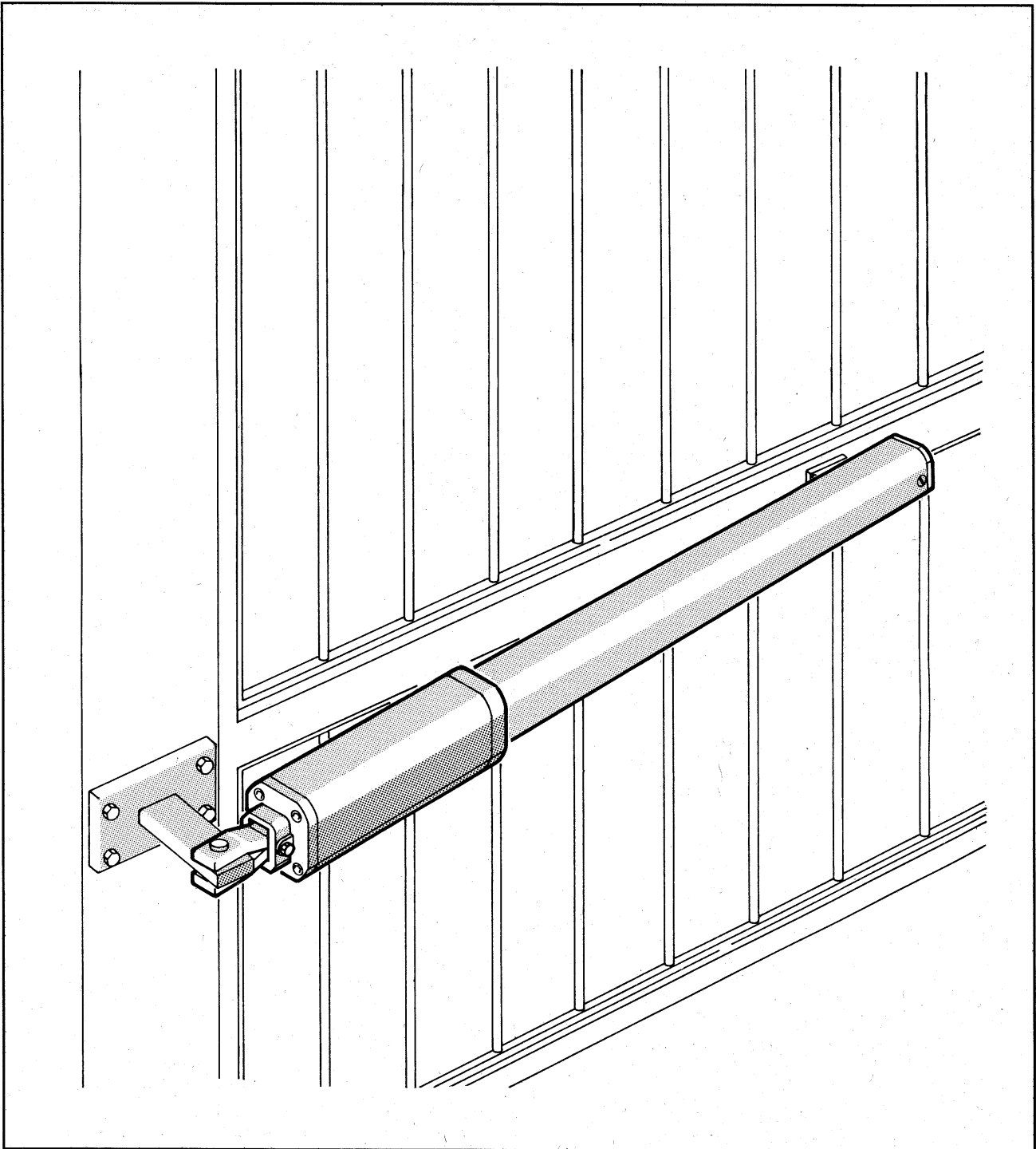


# 402 *COMPACT*



**FAAC<sup>®</sup>**

# QUOTE D'INSTALLAZIONE

## INSTALLATION DIMENSIONS

## INSTALLATIONSMÄßE

## COTES D'INSTALLATION

## COTAS DE INSTALACION

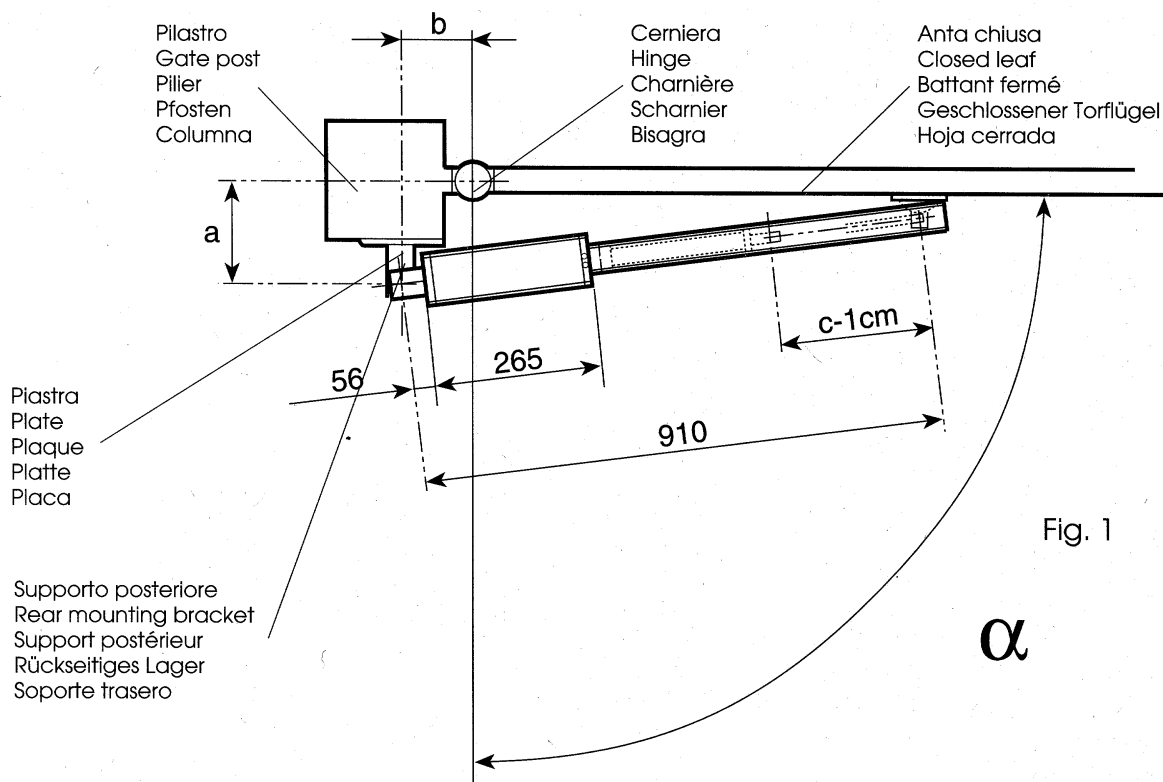


Fig. 1

$\alpha$

**Tabella A**  
**Table A**  
**Tableau A**  
**Tabelle A**  
**Tabla A**

**TABELLA QUOTE CONSIGLIATE**  
**TABLE WITH RECOMMENDED DIMENSIONS**  
**TABLEAU COTES CONSEILLEES**  
**EMPFOLHENE EINBAUMASSE**  
**TABLA DE COTAS SUGERIDAS**

ANGOLO DI APERTURA " $\alpha$ "** OPENING ANGLE " $\alpha$ "** ANGLE D'OUVERTURE " $\alpha$ "** ÖFFNUNGSWINKEL " $\alpha$ "** ANGULO DE APERTURA " $\alpha$ "**	a (cm)	b (cm)	c** (cm)
90°	12	12	25
110° (*)	10	10	

(\*) massimo angolo di apertura  
(\*) maximum opening angle  
(\*) angle maximum d'ouverture  
(\*) maximaler Öffnungswinkel  
(\*) ángulo máximo de apertura

(\*\*) c = corsa massima dello stello  
(\*\*) c = maximum excursion of piston rod  
(\*\*) c = course maximum de la tige  
(\*\*) c = Maximalhub der Kolbenstange  
(\*\*) c = carrera máxima del vástago

**REGOLA GENERALE:** per aperture di 90°  $a + b = c - 1$  cm

**IMPORTANTE:** qualora sia necessario modificare le quote di tabella A rispettare le seguenti avvertenze:

- la somma delle quote a e b non può superare il valore c - 1 cm.

- le quote a e b non devono essere inferiori a 10 cm.

Quote a e b inferiori determinerebbero velocità periferiche dell'anta troppo elevate e quindi pericolose. (Si raccomanda comunque di rispettare le normative vigenti).

**GENERAL RULE:** for 90° opening  $a + b = c - 1$  cm.

**IMPORTANT NOTE:** should it be necessary to change the dimensions shown in table A observe the following instructions:

- the total of dimensions a and b cannot exceed value c - 1 cm.

- dimensions a and b must not be less than 10 cm.

If dimensions a and b were less, peripheral speed of the leaf would be excessive and therefore dangerous. (In any event follow the standards currently in force).

**REGLE GENERALE:** pour des ouvertures de 90°  $a + b = c - 1$  cm.

**IMPORTANT:** s'il y a nécessité de modifier les cotes du tableau A, respecter les indications suivantes:

- la somme des cotes a et b ne peut pas dépasser la valeur c - 1 cm.

- les cotes a et b ne doivent pas être inférieures à 10 cm.

Des cotes a et b inférieures provoqueraient des vitesses périphériques du battant trop élevées, donc dangereuses. (Il est à conseiller, de toute façon, de respecter les normes en vigueur).

**ALLGEMEINE REGEL:** Für Öffnungswinkel von 90°  $a + b = c - 1$  cm.

**WICHTIG:** Sollte eine Änderung der Werte der Tabelle A notwendig sein, beachten Sie bitte die folgenden Hinweise:

- die Summe der Maße a und b muß niedriger oder gleich dem Wert c-1 cm sein.

- die Maße a und b dürfen nicht geringer als 10 cm sein.

Darunterliegende Maße von a und b würden zu einer unzulässig hohen und damit gefährlichen Umfangsgeschwindigkeit führen. (Geltende Sicherheitsbestimmungen beachten!)

**REGLA GENERAL:** para apertura de 90°  $a + b = c - 1$  cm

**IMPORTANTE:** si fuese necesario modificar las cotas de la tabla A, respetar las siguientes indicaciones:

- la suma de las cotas a y b no puede superar el valor c - 1 cm.

- las cotas a y b no deben ser inferiores a 10 cm.

Con cotas a y b inferiores a 10 cm, se determinarían velocidades periféricas de la hoja demasiado elevadas y por lo tanto peligrosas (se aconseja, de todas maneras, respetar las normativas en vigor).

Fig. 2

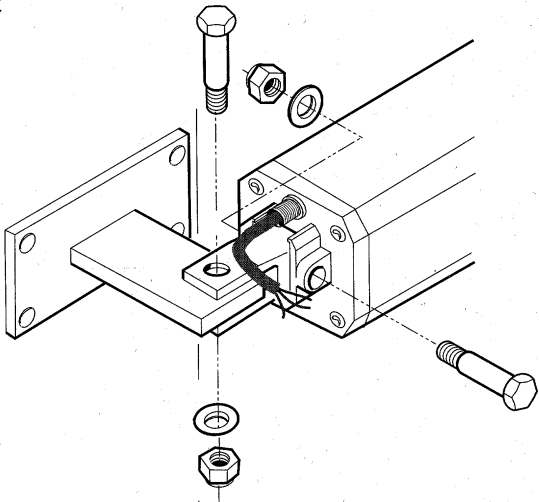


Fig. 3

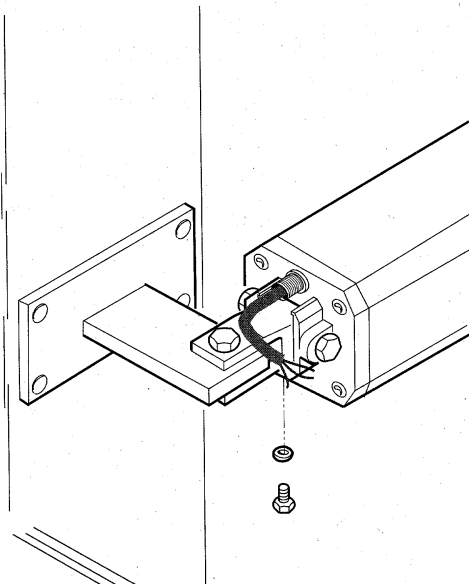


Fig. 4

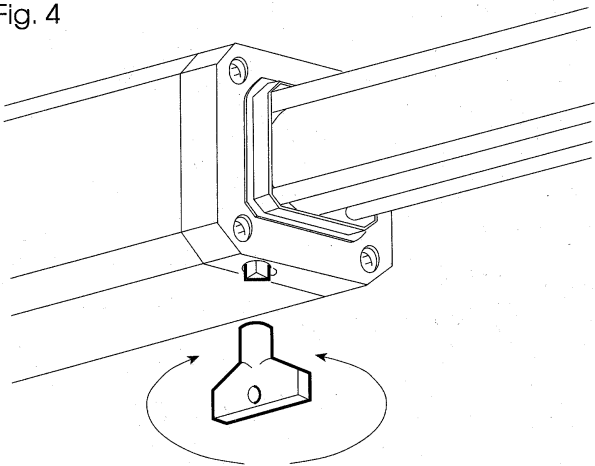


Fig. 5

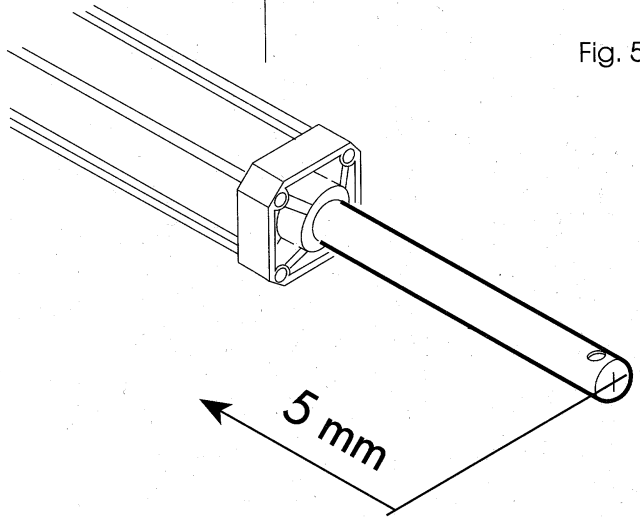


Fig. 6

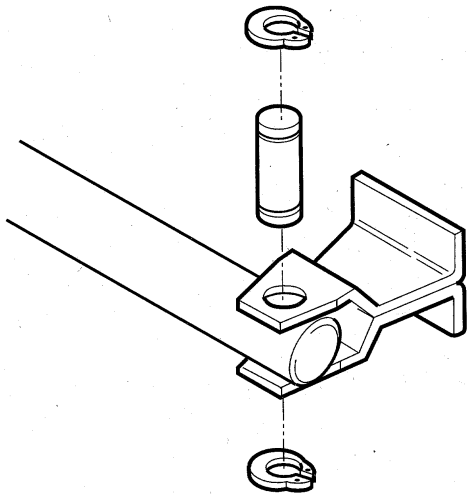


Fig. 7

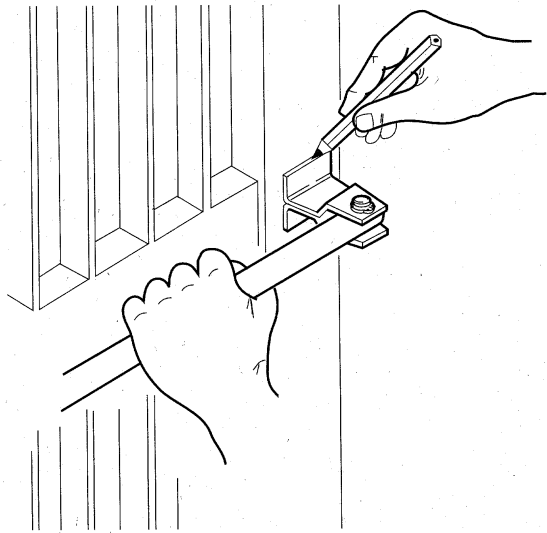


Fig. 8

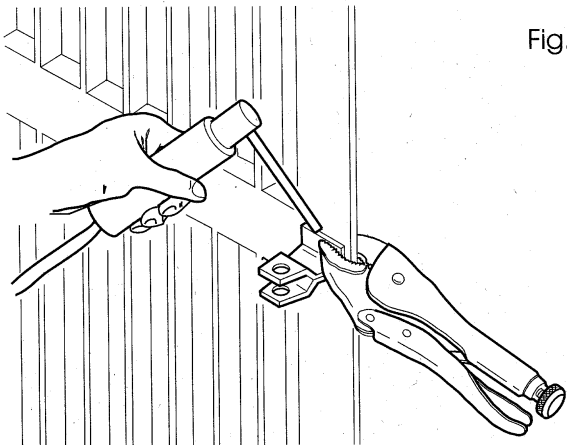
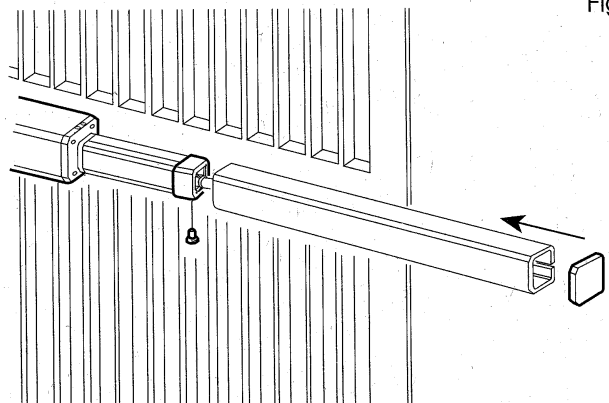


Fig. 9



## CURVA DI MASSIMO UTILIZZO

La curva consente di individuare il tempo massimo di lavoro (T) in funzione della frequenza d'utilizzo (F).

Es.: L'operatore può funzionare ininterrottamente alla frequenza d'utilizzo del 40%.

Per garantire il buon funzionamento è necessario operare nel campo di lavoro sotto la curva.

**IMPORTANTE:** la curva è ottenuta alla temperatura di 24 °C. L'esposizione all'irraggiamento solare diretto può determinare diminuzioni della frequenza d'utilizzo fino al 20%.

### CALCOLO DELLA FREQUENZA D'UTILIZZO

E' la percentuale del tempo di lavoro effettivo (apertura + chiusura) rispetto al tempo totale del ciclo (apertura + chiusura + tempi sosta).

Formula pratica

TA : tempo apertura

TC : tempo chiusura

TP : tempo pausa

TI : tempo di intervallo tra un ciclo completo e l'altro

$$\% F = \frac{TA + TC}{TA + TC + TP + TI} \times 100$$

## MAXIMUM DUTY CYCLE CURVE

The curve makes it possible to determine the maximum operating time (T) as a function of duty cycle (F).

e.g. The ram can work continuously at a duty cycle of 40%.

To ensure smooth running, operation should be kept within the duty area below the curve.

**IMPORTANTNOTE:** the curve was plotted on the basis of operation at 24°C.

Allow for up to 20% reduction of the duty cycle in the case of higher ambient temperatures.

### CALCULATING THE DUTY CYCLE

The duty cycle is the actual operating time (opening and closing) compared with the total time of the cycle (opening + closing + stationary time).

Practical formula

TA : opening time

TC : closing time

TP : stationary time

TI : length of interval between one complete cycle and the next

$$\% F = \frac{TA + TC}{TA + TC + TP + TI} \times 100$$

## COURBE D'UTILISATION MAXIMUM

La courbe permet de repérer le temps maximum de travail (T) en fonction de la fréquence d'utilisation (F).

Ex: L'opérateur peut fonctionner de manière ininterrompue à la fréquence d'utilisation de 40%.

Pour garantir le bon fonctionnement il est nécessaire d'opérer dans le champ de travail placé en-dessous de la courbe.

**IMPORTANT:** la courbe est obtenue à la température de 24°C. L'exposition aux rayons solaires peut provoquer une diminution de la fréquence d'utilisation jusqu'à 20%.

### CALCUL DE LA FREQUENCE D'UTILISATION

Il s'agit du pourcentage de temps effectif (ouverture + fermeture) par rapport au temps global du cycle (ouverture + fermeture + temps d'arrêt).

Formule pratique.

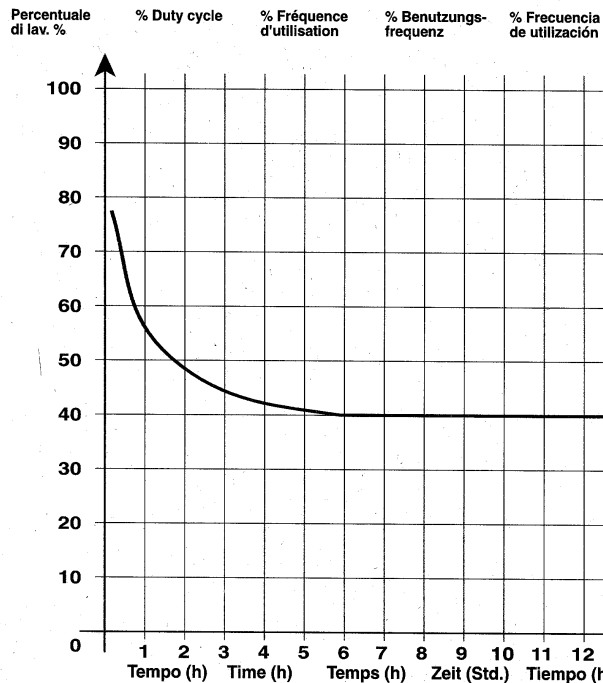
TA : temps d'ouverture

TC : temps de fermeture

TP : temps de pause

TI : intervalle entre un cycle complet et l'autre

$$\% F = \frac{TA + TC}{TA + TC + TP + TI} \times 100$$



## MAXIMALE BENUTZUNGSKURVE

Die Kurve ermöglicht die Bestimmung der maximalen Betriebszeit (T) je nach der Benutzungsfrequenz (F).

Bsp.: der Antrieb kann bei einer Benutzungsfrequenz von 40% ununterbrochen arbeiten.

Zur Gewährleistung eines reibungslosen Betriebes ist es erforderlich, im Arbeitsbereich unter der Kurve zu bleiben.

**WICHTIG:** Die Kurve wurde bei einer Temperatur von 24°C erzielt. Die direkte Sonneneinstrahlung kann zu einer Verringerung der Benutzungsfrequenz von bis zu 20% führen.

### BERECHNUNG DER BENUTZUNGSFREQUENZ

Prozentsatz der effektiven Arbeitszeit (Öffnung + Schließung) bezüglich der Gesamt-Taktdauer (Öffnung + Schließung + Stillstandzeiten).

Anwendungsformel

TA : Öffnungszeit

TC : Schließzeit

TP : Pausenzeit

TI : Intervalldauer zwischen zwei kompletten Zyklen

$$\% F = \frac{TA + TC}{TA + TC + TP + TI} \times 100$$

## CURVA DE MAXIMA UTILIZACION

La curva permite individualizar el tiempo máximo de trabajo (T), en función de la frecuencia de utilización (F).

Ej.: El operador puede funcionar ininterrumpidamente a la frecuencia de utilización del 40%.

Para garantizar el buen funcionamiento, es necesario operar en el campo de trabajo bajo la curva.

**IMPORTANTE:** la curva ha sido obtenida a la temperatura de 24°C.

La exposición a las radiaciones solares directas, puede determinar disminuciones en la frecuencia de utilización de hasta un 20%.

### CALCULO DE LA FRECUENCIA DE UTILIZACION

Es el porcentaje del tiempo efectivo de trabajo (apertura + cierre) con respecto al tiempo total del ciclo (apertura + cierre + tiempos de pausa).

Fórmula Práctica

TA : tiempo de apertura

TC : tiempo de cierre

TP : tiempo de pausa

TI : tiempo de pausa entre dos ciclos completos

$$\% F = \frac{TA + TC}{TA + TC + TP + TI} \times 100$$

**PRELIMINARY PRECAUTIONS**

Ensure that the structure of the gate is in compliance with current regulations and that the movement of the leaves is even and without friction.

Make all necessary adjustments including the fitting of gate stops before installing the automation equipment.

Installation must be carried out in compliance with current regulations.

**INSTALLATION INSTRUCTIONS**

1) Fix the rear mounting bracket to the gate post as shown in Fig. 1 and Table A.

**N.B.:** THESE DIMENSIONS ARE CRITICAL TO ENSURE THE CORRECT OPERATION OF THE SYSTEM.

2) Fix the ram to the rear mounting bracket (Fig. 2).

3) Make the electrical connections to the electronic control box (see relevant instructions).

4) Remove the bleed screw as shown in Fig. 3.

5) Maintaining the ram in the horizontal position, operate the ram five or six times, checking the smooth operation of the piston rod.

**N.B.:** Should the piston rod tend to jerk, cycle the ram (air bleeding) until the piston rod moves smoothly.

6) After bleeding, release the ram by inserting the key in the manual release positioned beneath the cap (Fig. 4). To unlock the ram turn the key anti-clockwise. To lock turn the key clockwise.

7) With the ram unlocked, withdraw the piston rod by hand to its full extension and then reinsert it by 5 mm. (Fig. 5).

8) Fasten the front bracket to the piston rod (Fig. 6).

9) Close the gate, keep the ram in the horizontal position. Locate and mark the position of the front bracket on the leaf (Fig. 7).

10) Fix the front bracket to the leaf (Fig. 8).

**N.B.:** To prevent spatter from damaging the rod during welding, disconnect it from the bracket.

11) Reconnect the piston rod to the front bracket and fit the piston cover (Fig. 9).

12) Relock the manual release.

**N.B.:** All bolts should be greased.

**TECHNICAL SPECIFICATIONS**

POWER SUPPLY (V)	220 ± 10 %	50 - 60 Hz
POWER CONSUMPTION (W)	220	
CURRENT CONSUMPTION (A)	1	
MOTOR SPEED (g/min)	1400	
THERMAL OVERLOAD CUT-OUT (°C)	100	
PUMP FLOW RATE (l/min)	1	
PISTON ROD SPEED (cm/sec)	1.3	
EFF. PISTON ROD EXCURSION	240	
MAX. THRUST (Kg)	500	
DUTY CYCLE	see Fig. 10	
MAX. LEAF WIDTH (m)	1.8	
HYDRAULIC STOP	ONLY IN CLOSED POSITION	
OIL TYPE	FAAC OIL XD 220	
OIL QUANTITY (l)	0.9	
WEIGHT (kg)	6.5	
ELECTRONIC CONTROL BOX	402 MPS (included)	

**ADJUSTMENT OF THE ANTI-CRUSHING SAFETY DEVICE**

The ram is equipped with an anti-crushing safety device which ensures that movement will stop if an opposing force is encountered or in the event of persons or objects being caught in the path of the gate.

Red and green by-pass screws which are located on the top of the unit are used to adjust the sensitivity.

Closing thrust is set by the red screw.

Opening thrust is set by the green screw.

Clockwise to increase thrust.

Anti-clockwise to reduce thrust.

**IMPORTANT NOTE:** ADJUSTMENTS MUST REMAIN WITHIN THE LIMITS LAID DOWN BY ANY CURRENT LEGISLATION.

Having completed the adjustments, apply the protective sticker as shown in Fig. 11.

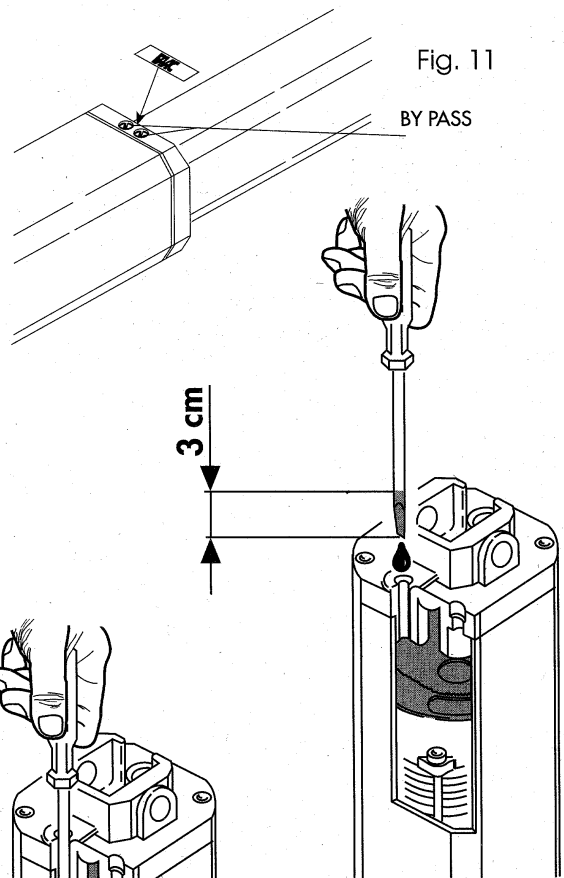


Fig. 13

Fig. 12

**MAINTENANCE**

For low to medium duty cycles inspection once a year is sufficient. For higher duty cycles inspection every 6 - 8 months is advisable.

Only FAAC XD 220 oil should be used.

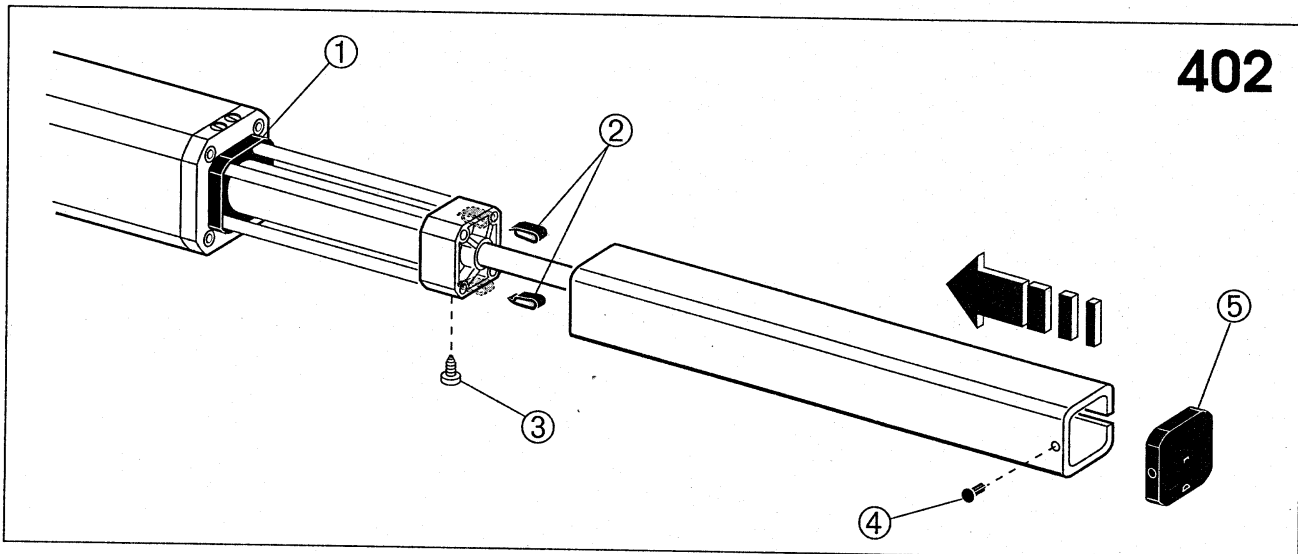
Regular inspection of the system is recommended.



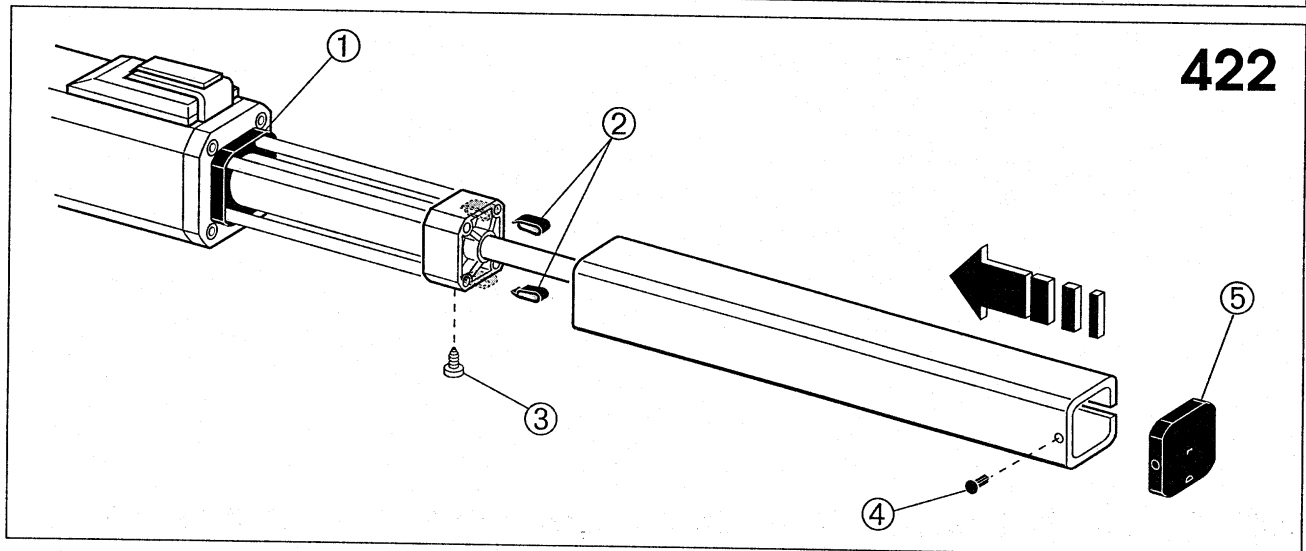
# FAAC®

NUOVO CARTER  
NEW GUARD  
NOUVEAU CARTER  
NEUE ABDECKUNG  
NUEVO CARTER

# 402-422



402



422

- I**
- 1) Inserire i due distanziali antivibranti (2) nella flangia anteriore.
  - 2) Introdurre il carter premendolo con forza nel coperchio posteriore (1).
  - 3) Fissare il carter con la vite aut. (3).
  - 4) Inserire il coperchio anteriore (5) sul carter e bloccare con il tappo FIX (4).

- E**
- 1) Insert the two vibration-proof spacers (2) into the front flange.
  - 2) Insert the guard by pressing it firmly into the rear cover (1).
  - 3) Fasten the carter using the self-threading screw (3).
  - 4) Insert the front cover (5) on the guard and lock using the FIX cap (4).

- F**
- 1) Introduire les deux silentblochs (2) dans la flasque avant.
  - 2) Introduire le carter et le presser avec force dans le couvercle arrière (1).
  - 3) Fixer le carter avec la vis autotaraudeuse (3).
  - 4) Introduire le couvercle avant (5) sur le carter et bloquer avec le bouchon FIX (4).

- D**
- 1) Die beiden Gummi-Distanzstücke (2) in den Vorderflansch einsetzen.
  - 2) Die Abdeckung einsetzen und fest gegen den hinteren Deckel (1) drücken.
  - 3) Die Abdeckung mit der selbstschneidenden Gewindeschraube (3) befestigen.
  - 4) Den vorderen Deckel (5) auf die Abdeckung setzen und mit dem FIX-Verschluss (4) blockieren.

- S**
- 1) Introducir los dos distanciadores antivibradores (2) en la gualdera anterior.
  - 2) Colocar el cárter, empujándolo con presión, sobre la tapa posterior (1).
  - 3) Fijar el cárter con el tornillo autoroscador (3).
  - 4) Colocar la tapa anterior (5) sobre el cárter y fijar todo con el tapón FIX (4).

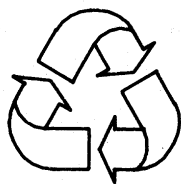
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