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## CF-360 零件表

零件編號	零件名稱	零件編號	零件名稱	零件編號	零件名稱
A1	台身底箱	C36	右軌道	E54	昇降座
A11	廢料盒	C361	軌道螺絲	E55	不動刀
A12	把手	C37	鋁合金左右護軌	E551	墊片
A13	腳墊	C38	左軌道	E56	動刀
A14	板扣#2533	C381	軌道螺絲	E57	滑軸蓋
A15	廢料漏斗	C39	退料槽	E58	切刀滑軌
A16	台身	C390	成品盒	E581	切刀推進框
		C391	成品盒架	E59	刻度尺
				E591	指示標
B2	電料箱				
B21	電源開關	D4	壓料機構		
B22	切刀開關	D40	滑軸固定片	F61	偏心軸
B23	震動旋鈕	D41	壓料調整鈕	F62	軸心齒輪
B24	震動開關	D42	壓料軌	F63	馬達齒輪
B25	暫封板	D43	壓料板	F64	偏心軸座
B26	電料箱鉤	D44	壓料滑軸	F65	培林6002ZZ
B27	震動P.C板	D45	滑軸座	F66	培林6003ZZ
B28	電源線	D46	固定螺絲	F67	馬達
B29	插座	D41A	調整桿	F68	減速機
B30	保險絲座				
		E5	切刀座		
C3	震動送料機組	E51	昇降管軸		
C30	材料	E510	刀座管套		
C31	小震動器	E511	切刀座固定螺絲		
C32	震動吸板	E52	昇降軸		
C33	震動彈片	E53	升降螺絲		
C34	震動底板	E531	培林6000ZZ		
C35	封板	E532	塑膠轉帽		

## A. CF-360 型散裝電容剪腳機之介紹

1. 本機器專門針對立式電子零件剪腳設計，只要能站立的零件皆可使用，如各類電容器、LED、功率晶體、排阻、電晶體....等。
2. 切腳長短可隨意調整，由 3 mm~20 mm，線徑  $\phi 0.35 \sim \phi 2.0$  mm 皆是使用範圍。
3. 本機器 CF-360 型預留有加裝計數器的孔位，可自行再安裝計數器，以計算數量。
4. CF-360 型有再擴充性，能達到全自動送料、剪腳；產能可達人工放料的十倍以上。即我司所生產製造的 CF-366、CF-368 或 CF-3661、CF-3662，供用戶選購。
5. 本機器屬成熟設計機構，輕巧耐用，操作簡單，維修容易。

## B. 使用方法：

1. 核對正確與機台相同的電壓，再將電源線插上。開啟 B21 電源開關 → B22 切刀開關 “ON”，切刀開始往返做切腳動作。
2. B24 震動開關啟動時，C3 震動送料機組即開始運作，再由 B23 震動旋鈕控制送料速度的快慢，以能應付入料即可，不必太快，送料太快容易造成切腳長短，或零件傾倒...等問題產生。

## C. 調整及入料、切腳

1. 將零件 C30 用手由入口平行放於 C36 及 C38 軌道上，零件 C30 就會自動往前行進，前進快慢由 B23 震動旋鈕控制。
2. C37 鋁合金左右護軌是控制零件本體左右寬度，防止零件行走時左右搖動，可隨不同大小的零件做調整，C37 鋁合金左右護軌上有三個螺絲做調整及固定用。
3. C36 右軌道可隨線徑粗細做調整，由 C361 軌道螺絲調整軌道間隙。
4. D4 壓料機構可防止零件上下跳動，隨著零件高低做調整，將 D46 的螺絲放鬆，轉動 D41 壓料調整鈕，D42 壓料軌即可上下移動，剛好將 D42 架於零件上，再將 D46 螺絲固定。
5. 切腳長短之調整：
  - a. 用六角扳手將 E511 螺絲放鬆。
  - b. 轉動 E53 升降螺絲，E5 切刀座即可上下滑動。
  - c. 查看 E591 指示標，E59 刻度尺上有數字刻度所指出的數字，即是腳長的尺寸。
  - d. 啟動電源，讓 E56 動刀往返動作，再轉動 B23 震動旋鈕放入零件，即可開始切腳的工作。
  - e. 當試切出第一個零件，必須測量腳長是否正確，核對如果正確即將 E511 螺絲固定。切腳調整即告完成。
  - f. ※注意：當要轉動 E53 及調動 E5 刀座時一定要先將 E511 螺絲放鬆。
  - g. 切腳完成的零件，會經由 C39 退料槽進入 C390 成品盒內集中收料。
  - h. C390 成品盒由左方順向推出即可拿出。

## D. 廢料清理

1. 打開 A14 板扣，整組 B2 電料箱即可往後翻開，所有機構就可清楚看見。
2. 於切腳過程，線腳屑容易亂飛，每次使用完後須將可能跳入箱內的線腳屑清理乾淨。
3. 切斷之腳屑會隨著 E5 切刀座的斜口滑入 A11 廢料盒內，如果有殘存於斜口的滑道內，須用物品將屑腳清理，否則會影響送料。

4. A11 廢料盒堆滿後，須取出倒掉。

## E. 保養與維護

1. F62 與 F63 的齒輪及 F61 偏心軸要加潤滑油以做保護。
2. E58 切刀滑軌需用機油潤滑。
3. E51 及 E52 刀座軸必須用油布擦拭以防生鏽。

## F. 零件更換解說

1. E55 不動刀及 E56 動刀經長時間使用而變鈍、不利，需將刀口研磨或整組換新。
2. 切刀 E55 不動刀及 E56 動刀之更換
  - a. 打開 A14 板扣，整組 B2 電料箱往後翻開。
  - b. C361 螺絲鬆料取下整組 C36 右軌道。
  - c. 將 E56 動刀上的螺絲鬆開，動刀 E56 即可取出或更換。
  - d. 用 L 型六角扳手鬆開 C381 螺絲，取下 C38 左軌道。
  - e. 將 E55 不動刀上的螺絲鬆開，即可取出 E55 不動刀或更換。
3. 安裝 E55 不動刀及 E56 動刀
  - a. 將 E55 不動刀鎖緊，再用手轉動 F63 馬達齒輪，用一零件做試切，如能順利切斷且無毛邊，表示 E55 不動刀及 E56 動刀鋒利且密合度好。
  - b. 如果有過大的毛邊或拉料，即表示刀鈍需研磨或更新。
  - c. 如果是新刀在切斷時有過大的毛邊，即表示密合度不佳，請用很薄的紙墊於 E56 動刀與 E58 切刀滑軌中間，再將 E56 動刀上的螺絲鎖緊。※注意：E55 及 E56 切刀只能相互接觸到，不能有刀鋒相互撞擊。切記！
  - d. E55 不動刀上的螺絲沒鎖緊，也會造成切刀密合度不佳。
4. E55 不動刀及 C38 左軌道之校正要平整。
  - a. 轉動 E53 將 E5 刀座昇高接近 C38 左軌道，在鎖定 C381 螺絲時，需確定 C38 左軌道與 E55 不動刀刀鋒能“平整”，再鎖緊。
  - b. E55 不動刀如果凸出 C38 軌道邊緣，當零件到達切刀前會傾倒或線卡到凸出的刀片而入料不順。
  - c. E55 不動刀如果縮入 C38 軌道邊緣，會先將線腳打彎後再切腳，即切完的零件線腳會有彎曲。

## G. 故障排除

1. 送料疑問解說：
  - a. E5 刀座調昇與 C38 軌道接觸到時，軌道振動力會因接觸到刀座而抵消，即無法送料。  
排除方法：請將刀座 E5 降低，震動送料立即恢復正常。
  - b. 震動送料有突然加快及瞬間減慢的現象，或 B23 震動旋鈕無法做快慢調整。  
原因：可能 B27 震動 PC 板電子零件。  
排除方法：
    - (1) 更換其中損壞之電子零件。
    - (2) 整片 PC 板換新。
  - c. 經過多年的使用，送料速度變得較慢。  
排除方法：將 C33 震動彈片上方的兩個螺絲放鬆，拉高約 0.5 mm 再將螺絲鎖緊即可恢復快速送料。

d. 送料容易傾倒。

排除方法：將 B23 震動旋鈕調慢，不宜太快，會震動零件。

## 2. 切刀故障解說

a. E56 不動刀突然停滯不動或速度變慢。

排除方法：

(1) 查看 E56 動刀與 E57 滑軸蓋中間是否有卡到肩腳或掉落零件，將其清除之。

(2) 查看 F62 及 F63 齒輪中間是否卡有殘留腳屑或異物。

(3) E58 切刀滑軌太久沒有加油而無法滑動，請加油以潤滑之。

b. 切斷之零件要切得比一般 3.0 mm 更短之處理。

排除方法：

(1) 另外訂購一片 E55 不動刀做低於 3.0 mm 以下的專用刀。

(2) 將原刀做更薄的研磨，及 C38 左軌道磨薄。

(3) E55 不動刀及 C38 軌道要磨薄屬於專業技術，需回廠處理，或訂購備品更換。※切勿自行處理，否則容易變形。

## H. CF-360 型再擴充之介紹

由半自動式增長為全自動送料剪腳之功能

### 1. 需增加之配件及機組

a. 原有之 C36 及 C38 軌道需改用加長型軌道。

b. 另訂購一組台架，做為組合 CF-360 本機與銜接自動送料機用。

c. 訂購一台震動送料機。

### 2. 震動送料機之訂購

a. 震動送料機種類繁多，必需選購符合您實際所適用者。

b. 訂購震動送料機前一定要提供零件樣品，才能製造。

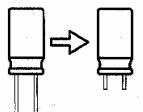
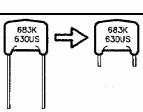
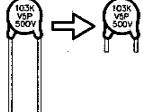
c. 訂購時必須事先說明為銜接用，因在接口處需做事先規劃，才能順利接上，否則無法銜接。

### 3. 我司依照多年經驗，設計出多種現品供用戶選購。

### 4. 組合完成後的型式做簡單介紹如下：

a. 您 P.C 板上的立式零件，約有 75% 皆適用於 CF-366。

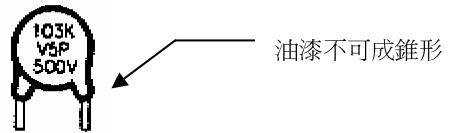
b. CF-366 適用於符合下列外形條件之電子元件。

項目	元件種類	元件形狀	尺寸範圍	圖例
1	如電解電容器(EC),LED 及電晶體等	圓柱形	圓柱外徑範圍 Ø4mm ~ Ø8mm	
2	如塑膠薄膜電容(Mila),功率晶體,方形 LED 等	長方形	長方體範圍 3mm(長) * 3(寬) * 3(厚) ~ 15(長) * 18(寬) * 8(厚)	
3	如陶瓷電容(Ceramic)	扁圓形	扁圓體範圍 Ø4mm(外徑) * 3mm(厚) ~ Ø13mm(外徑) * 6mm(厚)	

c. CF-366 屬多種用途共用機種。經過調整之後以上範圍之內均可使用，同時也需符合以下基本條件：

(1) 必需要能站立

(2) 底部不可成錐形（如右圖）



(3) 線不可太彎曲

(4) 零件不可有相互吸黏或糾纏之現象

(5) CF-3661 型屬單一種類外型相似之電子元件，針對圓柱體元件設計。

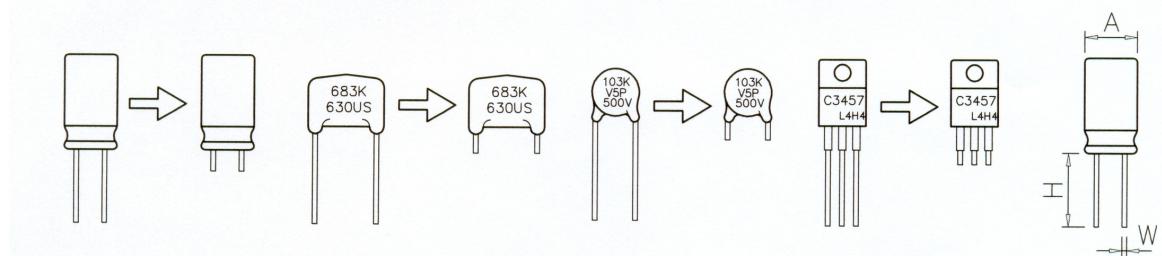
使用範圍：電解電容  $\phi 4\text{ mm} \sim \phi 8\text{ mm}$ ，LED  $\phi 5\text{ mm}$ 等。

(6) CF-368 型針對大型之元件設計，屬於母盤，即一種零件用一個專用子盤。 使用範圍：電解電容  $\phi 10\text{ mm} \sim \phi 18\text{ mm}$ 或較大型之元件等。

(7) CF-3662 型屬功率晶體專用，針對四方型的電子元件設計。

(8) 另外各類型之送料機，只要您提供樣品，我們會以最快速度為您答覆。

例圖：



以上概略說明，如有疑問歡迎來電洽詢，本公司將以最大的熱忱為您服務。如需更換零件或購買備品，只要將圖上的代號傳真回本公司，即可將您所要的零件寄達貴公司。

服務專線 TEL : +886-2-8201-1187、2205-1205  
FAX : +886-2-2202-1204

## CF-360 Part List

<b>Part NO.</b>	<b>Part Name</b>	<b>Part NO.</b>	<b>Part Name</b>	<b>Part NO.</b>	<b>Part Name</b>
A1	Bottom Box	C36	Delivery rail – right	E54	Lift base
A11	Waste Drawer	C361	Screw – rail	E55	Cutting Blade - fixed
A12	Handle	C37	Left & Right Duralumin protecting trail	E551	Washer
A13	Foot pad	C38	Delivery rail – right	E56	Cutting blade - movable
A14	Fastener#2533	C381	Screw – rail	E57	Cover-slide bar
A15	Waste hopper	C39	Retreat trough	E58	Slide Shaft - cutter
A16	Machine body	C390	Finish part bin	E581	Cutter driving frame
		C391	Holder – part bin	E59	Scale
				E591	Indicator
B2	Panel Box				
B21	Power switch	D4	Holding Device		
B22	Cutter switch	D40	Fixed flake-slide shaft	F61	Shaft - eccentric
B23	Vibrant Knob	D41	Adjustable knob to press materials	F62	Axis tooth wheel
B24	Vibrant switch	D42	Top holder	F63	Gear - Active
B25	Window for counter	D43	Connect plate	F64	Block - eccentric shaft
B26	Hook locker	D44	Shaft-Holding	F65	Bearing 6002ZZ
B27	Vibrant control PCB	D45	Block-holding	F66	Bearing 6003ZZ
B28	Power Cord	D46	Screw	F67	Motor
B29	Plug	D41A	Adjustable shaft	F68	Speed reducer
B30	Safety fuse				
		E5	Cutter Base		
C3	Linear feeder	E51	Lift Pipe Axle		
C30	Components	E510	Pipe shroud - Cutter base		
C31	Vibrator	E511	Fixed Screw for cutter base		
C32	Vibrant - absorbed board	E52	Lift Axle		
C33	Wave orientation plate	E53	Lift Screw		
C34	Vibrant bottom board	E531	Bearing 6000ZZ		
C35	Closed board	E532	Plastic turn cap		

## **A. Introduction - Loose radial lead cutter Model CF-360**

1. This model is for cutting loose radial lead to length. It is available for components that can be stood up on the delivery rail. Such as EC, LED, Power transistor, Net work resistor, Transistor....etc.
2. The machine is adjustable on the cutting length, range from 3 mm~20 mm. Wire lead diameter between  $\phi$  0.35 mm~ $\phi$  2.0 mm.
3. A window for the installation of counter is reserved. An optional LED counter is available and can be selected or install in the other day for counting the components.
4. The function of the machine is expandable. A series of extended models are available for automatic cutting operation in which the components will be feed, cut automatically. The efficiency may possible 10 times saving comparing with by manual. The CF-366,CF-368,CF-3661 or CF-3662 are the models we offer for optional selection.
5. Compact and easy operation and maintenance.

## **B. Operation Procedure :**

1. Care fully check the power requirement that marked in the machine. Then connecting the power cord, and turn on the B21 Power switch, “on” the cutter switch B22, You’ll observe the cutter is in moving back and forth.
2. Activating the C3 linear feeder by turn on the B24 Vibrant switch, the B23 Vibrant Knob is to control the feeding speed. Make sure not to feed too fast to get rid of tilting parts that will make uneven lead or laying down the parts on the rail.

## **C. Adjustment - Feeding and cutting**

1. Manual feed the components C30 to the inlet of the linear feeder rail C36 C38. The components will be delivered on the rail. Adjusting the feeding speed by the B23 speed regulator to proper speed.
2. The Left & Right Duralumin protecting trail C37 is for holding the components by both side to ensure the stability of left/right side. The width of the space can be adjusted by 3 screws on it according to the size of the components.
3. According the wire lead diameter, The distance between the two rails can be adjusted by releasing the 3 screws on the C36.
4. The D4 holding device has function of eliminating the jumping of the components in delivery. The distance is adjusted according to the size of the components. Please release the D46 screws and adjusting the height by turning the D41 holding rod when necessary.
5. Cutting length adjustment :
  - a. Release the E511 screws by alien key attached.
  - b. Adjusting the height by turning the E53 Lift screw.
  - c. Check the E591 indictor. The reading show in the E59 scale is the height of the cutting length.
  - d. The cutting can be started by turning on the switch of cutter if the linear feeder is in proper speed. Otherwise, please re-adjust the machine.

- e. Measuring the first sample that cut. Re-adjusting the height if incorrect. Tighten the screw E511 when it is correct and started the mass production.
- f. ☺caution : Ensure to release the screw E511 when intend to adjust the cutting height.
- g. The components will be fallen into the part bin C390 through the Retreat trough C39.
- h. The part bin C390 can be taken out in pushing left side direction.

#### **D. Cleanliness of waste**

- 1. Opening the fastener A14, whole set of panel box can be opened and the mechanism inside can be observed.
- 2. The wire lead of waste will be spread during operation, please clean up all the chips in the box when finish works.
- 3. The wire lead of waste will be fallen into the waste box A11 through the slope portion of E5, Clean the slope which will interfered the falling.
- 4. Clean the waste box A1 when impletion.

#### **E. Maintenance**

- 1. Daily lubricate the gear F62/F6 and F61 eccentric shaft.
- 2. Daily lubricate the E58 Slide shaft - cutter.
- 3. Oil coated the E51 Shaft – cutter and E52 Lift Axle to anti-rusty.

#### **F. Spare parts replacement**

- 1. The re-sharpening or replacement is necessary when the E55 fixed cutting blade or E56 movable cutting blade is worn out by long usage.
- 2. Replacement of the E55 fixed cutting blade and E56 movable cutting blade
  - a. Opening the fastener A14, turning over the panel box B2.
  - b. Release the C361 screws and dismantle the C36 right rail.
  - c. Releasing the screws on the E56 moveable cutting blade. Replacing the blade.
  - d. Un-tightening the C381 screws, then dismantle the C38 Left rail.
  - e. Replacing the E55 fixed cutting blade.
- 3. Assembly of the fixed/moveable cutting blade
  - a. Tighten up the screws first in the fixed cutting blade then in the movable cutting blade. Hand move the gear F63 and manual cut one component. Check the cutting edge of the wire lead. Make sure it is good matching without burr created.
  - b. It show poor matching condition if burr created. Please lay on a thin metal sheet(0.1mm depend on the clearance needed) or a thin paper as temporary alternate in between the E56 and E58. Tight the screw E56 again and test it manually. ☺Caution : The E55 and E56 CAN NOT BE CRASHED each other. A small clearance should be keep in between it.
  - c. Note also the un-tighten screws of E55 will possible cause the poor matching blades.
  - d. The edge of the E55(fixed cutting blade) must be in line and parallel with the edge of left rail.
  - e. Raising the E5 base of cutter until reaching the left rail C38 by turning the E53 height adjusting rod. And make sure the C38 is in line with the E55 before tighten the screws.
  - f. The components in delivery will be interfered if the fixed cutting blade E55

- is out of the left rail edge.
- g. In other side if the E55 is retracted over the edge of the left rail, the wire lead will be bent before cut. It means the finished parts will be in bending form instead of straight.

## **G. Troubleshooting**

1. Tips for the delivery of components :
  - a. The delivery vibration is counteracted and delivery components no more when the E5 touch the rail C38 during adjustment.  
Solution : lower the E5 and solve the trouble immediately.
  - b. The speed of delivery is raised or lower down suddenly or the speed can't be adjusted by the speed regulator B23 anymore.  
Possible reason : Failure of PCB control unit B27.  
Solution :  
 (1) Replace components in the PCB control unit B27.  
 (2) Replace whole set of PCB control unit B27.
  - c. The delivery speed is slow down after usage of several years.  
Solution : Release the screws on the C33 wave orientation plate, then raise it around 0.5mm will solve the trouble immediately.
  - d. The components tilting or lay down during delivery in the rail.  
Solution : Low down the delivery speed by adjusting the speed regulator.  
Make sure not too fast to vibrate jump up the components.
2. Tips for the cutter
  - a. The E56 fixed cutting blade is stopped and show down suddenly.  
Solution :  
 (1) Check and remove the chip between the E56 and E57 if any.  
 (2) Check and remove the chip or foreign mater in between gear F62 and F63.  
 (3) Lubricate the E58 slide bar if it is lack of oil.
  - b. How to cut the lead length less than 3mm?  
Solution :  
 (1) an optional slim blade E55 is suggested for the slim cutting.  
 (2) Modified the original cutting blade and re-grind the C38 left rail, make it as thin as wish.  
 (3) To get rid of deformation, the modify procedure of E55 and C38 should be done in professional tool room or send it back.

## **H. Introduction – Expandable function of model CF-360**

Extend from semi-auto to fully automatic

1. Necessary accessories and parts
  - a. the original delivery rail C36 and C38 should be replaced by a connecting type of rails.
  - b. Additional working table is suggested for matching the height of the vibrant bow feeder and the cutting machine.
  - c. An automatic bowl feeder is optional selected.
2. The ordering of the Automatic Bowl feeder
  - a. It's very important to chose one feeder to meet specified range.
  - b. The samples are requested in ordering the machine.
  - c. The planning of the bower feeder connection is necessary. Please consult

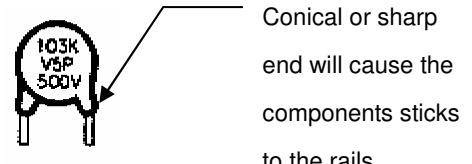
with our technical personal before placing order.

3. Basing on our professional experience, we have designed a serial of models with various range for optional selection
4. Brief introduction for the models with automatic Bowl feeder
  - a. Around 75% of the radial components are available for the automatic cutting operation in model CF-366(adjustable bowl feeder).
  - b. The CF-366 is workable for the components with the following outside configuration.

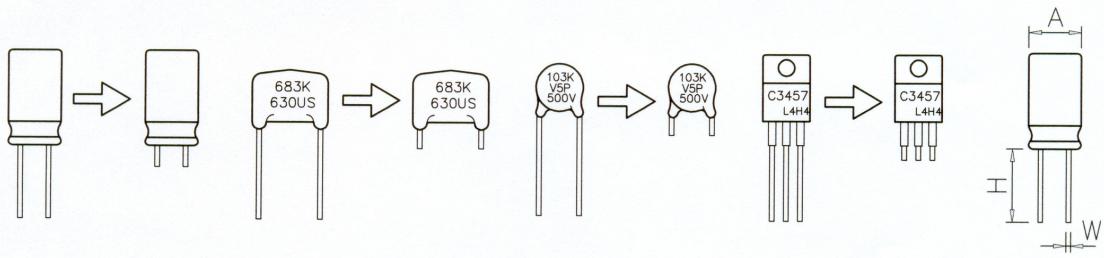
Item	Type of Components	Configuration	Range of Size	Example
1	Electrolytic Capacitor, LED, transistor etc.	Cylindrical	Range of Outside diameter Ø4mm ~ Ø8mm	
2	Mila film Capacitor, Power Transistor, Square LED etc.	Cuboid	3mm(L) * 3(W) *3(T) ~ 15(L) * 18(W) * 8(T)	
3	Ceramic Capacitor	Oblate	Ø4mm(OD) *3mm(T) ~ Ø13mm(OD) *6mm(T)	

- c. The Model CF-366 is a general purpose model which are available for various kind of components through adjustment. It feeding the components automatically and adjusted according to the outside configuration of the components.

- (1) Kindly note that it's hard to accommodate the machine for the listed parameters.
- (2) The components can't be stood up well on the rail.
- (3) Conical or sharp end as sketch.
- (4) Wire lead of the components are in crinkle, bent or in tangling.
- (5) The Model CF-3661 is for Cylindrical similar outside configuration components. Working range : Electrolytic Capacitor  $\phi 4 \text{ mm} \sim \phi 8 \text{ mm}$ , LED  $\phi 5 \text{ mm}$  etc..
- (6) CF-368 is designed for big size components with auxiliary bowl feeder. The temple is exchangeable for difference size of components. Working range : Electrolytic Capacitor  $\phi 10 \text{ mm} \sim \phi 18 \text{ mm}$ .
- (7) CF-3662 is specified designed for Cuboid configuration.
- (8) We offered also tailor make service for the components beyond the specified working range. Contact us for further information.



**Examples :**



Sincerely welcome your inquiry. Contact us for any questions. Please list the part NO. shown in the sketch and fax back to us if you are going to purchase the spare parts. We'll try our best to contact with you.

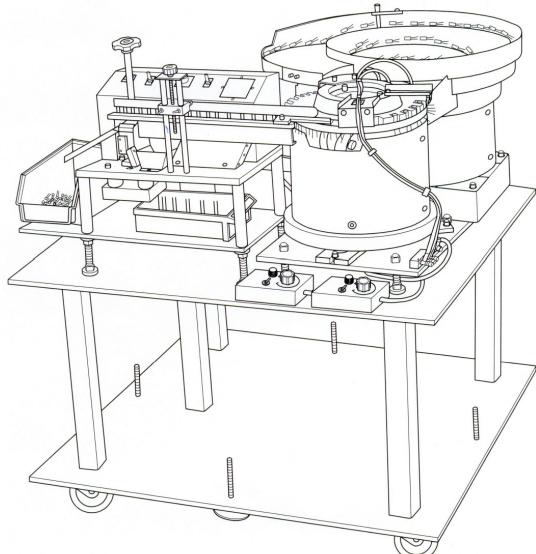
**Customer service**

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FAX : +886-2-2202-1204

**CF-360 散裝電容剪腳機  
加全自動震動送料盤  
Model CF-360 with automatic bowel feeder**

CF-368



CF-366

