

con arreglo a lo dispuesto por la directiva EMC 89/336/CEE.

Nota:
los productos mencionados han sido sometidos a pruebas en una configuración típica homogénea (todo producto fabricado por FAAC S.p.A.).

Bologna, 20 de diciembre de 1995.

Presidente
Administrador Delegado

KONFORMITÄTSERKLÄRUNG

NACH ISO/IEC NORM, RICHTLINIE 22 EN 45014

HERSTELLERNAME: FAAC S.p.A.
HERSTELLERANSCHRIFT: FAAC S.p.A. Via Benini, 1 40069 - Zola Predosa BOLOGNA - ITALY

Hiermit erklären wir eigenverantwortlich, daß die Produkte:

Modelle/Serie: 402 - 422 - 400 - 750 - 760 - 746 - 844 - 820 - 860 - 590.1 - 593 - 580 - 595 - 550 - 500 RC - 503 RC - 560 - 630 - 620 - 640 - 642 - 770 - 748 - 412 - 401 MPS - 402 MPS - 444 MPS - 440 MPS - 844 MP - 844 MPS - 844 B/C - 400 B/C - INTELLIGENT LAMP - T 10 - T 11 - T 20 - T 21 - FAAC SWITCH - METAL DIGIKEY - DIGICARD - DECODER - DETECTOR F4 - MINISERVICE - GRUPPO ANTIPANICO - SCHEDA RELE - SCHEDA FSW - SCHEDA SLAVE - SCHEDA RSA - SCHEDA PRELAMP - FOTOSWITCH - MINIBEAM - FAAC LAMP - FAAC MULTILAMP - FAAC BILAMP - FAAC MINILAMP - 226 L - 226 M - 226 T - 220 M - 220 T - 227 - 200 B.T. - 200 MPS - UNIDEC - 900

auf welche sich diese Erklärung bezieht, den Normen:
EN 50081-1 (1992)
EN 50082-1 (1992)

entsprechen, wie in der Richtlinie EMC 89/336/EWG vorgesehen.

Anmerkung:
Die o.g. Produkte sind in einer typischen und einheitlichen Weise getestet (alle von FAAC S.p.A. gebaute Produkte).

Bologna, 20. Dezember 1995

Der Vorsitzende
Der Geschäftsführer

Le descrizioni e le illustrazioni del presente manuale non sono impegnative. La FAAC si riserva il diritto, lasciando inalterate le caratteristiche essenziali dell'apparecchiatura, di apportare in qualunque momento e senza impegnarsi ad aggiornare la presente pubblicazione, le modifiche che essa ritiene convenienti per miglioramenti tecnici o per qualsiasi altra esigenza di carattere costruttivo o commerciale.

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FAAC per la natura

- La presente istruzione è realizzata al 100% in carta riciclata.
- Non disperdere nell'ambiente gli imballaggi dei componenti dell'automazione bensì selezionarne i vari materiali (es. cartone, polistirolo) secondo prescrizioni locali per lo smaltimento rifiuti e le norme vigenti.

FAAC for the environment

- The present manual is produced in 100% recycled paper
- Respect the environment. Dispose of each type of product packaging material (card, polystyrene) in accordance with the provisions for waste disposal as specified in the country of installation.

FAAC der Umwelt zuliebe

- Vorliegende Anleitungen sind auf 100% Altpapier gedruckt.
- Verpackungstoffe der Antriebskomponenten (z.B. Pappe, Styropor) nach den einschlägigen Normen der Abfallwirtschaft sortenrein sammeln.

FAAC ecologica

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- Né pas jeter dans la nature les emballages des composants de l'automatisme, mais sélectionner les différents matériaux (ex.: carton, polystyrène) selon la législation locale pour l'élimination des déchets et les normes en vigueur.

FAAC por la naturaleza.

- El presente manual de instrucciones se ha realizado, en papel reciclado.
- Los materiales utilizados para el embalaje de las distintas partes del sistema automático (cartón, poliestireno) no deben tirarse al medio ambiente, sino seleccionarse conforme a las prescripciones locales y las normas vigentes para el desecho de residuos sólidos.

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EC MACHINE DIRECTIVE COMPLIANCE DECLARATION

(DIRECTIVE 89/392 EEC, APPENDIX II, PART B)

Manufacturer: FAAC S.p.A.

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

Hereby declares that: the 620, 640, 642 automation system

- is intended to be incorporated into machinery, or to be assembled with other machinery to constitute machinery in compliance with the requirements of Directive 89/392 EEC, and subsequent amendments 91/368 EEC, 93/44 EEC and 93/68 EEC;
- complies with the essential safety requirements in the following EEC Directives:

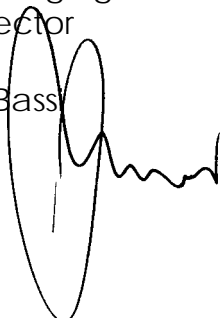
73/23 EEC and subsequent amendment 93/68 EEC.
89/336 EEC and subsequent amendments 92/31 EEC and 93/68 EEC.

and furthermore declares that unit must not be put into service until the machinery into which it is incorporated or of which it is a component has been identified and declared to be in conformity with the provisions of Directive 89/392 EEC and subsequent amendments enacted by the national implementing legislation.

Bologna, 1 January 1997

Managing
Director

A. Bassi

A handwritten signature in black ink, appearing to be 'A. Bassi', written over the printed name. The signature is stylized with a large loop at the beginning and a wavy tail.

IMPORTANT NOTICE FOR THE INSTALLER

GENERAL SAFETY REGULATIONS

- 1) **WARNING! FAAC strongly recommends to follow these instructions literally for the safety of persons. Improper installation or misuse of the product will cause very serious damages to persons.**
- 2) Packaging material (plastic, polystyrene etc.) is a potential hazard and must be kept out of reach of children.
- 3) Read the instructions carefully before installing the product.
- 4) Keep these instructions for future reference.
- 5) This product has been designed and manufactured only for the use stated in this manual. Any other use not expressly set forth will affect the reliability of the product and/or could be source of hazard.
- 6) FAAC S.p.A. cannot be held responsible for any damage caused by improper use or different from the use for which the automation system is destined to.
- 7) Do not use this device in areas subject to explosion: the presence of flammable gas or fumes is a serious hazard.
- 8) Mechanical constructive elements must comply with UNI8612, CEN pr EN 12604 and CEN pr EN 12605 standards.
Countries outside the EC shall follow the regulations above besides their national normative references in order to offer the utmost safety.
- 9) FAAC cannot be held responsible for failure to observe technical standards in the construction of gates and doors, or for any deformation of the gates which may occur during use.
- 10) Installation must comply with UNI8612, CEN pr 12453 and CEN pr EN 12635.
The degree of safety of the automation must be C + E.
- 11) Before carrying out any operations, turn off the system's main switch.
- 12) An omnipower switch shall be provided for the installation with an opening distance of the contacts of 3 mm or more. Alternatively, use a 6A thermomagnetic breaker with multi-pole switching.
- 13) Ensure that there is a differential switch up-line of the electrical system, with a trip threshold of 0.03A.
- 14) Check that the earthing plant is in perfect condition and connect it to the metallic parts. Also earth the yellow/green wire of the operator.
- 15) The automation is fitted with an anti-crush safety system that is a torque control device. In any case, further safety devices shall be installed.
- 16) The safety devices (e.g. photocells, safety edges, etc.) protect areas wherethere is a mechanical movement hazard, e.g. crushing, entrapment and cutting.
- 17) Each installation must be fitted with at least one flashing light (e.g. FAAC LAMP, MINILAMP etc) as well as a warning plate suitably fixed to the gate, besides the safety devices as per point 16. above.
- 18) FAAC cannot be held responsible regarding safety and correct functioning of the automation in the event that parts other than FAAC original parts are used.
- 19) Use only FAAC original spare parts for maintenance operations.
- 20) Do not carry out any modifications to automation components.
- 21) The installer must supply all information regarding manual operation of the system in the event of an emergency and provide the end-user with the leaflet attached to the product.
- 22) Keep out of persons when the product is in operation.
- 23) Keep out of reach of children the remote radio controls and any control devices. The automation could be operated unintentionally.
- 24) The end-user must avoid any attempt to repair or adjust the automation personally. These operations must be carried out exclusively by qualified personnel.
- 25) **What is not explicitly stated in these instructions is not permitted.**

AUTOMATION SYSTEMS 620 - 640 - 642 & 624 MPS

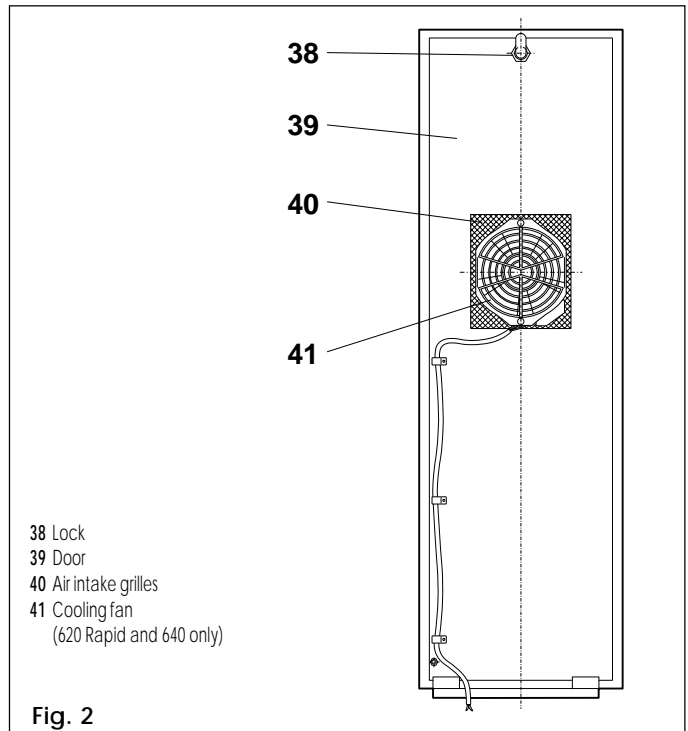
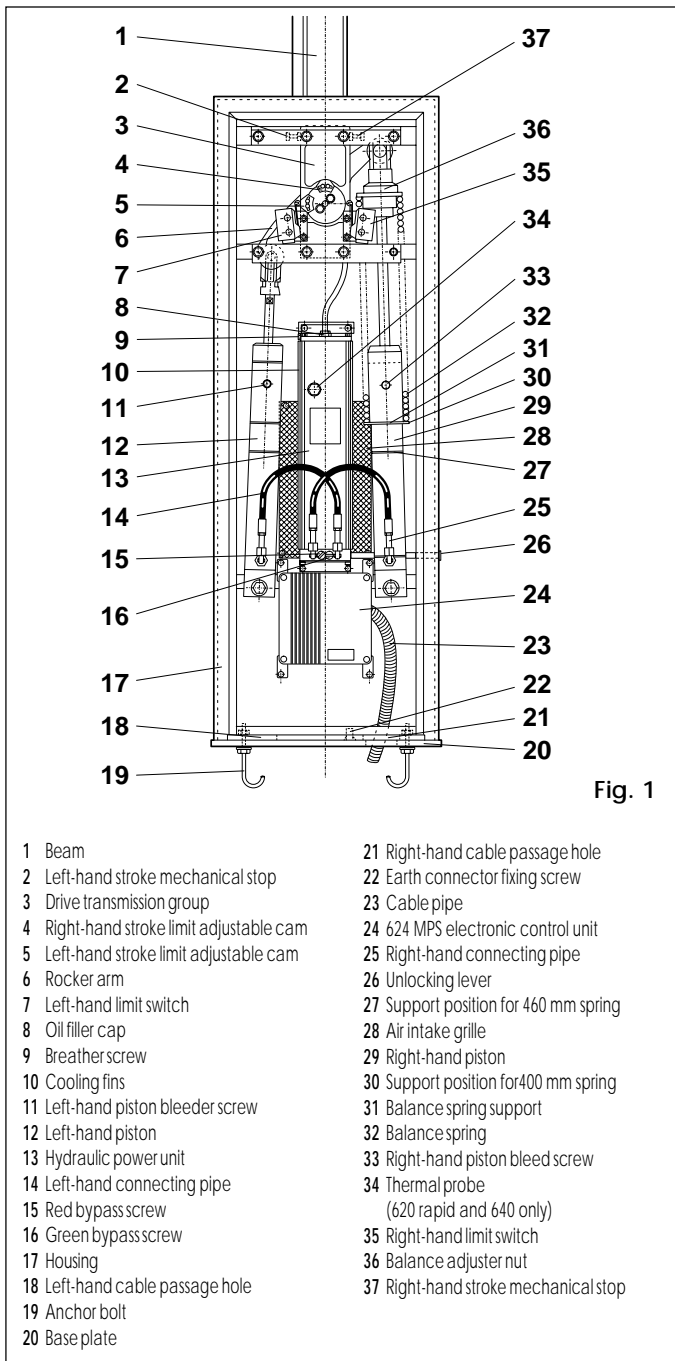
The automation system consists of a white aluminium beam with red reflectors and of a cathaphoresis treated steel housing with polyester finish.

The housing contains the operator, which consists of a hydraulic power unit and two pistons. The latter actuate the rotation of the beam by means of a rocker arm.

A spring mounted on one of the pistons balances the beam. The housing also contains the electronic control unit, which is fitted in a watertight container.

The system has an adjustable anti-crushing safety system, a device that stops and locks the beam in any position, and a convenient manual release device to be used in the event of a power failure or malfunction.

Automation systems 620, 640 and 642 & 624 MPS have been designed and manufactured to control the access of vehicles. No other use is allowed.



1. DESCRIPTION AND TECHNICAL CHARACTERISTICS

Tab. 1 Technical characteristics of barriers

BARRIER MODEL	620/642 RAPID		620/642 STANDARD		640/642 STANDARD		
Max. beam length (m)	2 2.5 3	4	2 2.5 3	4	4 5	6	7
Max. opening time (s) (braking excluded)	<2	<3	3,5	4,5	4	5,5	8
Angular velocity (r.p.m.)	7,5	5	4,2	3,3	3,7	2,7	1,8
Pump flow rate (l/min)	2	1,5	1	0,75	2	1,5	1
Max. torque (Nm)	90	110	150	200	210 250	340-370	
Types of beams	Rigid/Skirt/Articulated						
Duty cycle	100%		70%		100%		
Power supply	230 V- (+6 -10 %) 50 Hz						
Absorbed power (W)	220						
Oil type	FAAC XD 220						
Oil quantity (l)	2						
Motor winding thermal cutout	120° C						
Anti-crushing system	bypass valves fitted as standard						
Temperature range	-20 to +55 °C						
Casing protective treatment	cataphoresis						
Casing finish	RAL 2004 polyester						
Housing protection	IP 54						
Weight (kg)	73				84		
Housing dimension WxHxD (mm)	see Figures 4 and 5						
Technical characteristic of electric motor							
Speed (Rpm)	2,800			1,400			
Power (W)	200			200			
Current drawn (A)	1			1,2			
Power supply	230V- (+6 -10 %) 50 Hz						

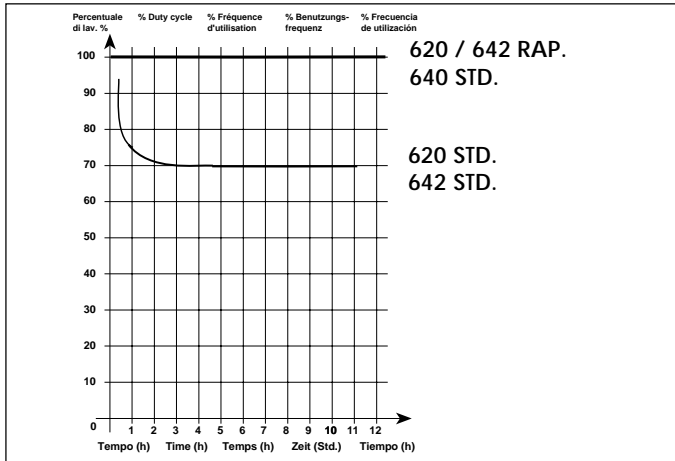
1.1. MAXIMUM DUTY CYCLE CURVE

The curve allows the maximum working time (T) to be obtained as a function of duty cycle (F).

E.g.: The 620 rapid, 640, 642 R/40 and 642/70 operators can work continuously with a 100% duty cycle, because they are equipped with a cooling fan. The 620 standard and 642 std/40 models can work continuously with a 70% duty cycle.

To ensure good operation, keep to the field of operation lying below the curve.

Diagram of duty cycle



Important: The curve refers to a temperature of 24°C. Exposure to direct sunlight can result in a reduction in duty cycle to as low as 20%.

Calculating duty cycle

The duty cycle is the percentage of effective working time (opening + closing) with respect to the total cycle time (opening + closing + pause times).

It is calculated using the following formula:

$$\%F = \frac{Ta + Tc}{Ta + Tc + Tp + Ti} \times 100$$

where:

- Ta = opening time
- Tc = closing time
- Tp = pause time
- Ti = interval between a complete cycle and the next.

2. STANDARD INSTALLATION LAYOUT

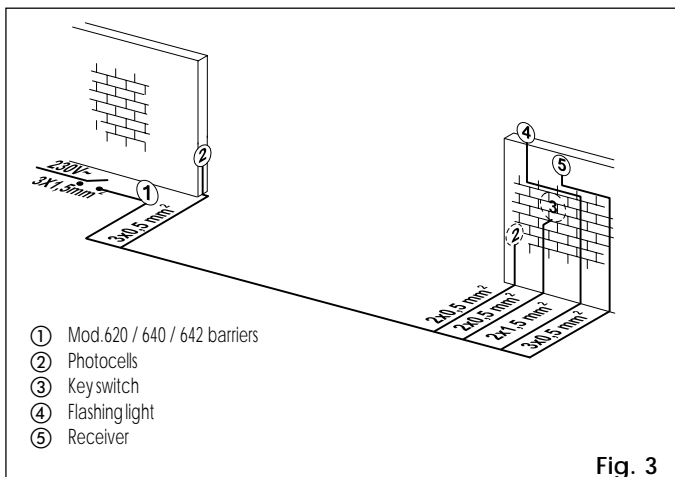


Fig. 3

Notes:

- 1) Use suitable rigid and/or flexible conduits for installation of the electrical cables.
- 2) Always route the low voltage accessory connection cables separately from the 230V- power supply cables. Use separate sheaths to avoid any interference.

3. DIMENSIONS

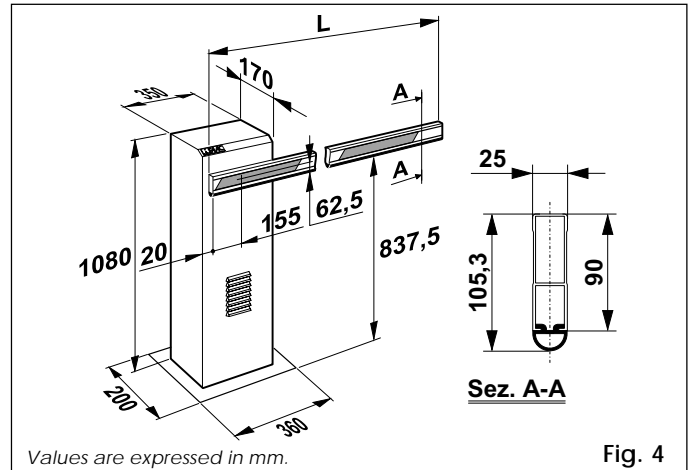


Fig. 4

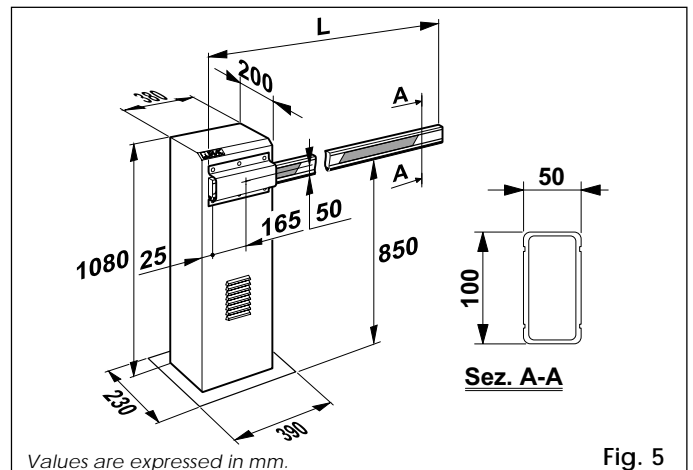


Fig. 5

4. INSTALLATING THE SYSTEM

4.1. PRELIMINARY CHECKS

For safe, correct operation of the automation system, make sure that the following requirements are met:

- During its movement the beam does not strike against obstacles or overhead power cables.
- The characteristics of the ground must ensure sufficient support for the foundation plinth.
- There must be no pipes or electrical cables in the area to be dug for installing the foundation plinth.
- If the housing is located in a vehicle transit area, it is a good idea to provide protection against accidental collisions.
- Check that the housing is provided with an efficient earth connection.

4.2. INSTALLING THE BASE PLATE

- 1) Assemble the base plate, as shown in Figure. 6.
- 2) Prepare a foundation plinth as shown in Fig. 7 (for soft ground).

- 3) Install the base plate as shown in Figure 4, providing one or more conduits for electrical cables. Use a level to check that the plate is perfectly horizontal and wait for the cement to set.

4.3. MECHANICAL INSTALLATION

- 1) Fix the housing to the base plate using the four nuts provided, as shown in Figure 8. The housing should normally be installed with the door on the premises side.
- 2) Set up the operator for manual operation as described in section 6.

- 3) **Remove the two breather screws as shown in Figure 9 and keep them in a safe place.**
- 4) Assemble the beam, using the screws supplied, as shown in Figures 10 and 10 b. Apply the cap to the hole (620 only). The rubber-edged side of the beam must be in the closing direction.
- 5) Adjust the mechanical stops for opening and closing strokes, as shown in Figure 11. Check the beam balancing, as indicated in paragraph 4.4.

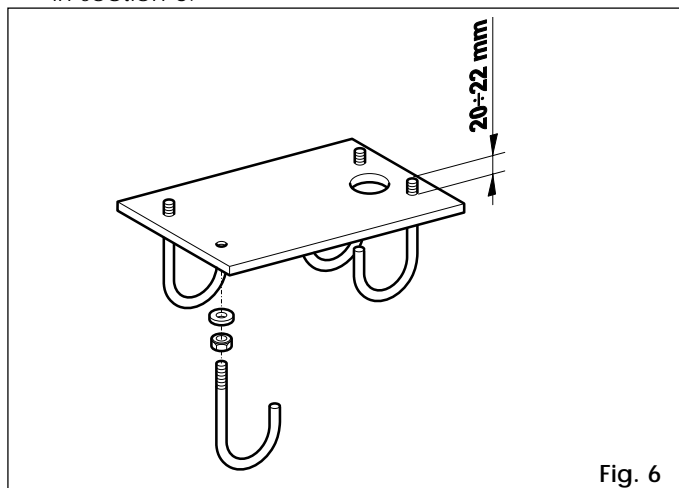


Fig. 6

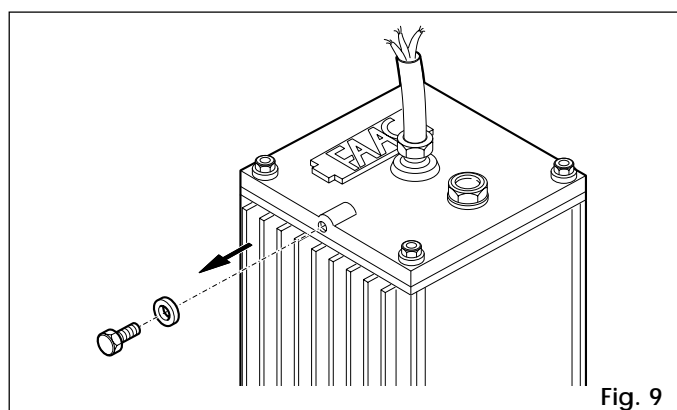


Fig. 9

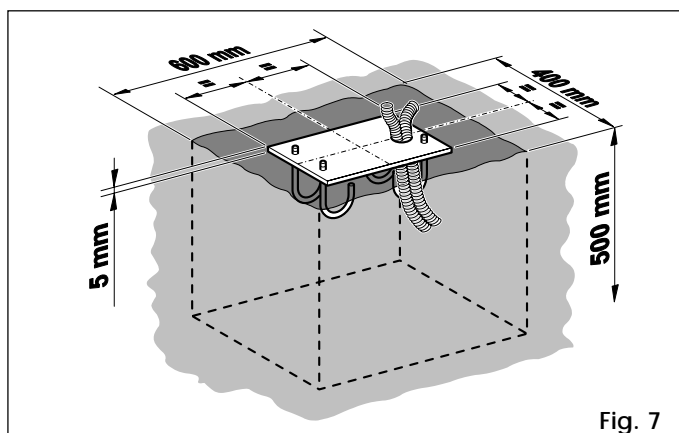


Fig. 7

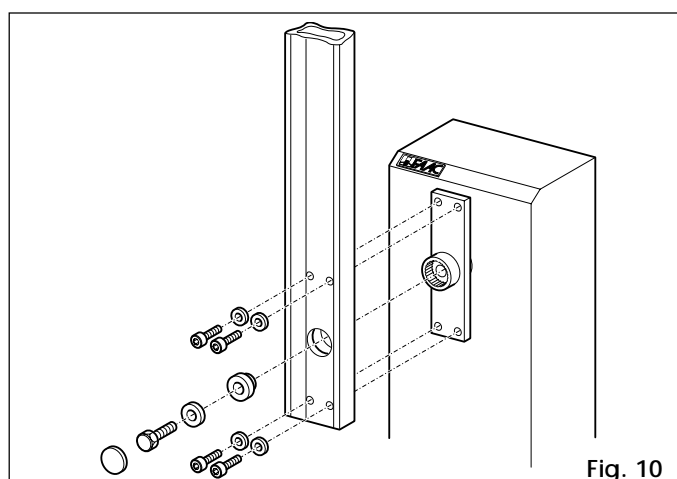


Fig. 10

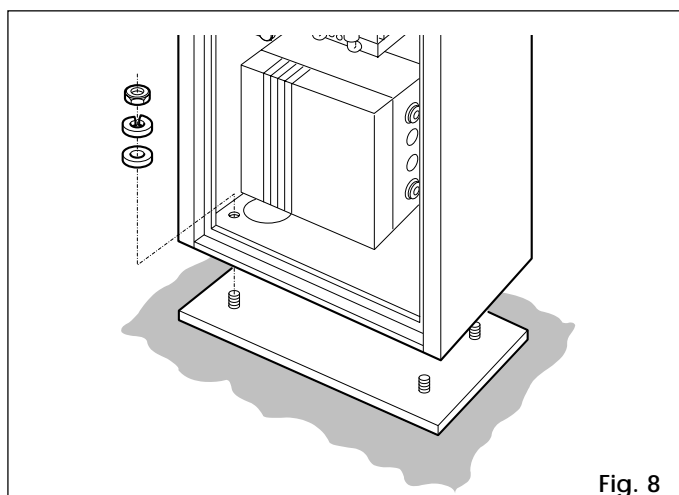


Fig. 8

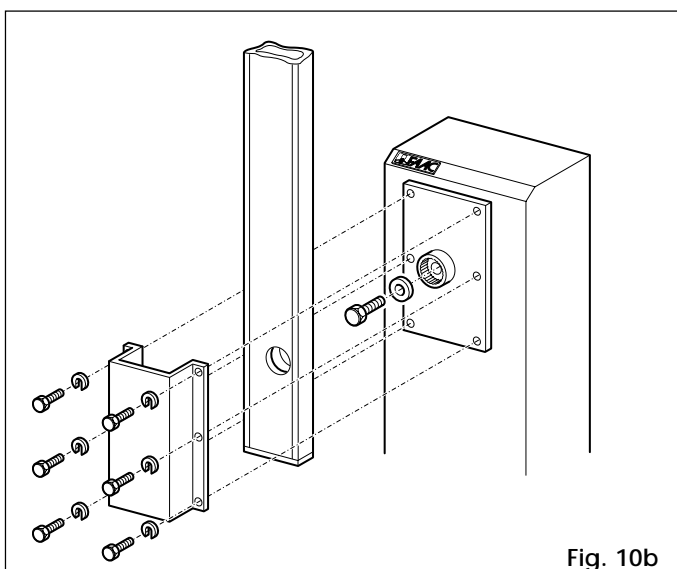


Fig. 10b

4.4. ADJUSTING THE BALANCE SPRING

IMPORTANT!: The barrier is supplied already balanced for the exact beam length specified in the order (see the Barrier Order Specifications, in the price list, and TAB. 2 - 3)

Should a fine adjustment of the beam balance be needed, proceed as follows:

- 1) Unlock the operator, as indicated in paragraph 6 .

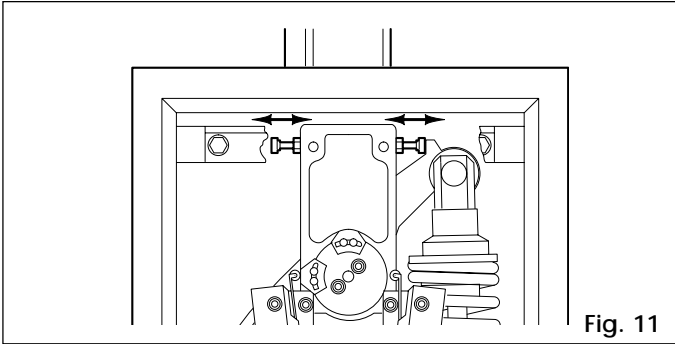


Fig. 11

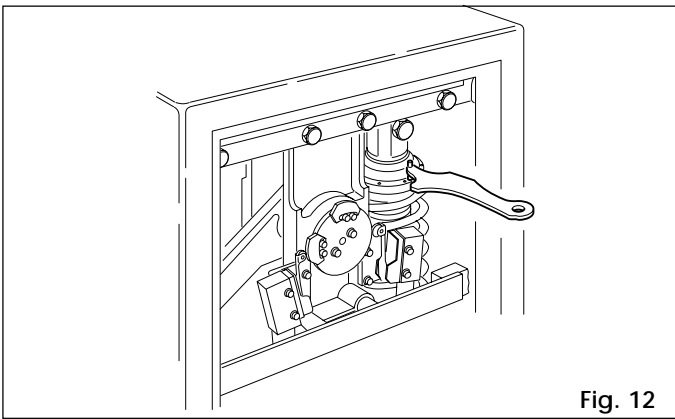


Fig. 12

TAB. 2

BALANCE SPRING FOR RIGID BEAMS				
BARRIER MODEL	BEAM LENGTH (m)	DIAMETER OF SPRING WIRE (mm)	SPRING LENGTH (mm)	SPRING CODE
620 STANDARD 620 RAPID	1.50 - 2.24	4.50	400	721085
	2.25 - 2.74	5.50	400	721069
	2.75 - 3.24	6.00	400	721070
	3.25 - 4.00	7.30	400	721072
640 STANDARD	3.75 - 4.24	7.00	400	721073
	4.25 - 5.24	8.00	400	721074
	5.25 - 6.74	9.00	400	721075
	6.75 - 7.00	10.50	460	721080

TAB. 3

BALANCE SPRING FOR BEAMS WITH SKIRT				
BARRIER MODEL	BEAM LENGTH (m)	DIAMETER OF SPRING WIRE (mm)	SPRING LENGTH (mm)	SPRING CODE
620 STANDARD	2.00 - 2.99	5.50	400	721069
	3.00 - 3.74	6.50	400	721071
	3.75 - 4.00	7.00	400	721073
	3.75 - 4.74	8.00	400	721074
640 STANDARD	4.75 - 5.24	10.00	460	721079
	5.25 - 5.74	10.50	460	721080
	5.75 - 6.74	11.00	460	721081
	6.75 - 7.00	12.00	460	721082

- 2) Adjust the pre-loading ring nut, using the spanner supplied, as shown in Figure 12.
The beam is correctly balanced when it remains steady in the 0° e 90° positions.
If the beam tends to close, turn the ring nut clockwise.
If it tends to open, turn the ring nut counterclockwise.

5. START-UP

5.1. CONNECTING THE ELECTRONIC UNIT

Important! Disconnect the power supply before you perform any type of operation (connections, programming or maintenance) on the electronic unit.

Warning: When terminal strip J2 is disconnected, the power supply outputs of the motor, fan and flashing lamp are still connected to electric power.

Follow points 10, 11, 12, 13 and 14 of the GENERAL SAFETY REGULATIONS.

Position the pipes, as shown in Figure 3, and connect the 624 MPS electronic unit to the accessories.

Keep the power supply cables separate from the control and safety signal ones (photocells, receiver, pushbutton, etc.). To prevent electric interference, use separate pipes.

TAB. 4 TECHNICAL CHARACTERISTICS OF 624 MPS

POWER SUPPLY	230 V (+6 -10 %) 50 Hz
MAX. MOTOR LOAD	300 W
MAX. ACCESSORY LOAD	500 mA
MAX. WARNING LIGHT POWER	5 W (24 Vac)
TEMPERATURE RANGE	- 20°C to 55°C

TAB. 5 OPERATION OF STATUS LEDS

LED	ON (contact closed)	OFF (contact open)
FCC	closing limit switch not engaged	closing limit switch engaged
FCA	opening limit switch not engaged	opening limit switch engaged
OPEN	activated	deactivated
CLOSED/FSW	activated (*)/saf. disengaged(**)	deactivated (*)/saf. engaged(**)
STOP	deactivated	activated
ALARM	beam moving	beam stationary
WARN. LIGHT	see warn. light operation	see warn. light operation
POWER	motor power on	motor power off

(*) P logic operation

(**) A / E logic operation

TAB 6 CURRENT DRAWN BY ACCESSORIES

ACCESSORY	NOMINAL CONSUMPTION
R 31	50 mA
PLUS 433 E	20 mA
MINIDEC SL / DS	6 mA
DECODER SL / DS	20 mA / 55 mA
RP 433 ESL / EDS	12 mA / 6 mA
DIGICARD	15 mA
METALDIGIKEY	15 mA
FOTOSWITCH	90 mA
DETECTOR F4 / PS6	50 mA
MINIBEAM	70 mA

624 MPS CONTROL UNIT

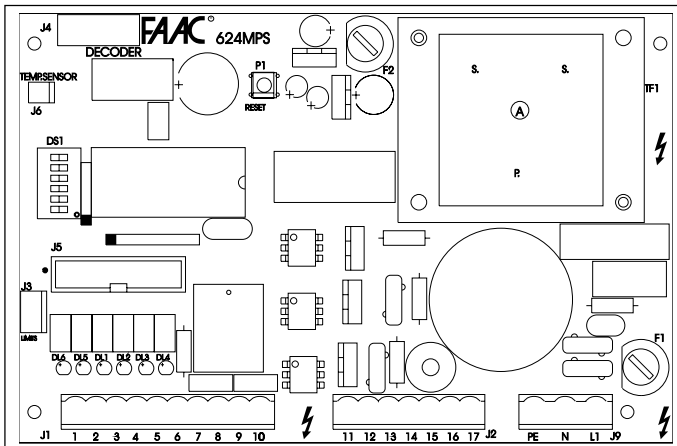


Fig. 13

- TF1 TRANSFORMER.
- J1 REMOVABLE LOW-VOLTAGE TERMINAL STRIP
- J2 REMOVABLE POWER TERMINAL STRIP
- J3 LIMIT SWITCH CONNECTOR
- J4 DECODER CONNECTOR
- J5 CONNECTOR FOR FSW, SLAVE, RELAY BOARDS
- J6 CONNECTOR FOR NTC PROBE
- J9 REMOVABLE TERMINAL STRIP NETWORK POWER SUPPLY
- P1 RESET PUSHBUTTON.
- F1 F5A FUSE (MOTOR).
- F2 T1.6 FUSE (ACCESSORIES).
- DL1 OPEN IMPULSE LED (A/E/P LOG.)
- DL2 CLOSE IMPULSE LED (P LOG.) SAFETY CONTACT (A LOG.)
- DL3 STOP IMPULSE LED
- DL4 ALARM LED (PANIC)
- DL5 OPENING LIMIT SWITCH LED
- DL6 CLOSING LIMIT SWITCH LED

A / E LOGICS CONNECTIONS

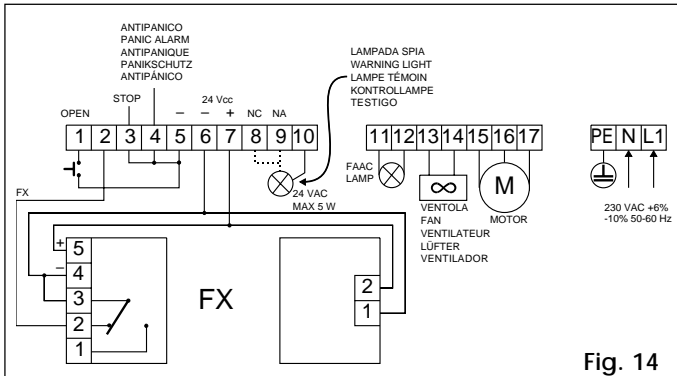


Fig. 14

P LOGIC CONNECTIONS

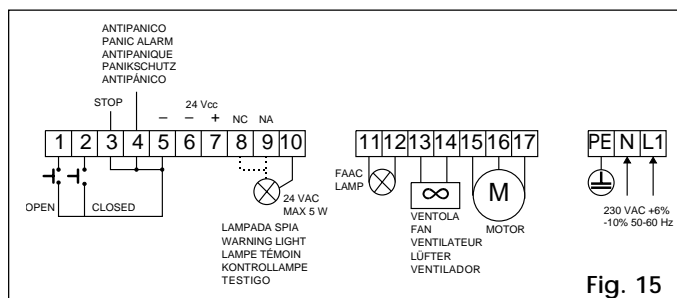


Fig. 15

DESCRIPTION OF TERMINAL STRIP

OPEN

This word indicates any activating device with normally open contact, whose activation causes the beam to perform an opening movement. In automatic and semi-automatic logics, it controls both opening and closing movements.

CLOSE

This word indicates any activating device with normally open contact, whose activation causes the beam to perform a closing movement. (Present only in P logic).

STOP

This word indicates a activating device with normally closed contact, whose activation suspends the current status of the beam (opening, pause or closing), until another pulse is sent.

SAFETY

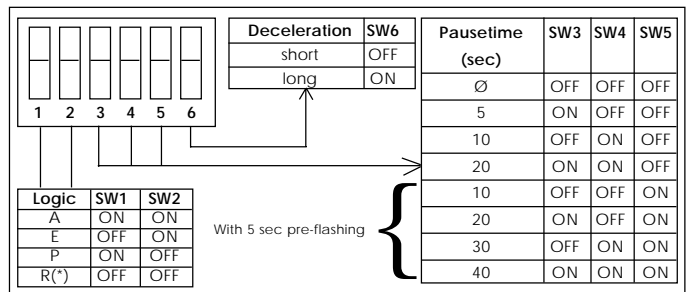
This word indicates all devices (photocells, sensitive pneumatic safety edges, magnetic coils) with normally closed contact, which interrupt the movement of the beam whenever there is an obstacle within their range.

PANIC

This word indicates a activating device with normally closed contact, which is activated in an emergency and causes the beam to open, suspending its current status (open) until the RESET pushbutton is pressed.

PROGRAMMING THE MICROSWITCHES

NOTE: WHENEVER YOU CHANGE THE MICROSWITCH PROGRAMMING, PRESS THE RESET PUSHBUTTON AFTERWARDS.



(*) **IMPORTANT!**: The R logic (remote) must be selected only if there are two opposing barriers that work simultaneously. (See paragraph "624 SLAVE CARD", below.)

OPERATION OF SAFETY DEVICES

In the A or E logics, it is possible to obtain two different types of safety device operation, depending on the pause times that are selected:

- PAUSE TIMES WITH LAMP PRE-FLASHING (10-20-30-40 sec): the closing movement is stopped, then reversed on disengagement.
- PAUSE TIMES WITHOUT LAMP PRE-FLASHING: (0-5-10-20 sec): the closing movement is reversed at once.

ALARM CONDITION

It arises in the following cases:

- 1) Enabling of anti-panic input.
- 2) Activation of safety TIME-OUT device, which interrupts the operation of the system when operating time exceeds 30 sec.
- 3) Simultaneous triggering of the two limit switches.
- 4) Microprocessor reading anomaly (syncro).

The alarm condition is indicated by the quick flashing (0.25 sec) of the Warning Light LED and of the warning light (if connected).

In this condition, all the functions of the system are disabled. Normal operation is restored only after the cause of the alarm has been eliminated and the RESET pushbutton has been pressed.

OPERATION WITH THE DIFFERENT CONTROL LOGICS

TAB. 7 A LOGIC (AUTOMATIC)

impulse beam status	OPEN	STOP	SAFETY	PANIC
closed	opens, recloses after pause time	no effect	no effect	Beam opens and/or remains open. Alarm condition is activated (see relevant paragraph).
open	recloses at once (*)	stops counting	freezes pause time up to disengagement	
closing	reverses movement	stops	see relevant paragraph	
opening	no effect	stops	no effect	
stopped	recloses at once (*)	no effect	no effect	

(*) If pre-flashing has been selected, the barrier closes after 5 sec.

TAB.8 E LOGIC (SEMI-AUTOMATIC)

impulse beam status	OPEN	STOP	SAFETY	PANIC
closed	opens	no effect	no effect	Beam opens and/or remains open. Alarm condition is activated (see relevant paragraph).
open	recloses (*)	stops	no effect	
closing	reverses movement	stops	see relevant paragraph	
opening	stops	stops	no effect	
stopped	recloses (*)	no effect	no effect	

(*) If pre-flashing has been selected, the barrier closes after 5 sec.

TAB. 9 P LOGIC (PARKING: this logic does not allow pre-flashing)

impulse beam status	OPEN	CLOSED	STOP	PANIC
closed	opens	no effect	no effect	Beam opens and/or remains open. Alarm condition is activated (see relevant paragraph).
open	no effect	recloses	no effect	
closing	reverses movement	no effect	stops movement	
opening	no effect	opens, recloses at once	stops movement	
stopped	opens	recloses	no effect	

TAB. 10 OPERATION OF WARNING LIGHT

BEAM STATUS	N.A. CONTACT (*)	N.C. CONTACT (**)
closed	off	on
opening or open	on	off
pre-flashing (if selected) and/or closing	flashing	

(*) Warning light connected between terminals 8 and 10.
 (**) Warning light connected between terminals 9 and 10.

5.2. ADJUSTMENT OF TRANSMITTED TORQUE

Use the two by-pass screws (fig. 8) to regulate the hydraulic transmitted torque adjustment system.

The red screw adjusts torque during closure.
 The green screw adjusts torque during opening.
 Turn the screws clockwise to increase torque.
 Turn the screws anticlockwise to reduce torque.

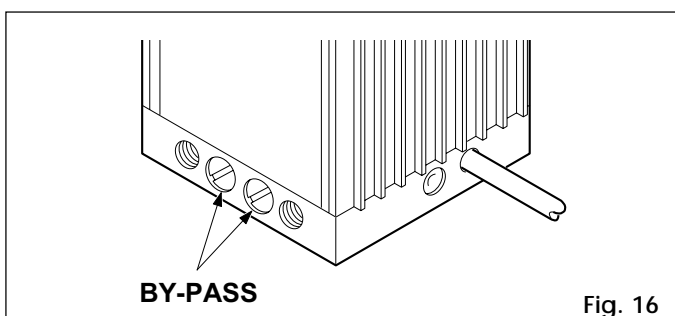


Fig. 16

5.3. ADJUSTMENT OF STROKE END DECELERATION

- 1) Position microswitch SW6 according to the amount of deceleration required:
 OFF: SHORT (1.5 sec).
 ON: LONG (2.5 sec).
 For beams up to 4 m long, a short deceleration is recommended. For beams from 4 to 7 m, a long deceleration is recommended.
- 2) Adjust the stroke limit cams by loosening the two Allen screws, as shown in Figure 17. To increase the deceleration angle, move the cam toward the limit switch. To decrease the deceleration angle, move the cam away from the limit switch.
- 3) Re-lock the system (see paragraph 6), and carry out a few test cycles, in order to check whether the positioning of the limit switches, the balancing of the spring, and the transmitted torque are correct.

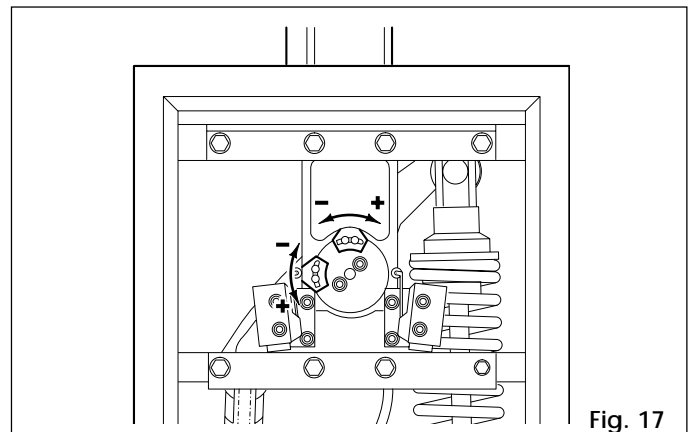


Fig. 17

5.4 TESTING THE AUTOMATION SYSTEM

Once installation is complete, affix the danger warning adhesive on the top of the housing (Fig. 18). Carry out a thorough functional check of the barrier unit and all accessories connected to it. Give the page entitled "End-user guide" to the customer and demonstrate how to operate the barrier correctly, drawing the customer's attention to the points of potential danger.

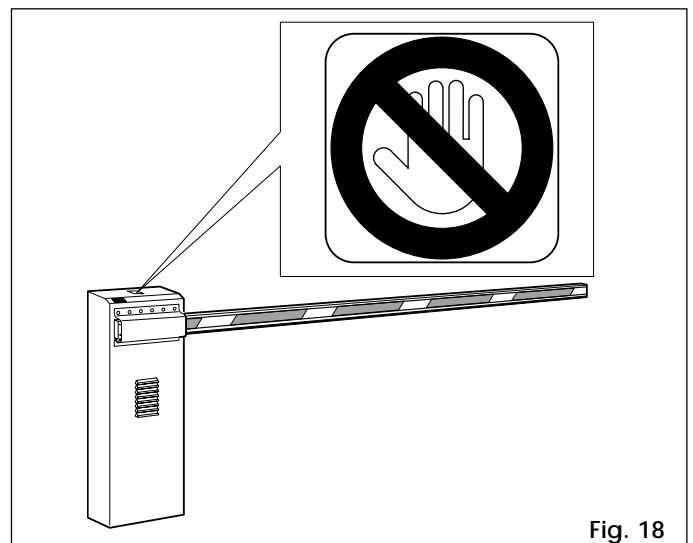


Fig. 18

6. MANUAL OPERATION

If the barrier needs to be operated manually as a result of a power failure or malfunction, use the unlock device as follows.

The key provided can be triangular (standard) or personalised (optional).

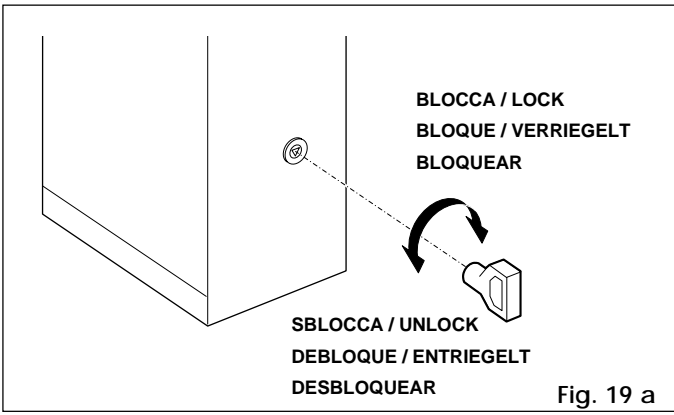


Fig. 19 a

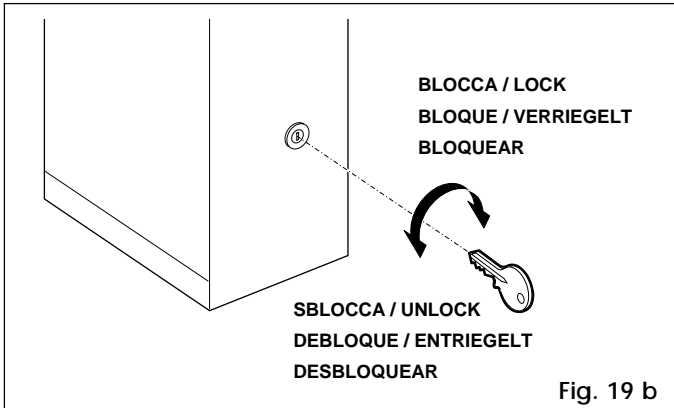


Fig. 19 b

- Insert the standard key (Figures 19 a) or the personalised key (Figures 19 b) in the lock and **turn anticlockwise** by one revolution.
- Open or close the barrier manually.

7. RETURNING TO NORMAL OPERATION

To prevent an accidental impulse from activating the barrier, turn off the system's electrical power supply before returning to normal operation.

triangular key (standard):

- turn the key **clockwise** until it stops, then remove it (Fig. 19a).

personalised key (optional):

- turn the key **clockwise** until it stops.
- turn the key **anticlockwise** very slowly to the point where it can be removed (Fig. 19 b).

8. MAINTENANCE

When performing maintenance always check that the by-pass screws are set correctly, that the system is balanced and that the safety devices operate correctly.

8.1. TOPPING UP WITH OIL

Check periodically the quantity of oil inside the tank. For medium/low duty cycles a yearly check is sufficient; for more severe operation it is advisable to check every 6 months.

The level must not fall below the level mark on the inspection window (Fig. 20).

To top up, unscrew the filler cap (Fig. 20) and pour in oil up to the correct level.

Use exclusively FAAC XD 220 oil.

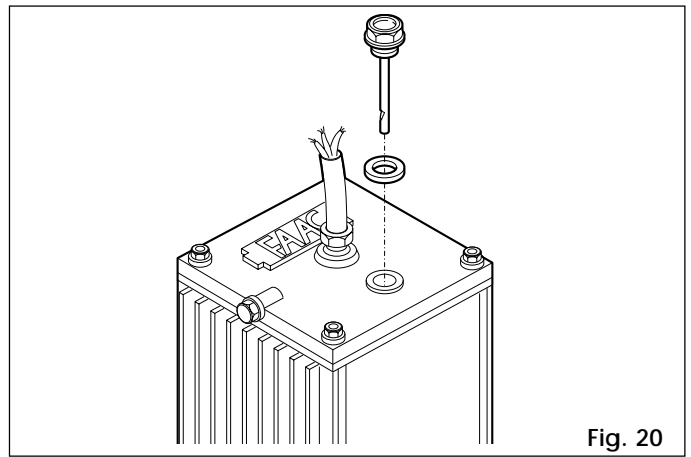


Fig. 20

8.2. BLEEDING AIR FROM THE HYDRAULIC CIRCUIT

If the beam moves in an irregular manner, this may be due to the presence of air in the hydraulic circuit:

- 1) Remove the breather screw (Fig. 9).
- 2) Actuate the beam electrically:
 - while the beam is opening, slightly loosen the bleed screw on the piston with balance spring, then retighten it (Fig. 1, pos. 33);
 - while the beam is closing, slightly loosen the bleed screw on the piston without balance spring, then retighten it (Fig. 1, pos. 11).

If necessary, repeat this operation, until you obtain a smooth beam movement.

9. REPAIRS

For repairs, contact an authorised FAAC Service Centre.

10. ACCESSORIES

OPTIONAL ELECTRONIC BOARDS

The three boards - SLAVE, FSW and RELAY - provide supplementary functions for the 624MPS unit, and may be used simultaneously.

Carefully read the instructions supplied with each product.

624 FSW board (Fig. 21)

The 624 FSW board manages the operation of photocells in P logic (Parking).

To prevent trespassing, the closing safety device causes the beam to stop, then to close again on disengagement.

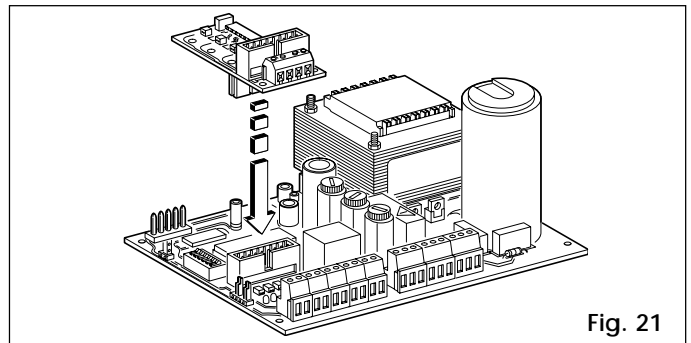


Fig. 21

624 SLAVE BOARD (Fig. 21)

The SLAVE board manages the simultaneous operation of two opposing barriers.

One of the two barriers is identified as MASTER, the other one as SLAVE.

ENGLISH

All the signals sent (open, safety) are controlled by the MASTER barrier; the SLAVE barrier carries out the same movements.

RELAY BOARD (Fig. 22)

The RELAY board provides the possibility to control auxiliary services through contacts that are available on the terminal strip and are relevant to the various barrier statuses.

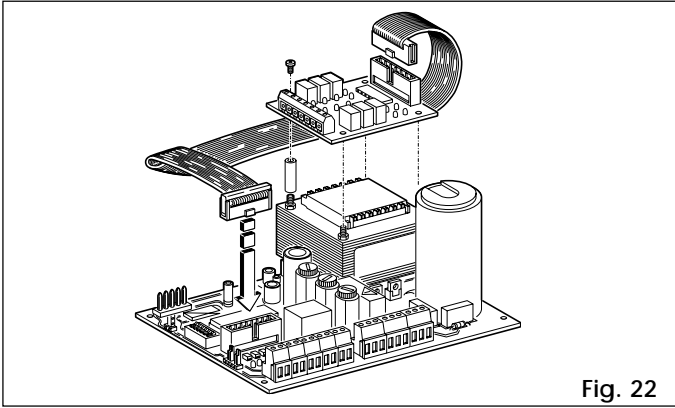


Fig. 22

AUTOMATIC EMERGENCY RELEASE (Fig. 23a)

This device makes it possible, in case of a power failure, to raise the beam manually without having to gain access to the unlocking lever of the hydraulic power unit. A hydraulic system ensures that the beam remains locked in open position.

ANTI-VANDALISM VALVE (Fig. 23b)

This device safeguards the integrity of the hydraulic system if the beam is broken open.

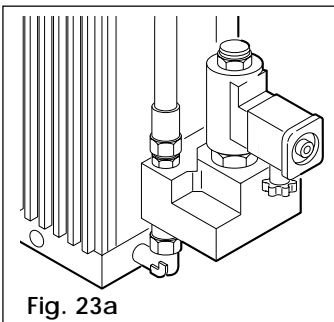


Fig. 23a

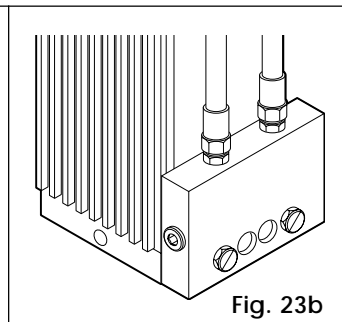


Fig. 23b

SKIRT KIT (Fig. 24)

The skirt increases the visibility of the beam. It is available in 2 m and 3 m lengths.

IMPORTANT! If the skirt kit is fitted, the balance spring must be adjusted.

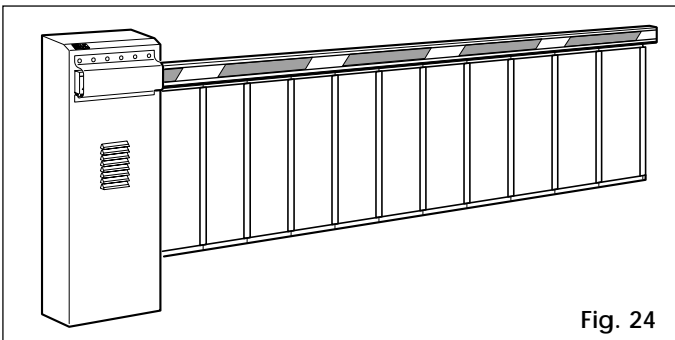


Fig. 24

ARTICULATION KIT (Fig. 25, mod. 620 only)

The articulation kit makes it possible to articulate the rigid beam to a maximum ceiling height of 3 m.

IMPORTANT! If the articulation kit is fitted, the balance spring must be adjusted.

END FOOT (Fig. 26)

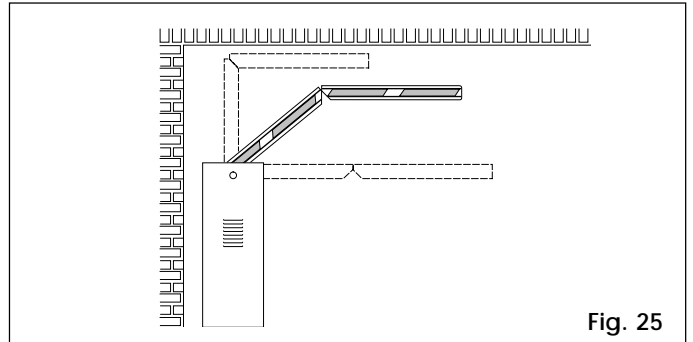


Fig. 25

The end foot supports the beam in closed position and prevents it from bending downwards.

IMPORTANT! If the end foot is installed, the balance spring must be adjusted.

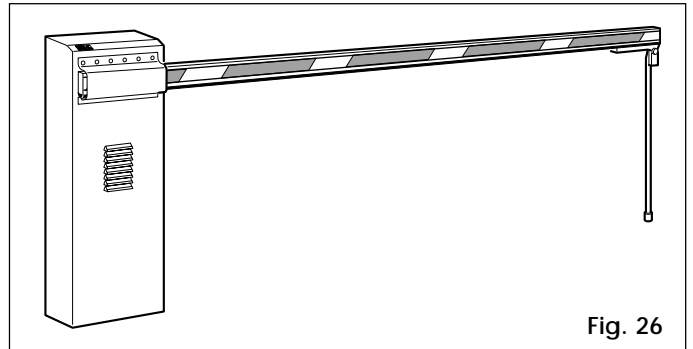


Fig. 26

SUPPORT FORK (Fig. 27)

The support fork has two functions:

- it prevents the beam from bending or breaking if force is applied to its end;
- it acts as a rest for the closed beam and prevents it from bending downwards.

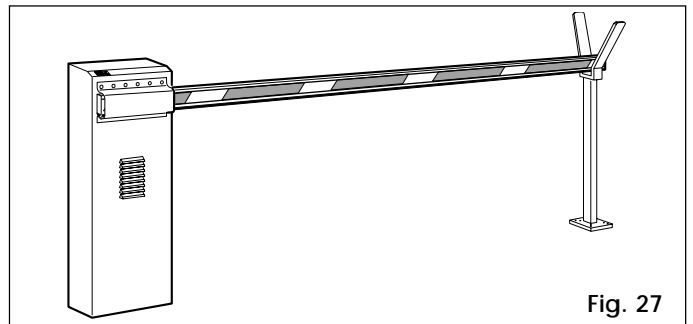
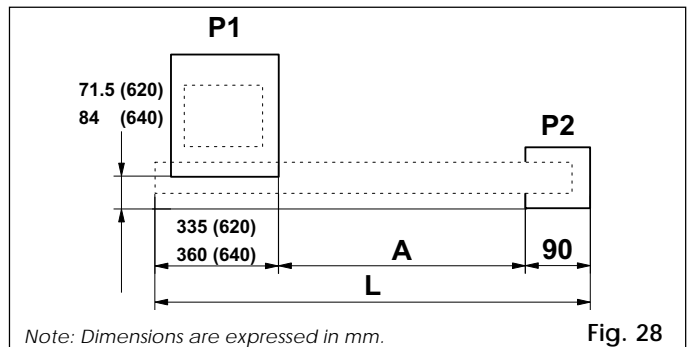


Fig. 27

POSITIONING THE BASE PLATE FOR THE SUPPORT FORK



Note: Dimensions are expressed in mm.

Fig. 28

Figure 28 shows the positioning of the base plate for the support fork.

P1 = base plate for barrier
L = beam length (in mm)

P2 = base plate for support fork
A = L-425 mm (620) L- 450 mm (640)

END-USER GUIDE

620 - 640 - 642 Automation Systems

Read the end user guide carefully before using the product and keep it in a safe place for future reference.

GENERAL SAFETY REGULATIONS

When correctly installed and used, the 620, 640 and 642 automation systems ensure a high degree of safety. A few simple rules should be followed to prevent accidental problems.

- Do not linger under the beam.
- Do not linger near the automation system; do not allow children or adults to linger near it; and do not leave objects near it.
- Keep wireless control devices, or other activating devices that might accidentally actuate the beam, out of the reach of children.
- Do not allow children to play with the automation system.
- Do not impede the movement of the beam.
- Do not allow branches or bushes to interfere with the movement of the beam.
- Ensure that the warning lamps are in always in working order and visible.
- Do not attempt to actuate the beam manually without having first unlocked it.
- In case of a malfunction, unlock the beam to allow vehicles to pass, and call a qualified technician.
- If you have set the manual mode, before restoring normal operation, disconnect the power supply.
- Do not modify the components of the automation system.
- Do not attempt to repair the automation system or to perform any operation on it. Call qualified FAAC technicians only.
- At least once every 6 months, have qualified personnel check that the automation system, safety devices and earth connection are in working order.

DESCRIPTION

The 620, 640 and 642 automation systems are ideal barriers for controlling the access of vehicles to a passageway that is up to 7 m wide and has a medium-to-high frequency of transit.

The housing contains the operator, that consists of a hydraulic power unit and two pistons. The latter actuate the rotation of the beam by means of a rocker arm. A spring mounted on one of the pistons balances the beam.

The beam consists of a white painted aluminium bar with red reflectors to ensure good visibility even in the dark. Barrier operation is controlled by an electronic control unit mounted in an enclosure which assures adequate protection against atmospheric agents and can be fitted inside the housing.

The normal position of the beam is closed in a horizontal position. When the electronic control unit receives an opening command from the remote radio control or any other control device, it activates the hydraulic system and causes the beam to rotate upwards by 90° to the vertical position and thereby allow access. If automatic operation has been selected, the beam closes automatically after the selected pause time.

If semiautomatic operation has been selected, a second impulse must be sent to close the beam.

An open command given while the beam is closing causes the beam to reverse direction of movement.

A stop command (if available) stops movement at any time.

For detailed information on barrier operation in the various operating modes, contact the installation technician.

The barrier units have safety devices (photocells) that prevent the beam from closing when they are darkened by an obstacle. The 630 barrier unit is fitted as standard with an anti-crushing safety device that limits the torque transmitted to the beam.

The hydraulic system ensures that the beam can be locked in any position.

The beam can then be opened manually only by using the unlocking device.

The light flashes while the beam is moving.

MANUAL OPERATION

If the barrier has to be operated manually due to a power failure or malfunction, use the unlocking device as follows. The key provided can be triangular (standard) or personalised (optional).

- Insert the standard key (fig. 1) or the personalised key (fig. 2) in the lock and **turn anticlockwise** by one revolution.
- Open or close the barrier manually.

RETURNING TO NORMAL OPERATION

To prevent an accidental impulse from activating the barrier, turn off the system's electrical power supply before returning to normal operation.

triangular key (standard):

- turn the key **clockwise** until it stops, then remove it.

personalised key (optional):

- turn the key **clockwise** until it stops.
- turn the key **anticlockwise** very slowly to the point where it can be removed.

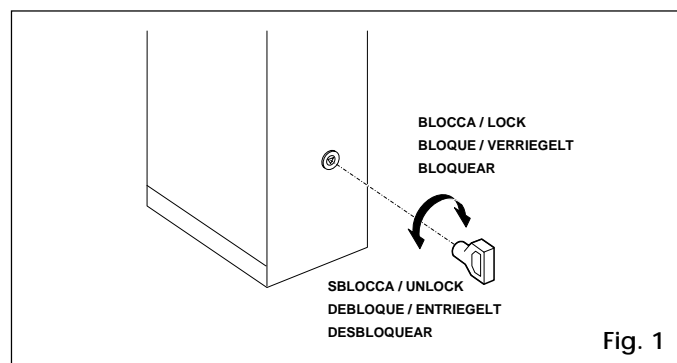


Fig. 1

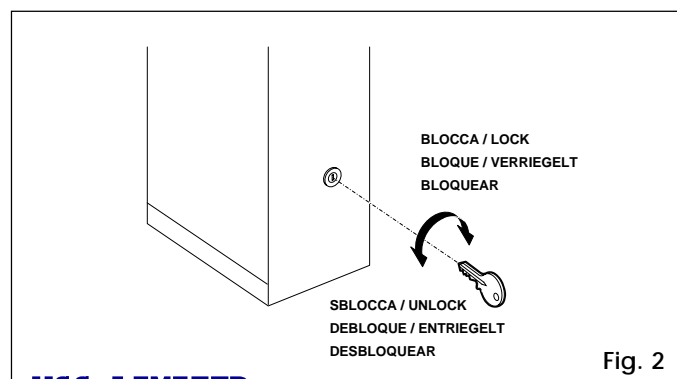


Fig. 2

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