

## Multi-core Cable Cutting and Stripping Machine

MODEL: KS-W1022

# User Manual



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## Safety Precautions

Thank you for selecting the Multi-core Cable Cutting and Stripping Machine KS-W1022 from SHANGHAI KINGSING AUTO CO., LTD. KINGSING Auto is a famous high-tech enterprise, which has been engaged in developing, manufacturing and marketing wire-harness processing equipment for over 15 years.

### IMPORTANT:

**Carefully observe the following safety precautions before and during operation of the equipment (Keep this manual with the machine for the benefit of personnel responsible for installation, operation, and maintenance. In addition, be sure to keep any other documents or samples with the machine.)**

1. Read this user manual fully and carefully to avoid any accident or incident and prolong the service life of the machine. After a thorough reading, and before continuing, please contact KINGSING if anything remains uncertain. KINGSING is committed to providing follow-up communication for all purchases.
2. KINGSING provides a one-year warranty from the date stamped on the commercial invoice issued with the purchase. Please contact us if the machine malfunctions in any way, or if you experience any problems with manufacture quality. During the warranty period, customers will not be charged for any replacement parts or maintenance service. However, all freight costs associated with replacement parts and/or service required will be at the customer's expense.
3. The manufacturer's warranty applies only to the original purchaser named on the official invoice documentation. Please keep this manual in a safe place and pass to new owner if machine is sold.
4. This machine is dedicated for the multi-core cables. Do not use this machine for the processing of other materials.
5. After unpacking, please check in the following: (a) The machine model number and other accessories against the packing list for invoiced items ordered. (b) Any significant damage to the machine when delivered. **DO NOT** power on the machine if damage is evident upon inspection. Immediately contact KINGSING to discuss a quality assurance process.
6. The location needs sufficient space for heat dissipation to ensure an appropriate operating temperature of 0-40 °C.

7. It is possible that some screws and bolts may have loosened during transit. Please check, and tighten as required, all screws and bolts before powering the machine on.
8. Check the power supply before starting machine (the machine's power supply is AC220V/50HZ). The power plug is required to be connected to a grounded receptacle to avoid electric shock, in the event of an electrical breakdown.

**Important notice for selecting operation place:**

The following places should be avoided for operation and storage:

- (1) Damp or dusty places;
- (2) Places exposed to high temperatures, direct sunlight or low temperatures (operating range: 10°C to 40 °C);
- (3) Do not spill liquids onto the KS-W1022;
- (4) Do not expose the KS-W1022 to strong vibrations and impact;
- (5) The instrument should be put in a leveled place indoor with nice ventilation;

**Correct use of the device:**

KS-W1022 is designed exclusively for cutting and stripping work. Only wire cutting stripping blades and guiding tubes with the matching cross sections according to the wire size. Never insert solid metal parts or similar objects; this would destroy the cutting unit. Unauthorized conversions which go beyond mere retooling and modifications to the KS-W1022 are prohibited for safety reasons!

NOTE






**Correct use of the instrument includes observation of all the instructions and the prescribed operating conditions!**

**The KS-W1022 may only be used:**

- ※ For the purpose for which it was intended and in a perfectly safe technical condition.
- ※ All persons involved in the start-up, operation and maintenance of the KS-W1022 must be appropriately qualified and be intimately familiar with this operating manual.

## ※ General Safety Attentions

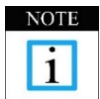
The “  Danger” “  Caution” “  Note” are defined as follows:



**DANGER:** Denotes an imminent hazard which may result in moderate or severe injury. Maloperation may cause death or severe injury to the operator.



**CAUTION:** Denotes a condition which may result in product or equipment damage. Maloperation may cause the operator to be seriously or slightly injured.



**NOTE:** Highlights special or important information. Maloperation may cause slight injury to the operator or damage to the equipment.

**Be sure to follow the warnings in this user manual!**

**The warning sign on this machine is a very important item selected from the warning items.**

# 1. General Description

## 1.1 Machine Structure

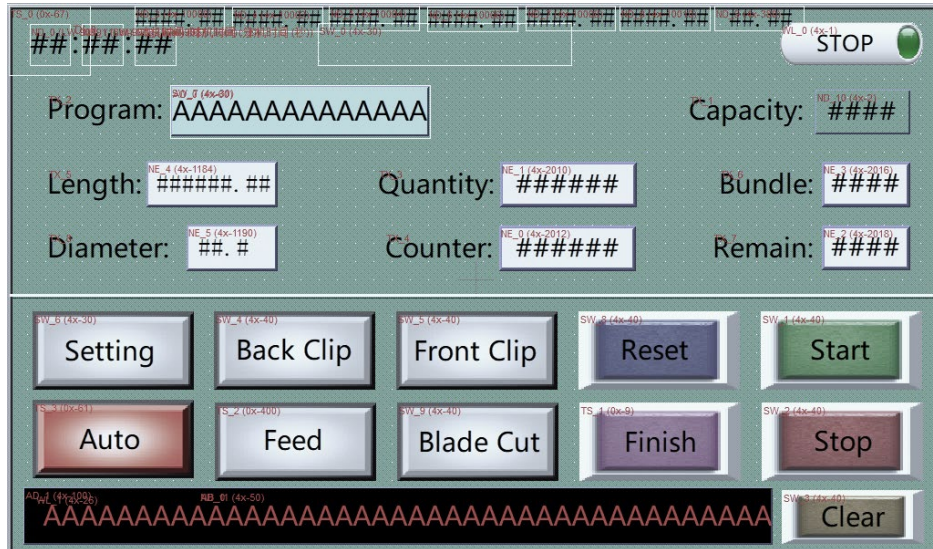


## 1.2 Technical Parameters

Model	KS-W1022
Net. Weight	200Kg
Head Strip Length	200mm
Tail Strip Length	100mm
Program Storage	Max.100
Wire Diameter	4~15mm
Air Pressure	0.5~0.7MPa
Dimension	L1190×W700×H1200mm
Power Supply	AC220V/110V 50/60 HZ
Cut Length	180~99999mm (If the tail is not stripped, the minimum cutting range is unlimited)

## 2. Setup and Operation

### 2.1 Program Settings



This is the main working screen. Click “Enter System” to get in this screen.

**Program:** This machine can store settings in a file number. For example, if there are 5 types cable for processing, then the settings can be stored in 5 different file numbers, so that the operator can call out the settings immediately next time. Here shows the current file name.

**Capacity:** It shows how many pieces cable can be processed in one hour.

**Length:** Cable total length.

**Quantity:** The total quantity you need. For example, if you set “Quantity” value to 1000, the machine will stop and alarm after finish 1000pcs wires.

**Bundle:** Bundle quantity. For example, if you set the its value to 100, the machine will pause some seconds and then start again automatically, so that the operator can collect 100pcs cable as a bundle.

**Diameter:** Cable outside diameter.

**Counter:** It shows how many pieces cable have been processed.

**Remain:** It shows how many pieces cable left in current bundle.

**Back Clip/Front Clip:** Open or close the feeding belt.

**Reset:** Reset all parts to original position.

**Auto:** Automatic mode or step mode, if you choose auto mode, the machine will work continuously after you start the machine. If you choose “Step” mode, the machine will



only do one step after you click the “Start” button each time, it’s very helpful for adjusting the machine.

**Feed:** Feed wire forward.

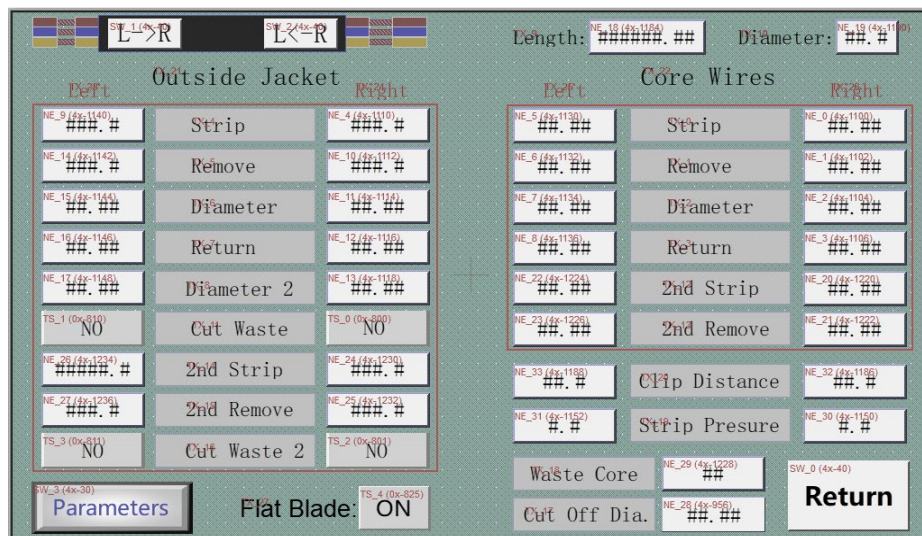
**Blade Cut:** Click this button, the blade will move down to cable position and the blade cutting depth can be figured out easily.

**Start:** Start the machine.

**Stop:** Stop the machine.

**Clear:** Clear current alarm information.

**Setting:** You can click this button to enter the follow screen.



**Length:** Wire total length, include wire tail and head.

**Strip:** Wire stripping length, left is for wire tail, right is for wire head.

**Remove:** Insulation remove distance, if the “Remove” value is bigger than “Strip” value, it will completely remove the insulation. Otherwise it will do half stripping.

**Diameter:** Blade cutting depth, this value is very important, you should adjust this value to make Sure, that the blade can completely cut through the outside insulation but not hurt the inside copper cores. Normally it should be a little bigger than the wire copper core diameter.

**Return:** After the blade cut through the insulation, the blade will move back a small distance to protect the inside copper cores from hurting by blade edge while stripping, the “Blade Return” value controls the blade move back distance, the bigger the value, the longer the distance.

**Diameter2:** Diameter Value of second-layer stripping of outside jacket.



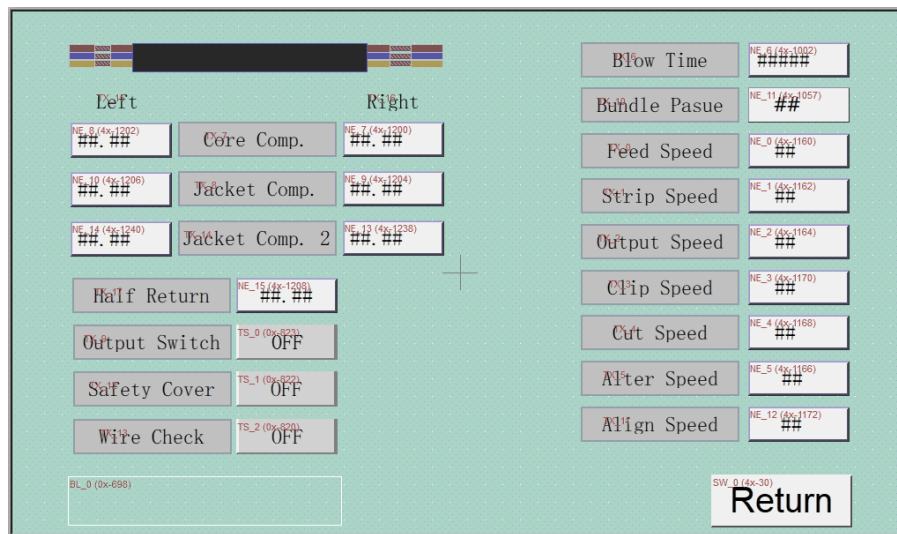
- Cut Waste:** Waste cut off of outside jacket. After the outside jacket is stripped, the cutter closes again to remove the blade edge scrap (only for full stripping).
- 2nd Strip:** Length of second-layer stripping.
- 2nd Remove:** The second-layer insulation remove distance,
- Cut Waste2:** After the core wire is stripped, the cutter closes again to remove the blade edge scrap (only for full stripping).
- Clip Distance:** This value controls the distance between upper feeding belt and lower feeding belt, normally the value should be 1~2mm smaller than your cable outside diameter, so that the feeding belt can press down the cable tightly enough.



**Important: please don't set the distance value too smaller than your wire OD, otherwise it may damage the machine. For example, if your cable OD is 10mm, but you set the "Distance" value to 2mm, it means the feeding belt will press down your wire to 2mm, it may damage the motor shaft or break the cable surface.**

**Strip Pressure:** This parameter is only useful when stripping, it will give extra pressure to your cable while stripping the insulation. Normally the value should be between 0 and 2.  
(Example: if you cable OD is 10mm, then you can set the "Distance" value to 9 and "Pressure" value to 1. While feeding wire, the distance between feeding roller will be 8mm, while stripping wire, the distance between feeding roller will become to 8mm, because it gives 1mm extra pressure while stripping wire).

- Waste Core:** After stripping, the head of the core wire is cut off to ensure that the head is even.
- Cut Off Dia.:** Correct the closing depth of the cutter to ensure the cutting effect.
- Flat Blade:** Flat blade switch.
- Parameters:** Other operating parameters setting interface.
- Return:** Go back to the previous page.




- Core Comp:** If the actual core strip length is not equal to your setting length, then you can use this parameter to correct the length difference.
- Jacket Comp:** If the actual jacket strip length is not equal to your setting length, then you can use this parameter to correct the length difference.
- Jacket Comp2:** Used to correct the value of two-layer stripping of outside jacket.
- Half Return:** Wire head will return back to wire guide tube before the tube jump up, this value controls how long the wire head will return back to tube.
- Output Switch:** External output device is required for use.
- Safety Cover:** Safety cover opening alarm switch, turn on and open the safety cover, the machine will immediately stop working and alarm.
- Wire Check:** Inspection switch for missing wire, the machine will stop and alarm when finished wire rob processing.
- Blow Time:** Blowing duration of waste blowing device.
- Bundle Pause:** It works together with “Bundle” value in home page, this value controls the pause time. For example, if you set the bundle value to 100 and bundle pause value to 3s, the machine will pause 3 seconds each time processing 100pcs wires and then start automatically.
- Feed Speed:** Wire feeding speed.
- Strip Speed:** Wire stripping speed.
- Output Speed:** After stripping the wire tail, the output feeding belt will send out the finished wire, this value controls the wire send out speed.

- Clip Speed:** Output feeding belt lift up and close speed.
- Cut Speed:** Blade cutting speed, you should choose a lower speed if you process very big cable.
- Alter Speed:** The speed of switching cutter and flat blade.
- Align Speed:** The speed of flat blade movement.

File	Name	File	Name
NO.0 (4x-100) ##	PE_0 (4x-100) AAAAAAAAAAAAAAAA	NO.1 (4x-100) ##	PE_1 (4x-140) AAAAAAAAAAAAAAAA
NO.2 (4x-101) ##	PE_2 (4x-108) AAAAAAAAAAAAAAAA	NO.3 (4x-101) ##	PE_3 (4x-148) AAAAAAAAAAAAAAAA
NO.4 (4x-102) ##	PE_4 (4x-116) AAAAAAAAAAAAAAAA	NO.5 (4x-107) ##	PE_5 (4x-156) AAAAAAAAAAAAAAAA
NO.6 (4x-103) ##	PE_6 (4x-124) AAAAAAAAAAAAAAAA	NO.7 (4x-105) ##	PE_7 (4x-164) AAAAAAAAAAAAAAAA
NO.8 (4x-104) ##	PE_8 (4x-132) AAAAAAAAAAAAAAAA	NO.9 (4x-109) ###	PE_9 (4x-172) AAAAAAAAAAAAAAAA
SW_1 (4x-40) Read		SW_2 (4x-40) Save	
SW_3 (4x-40) Page Up		SW_4 (4x-40) Page Down	
SW_5 (4x-30) Return			

You can store all your settings in a file number in this page, so that you can call it out immediately next time, it's very useful if you have many different size wires.



Multi-core Cable Cutting and Stripping Machine

User:

Password:

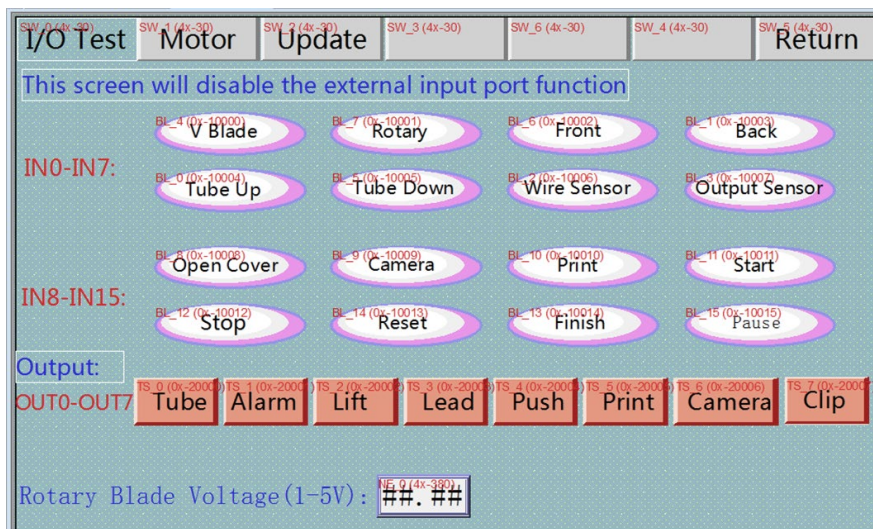
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Click on the text above the main interface to enter this page. "System" and "Manual" buttons are hidden. Press User "Admin" and enter password to show these two hidden buttons. And then you can modify the advanced settings. Normally, these settings are only for Factory Settings. Users need not revise these parameters.

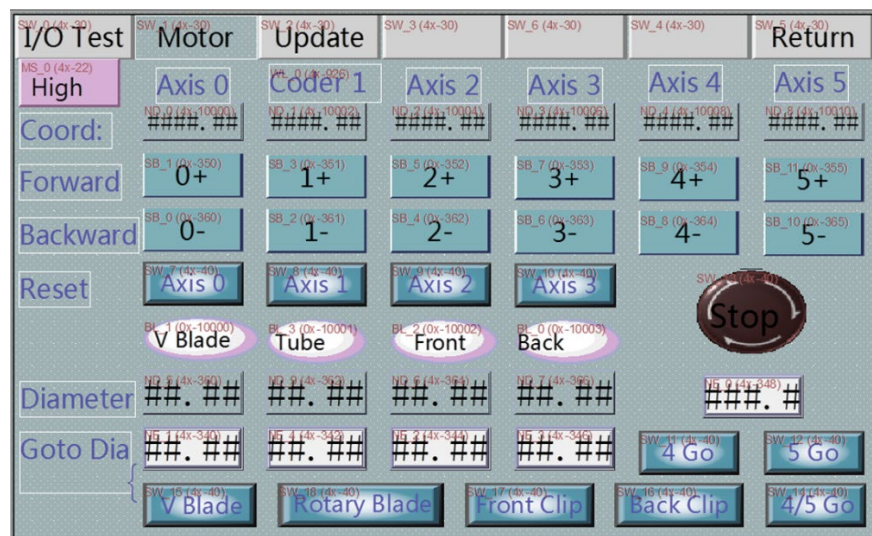
## NOTE



**If for some reason you need to enter the background for operation, please contact our company for password authorization. After authorization, the operation should be carried out under the guidance of our engineer. The machine damage caused by unauthorized modification of background parameters is not within the scope of our warranty.**



This screen shows all input and output port status, some functions are for option, such as printing function is not included in our standard machine.





You can operate each motor in this screen, it's for engineer debug machine before shipment.

I/O Test	Motor	Update	SW_3 (4x-30)	SW_6 (4x-30)	SW_4 (4x-30)	SW_5 (4x-30)	Return
Date	ND_0 (4x-89) #####						
Time	AD_0 (4x-45) AAAAAAA	Project	AD_1 (4x-90) AAAAAAAAAA				
Set Date	NE_1 (4x-99) #####	Software	ND_2 (4x-86) ##. ##				
Password	NE_2 (4x-99) #####	Hardware	AD_2 (4x-54) AAAAAAA				
Confirm	NE_0 (4x-94) *****	ID Number	ND_1 (4x-52) #####				
WL_0 (4x-24) Not Set		WL_1 (4x-25) No USB		SW_7 (4x-40) Update Sys			

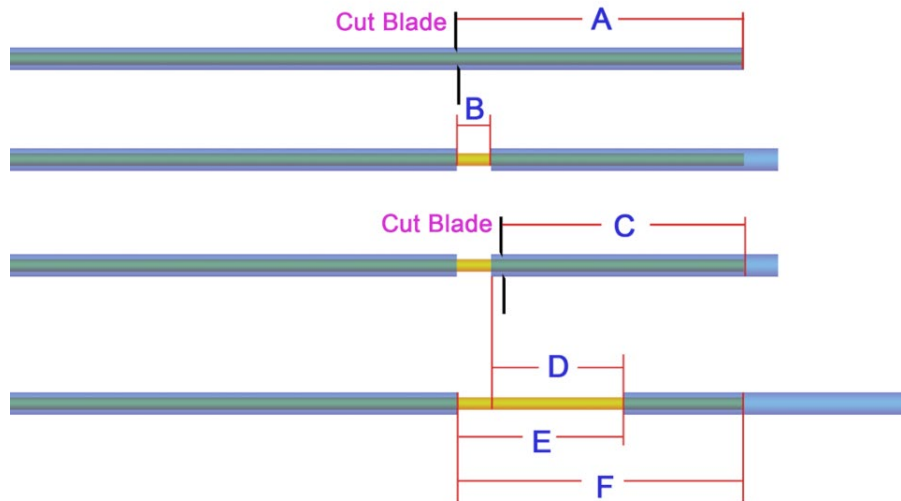
If you need extra function in the future, you can update the system software by an USB disk easily.

## 2.2 Stripping Instruction

This machine supports Max. 2 layers stripping function, each layer's parameter can be set separately, with this function, you can use this machine to process the following cable:



If you only need to strip one layer, you can also use this function to get better stripping effect, especially for very thin jacket layer wire, it works as follows:

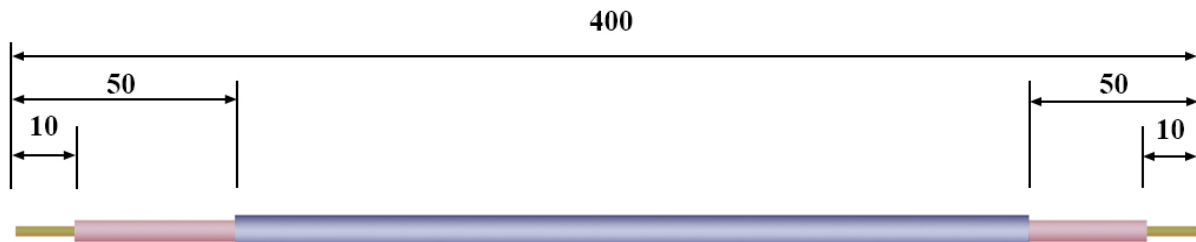


- 1) the cut blade will cut through the insulation at length “A”.
- 2) Blade remove the insulation with length “B”, it will open a small window at stripping position.
- 3) Blade move out of the insulation, then cut the insulation at position “C”, it’s about 1~2mm from the insulation end, and the blade does not cut through the insulation, just cut about half depth, therefore the blade edge cannot touch the inside copper cores at all.
- 4) Blade remove the insulation with length “D”, if we set “D” bigger than stripping length “F”, the insulation will be completely removed away. During this period, due to the blade does not completely cut through the insulation, so the blade cannot hurt the inside copper cores at all, that’s why you can use the program to get better stripping result, however, it will also slow down the wire processing speed.

## 2.3 Fast Operation Instruction

- 1) Connect the machine to air source and power supply, it requires 0.5~0.7Mpa air pressure.
- 2) Power on the machine and enter system, then click the “Reset” button to reset all parts.
- 3) Install your wires in the machine, adjust the wire straightener pressure according to diameter.
- 4) Example:

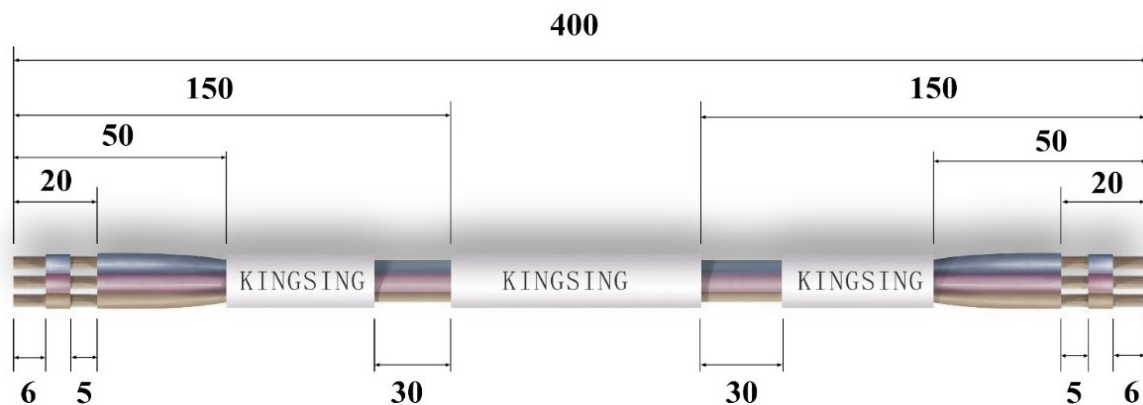
**Normal Strip:** Wire total length 400mm, both side outside jacket stripping length 50mm, both side core wire stripping length 10mm, copper core wire outside diameter 3mm, outside insulation diameter 6mm.



Outside Jacket			Core Wires		
50.00	Strip	50.00	10.00	Strip	10.00
60.0	Remove	60.0	15.0	Remove	15.0
6.00	Diameter	6.00	3.00	Diameter	3.00
1.20	Return	1.20	0.50	Return	0.50

Length: 0400.00    Clip Distance: 5.0    Strip Pressure: 1.0

**Middle Strip:** Wire total length 400mm, both side outside jacket stripping length 50mm, both side outside jacket middle stripping length 30mm, both side core wire stripping length 6mm, both side core wire middle stripping length 5mm, copper core wire outside diameter 5mm, outside jacket diameter 10mm.



Middle Strip



Outside Jacket			Core Wires		
30+50=80.00	<b>Strip</b>	30+50=80.00	5+6=11.00	<b>Strip</b>	5+6=11.00
90.0	<b>Remove</b>	90.0	15.0	<b>Remove</b>	15.0
6.00	<b>Diameter</b>	6.00	3.00	<b>Diameter</b>	3.00
1.20	<b>Return</b>	1.20	0.50	<b>Return</b>	0.50
6.00	<b>Diameter2</b>	6.00	20.0	<b>2nd Strip</b>	20.0
150.0	<b>2nd Strip</b>	150.0	5.0	<b>2nd Remove</b>	5.0
30.0	<b>2nd Remove</b>	30.0			

Length: 400.00   Clip Distance: 5.0   Strip Pressure: 1.0

The other parameters do not affect the stripping result, so you can just use the default settings.

- 5) Go back to home page, click the “Auto/Step” button to choose “Step” mode, then you can click the “Start” button to run the machine step by step, so that you can watch each step clearly, if you find any errors, you can click the stop and reset button to reset the machine to origin position and then adjust the parameters to try again.
- 6) After you are satisfied with the stripping result in step mode, then you can set other parameters such as total quantity, speed etc. Then you can choose auto mode to run the machine automatically.

### 3 Maintenance



**Preventive maintenance will keep the equipment in good working condition and ensure maximum reliability and service from all of its components.**



**To avoid personal injury, the machine must be turned off, and electrical and air source must be disconnected at the source prior to maintenance.**

#### 1). Scrap Removal

Normally, clean any debris from cutting stripping blades, guard and front movable parts once every shift, and always keep it dry.

Compressed air used for cleaning must be reduced to less than 207kPa (30 psi), and effective chip guarding and personal protective equipment (including eye protection) must be used.

#### 2). Lubrication

The moving parts of the machine require regular lubrication to ensure reliable service and long lifespan. If the operation temperature is below 10 °C, it will be necessary to use a No.1 grease.

Using a grease gun/tool, apply grease every one week to the fittings of applicator.

#### NOTE



**Note: Do not lubricate whilst machine is running, danger of serious injury! Lubricate moving parts at least once a week with lubricant.**

- 3). Wipe off the guards with a clean soft cloth every day. Please do not use any solvent to clean the guards. Solvent could damage the guards.
- 4). Regularly check the machine parts and tighten any screws or bolts that have loosened in a timely manner.
- 5). As the working medium of the equipment is compressed air, the user must provide clean, dry and non-greasy air source to ensure the long-term stable and normal operation of the equipment.
- 6). Solenoid valve combination is air source reversing component. Please do not disassemble it by yourself. If you want to replace it, please contact us in time.

#### 7). General Maintenance Instruction

Check all moving parts for smooth running and lubricate when necessary.

Check machine for damaged parts. Before carrying out any maintenance, disconnect power cable. Secure machine against restoring power during maintenance. Always comply with safety regulations.

Strictly don't work with a faulty machine. Apply genuine KINGSING spare parts and accessories only! Arbitrary constructional changes or modifications on the machine and use of alien parts without consultation and approval of KINGSING voids the warranty and we cannot accept any responsibility. Maintenance intervals are considered for 8 hours per day (=single shift) operations. Increase the

maintenance frequency on multi shift operations accordingly.

#### 8). Maintenance of Machine Base

- \* Make sure that all screws are tightened up.
- \* Clean the machine in the course of maintenance.
- \* Keep handles and control elements dry, clean and free of grease.

Error Code Explanation	
Error Code	Alarm information
1	External Stop
2	Extern E-Stop
3	Start
5	Inlet wire knot
100	Production completed
101	Batch completed
103	Wire Break
1050	Reset the motor
1051	Reset complete
1052	Turn off manual mode
1100	Production completed
1260	0-axis Exceeding the forward stroke
1261	1-axis Exceeding the forward stroke
1262	2-axis Exceeding the forward stroke
1263	3-axis Exceeding the forward stroke
1264	4-axis Exceeding the forward stroke
1265	5-axis Exceeding the forward stroke
1270	1-axis Exceeding the reverse stroke
1271	2-axis Exceeding the reverse stroke
1272	3-axis Exceeding the reverse stroke
1273	4-axis Exceeding the reverse stroke
1274	5-axis Exceeding the reverse stroke
1275	6-axis Exceeding the reverse stroke

## 4. Aftersales Service

1. We offer 12 months' free maintenance service from the stamped purchase date.
2. During the warranty period, clients do not need to pay for any parts or service; but all freight costs caused by sending spare parts are at the buyer's expense (excluding consumable parts).
3. We only assure the warranty to the clients who originally purchased the machine from our company or our authorized agent. The warranty is void once the machine is on-sold, or otherwise traded to a new entity.
4. We are not responsible for any equipment fault occurred as follows:
  - a. Any equipment fault cause by not abiding by the operational requirements in the manual.
  - b. The operational environment in user's factory does not meet the minimum operational requirements set out in the manual (power instability, compressed air not dry and clean, etc.).
  - c. A non-professional operator dismantles the machine without permission, which then leads to equipment fault or damage.
  - d. Force majeure will be invoked for any extraordinary incidents at leads to equipment fault or damage.
  - e. Maintenance by 3rd parties, other than our authorized agent(s) will void the warranty.

## 5. KINGSING Assistance Center

Please contact KINGSING directly whenever technical assistance is required. The following information is required when contacting us:

When contacting KINGSING regarding service to equipment, it is suggested that a person familiar with the machine be present with a copy of manual or invoice which issued by KINGSING to receive instructions. Many difficulties can be avoided in this manner. Be ready with the following information:

1. Customer full company name.
2. Customer address.
3. Person to contact (name, title, telephone number, email, WeChat and etc.).
4. Machine model number (and series number is available).
5. Product part number or picture.
6. Urgency of request.
7. Nature of problem (better offer some pictures and demo video to explain details).
8. Description of inoperative components with picture.
9. Additional information that maybe helpful. Such as how the problem occurred.
10. KINGSING contact information:

[sales@kingsing.com](mailto:sales@kingsing.com)    Bella Go (Sales Director)

[todd@kingsing.com](mailto:todd@kingsing.com)    Todd Chou (Executive Chief Engineer)

### Revision Summary

*Since the previous release, the manual format has been updated to include current corporate requirements.*

***We always welcome any feedback or improvement suggestions!***