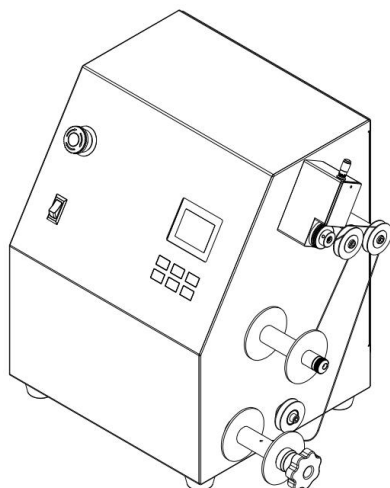# VECTECH 威鐵克

VECTECH 300B
Automatic Solder-Wire Break & Wind Station

Instruction Manual

Thank you for purchasing our products. Please keep the instruction manual properly for future reference.

Contents

1.Safety Instructions

⚠️ CAUTION

- During the installation and use of this product, all electrical safety regulations of the country and regions must be strictly observed.
- The power supply must be disconnected when disassembling the product. Do not operate with power on.
- If the product does not work properly, please contact the supplier or our company, and do not disassemble or change the product in any way. We are not responsible for any problems caused by unauthorized maintenance or modification.

⚠️ WARNING

- Don't install the product in a place where the surface is easy to shake or be impacted, as it may damage the product.
- Don't install the product in places where it may be exposed to rain or moisture.
- The product should be used away from places where there is magnetic interference.
- Don't use in flammable and explosive environments.
- When the unit is not in use, please turn off the power to prolong its life.
- Please unplug the power cord when the product is not used for a long time.

2.Overview

This product combines automatic solder-wire break and wind. The blade cuts V-grooves onto the solder surface, and the flux is released through the grooves during the soldering process to minimize spatter of flux and solder caused by "solder explosion", thus to keep the product from being contaminated by the flux and short circuit due to the solder bead.

3.Product Characteristics

- Color LCD screen with intuitive functions and parameters.
- Efficient automatic solder break and wind.
- Can store solder break parameter settings for easy access and solder feeding speed is adjustable.
- Automatic V-grooving, the depth of cutting can be adjusted freely according to the diameter of solder wire.

4.Product Specifications

Model	VECTECH 300B
Voltage	AC 110V
Power	30W（Max）
Winding Speed	60mm/s～230mm/s
Reel Diameter	12～50mm
Reel Height	10～80mm
Motor	Stepper motor
Solder-Wire Diameter	0.6～1.6（mm)
Dimensions (L*W*H)	437*286*402mm
Weight	About 14.2kg

5.Functional Descriptions

5.1. Dimensions
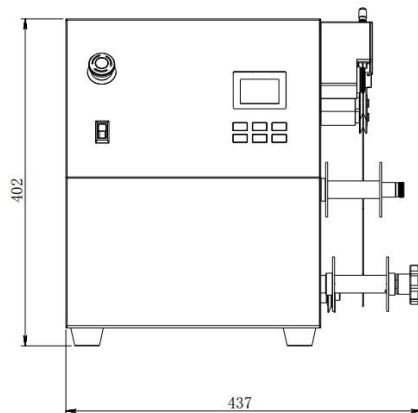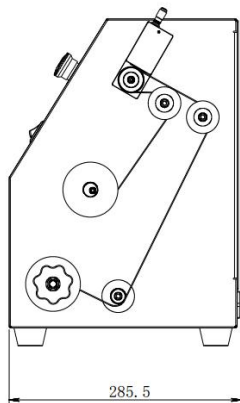
Unit：mm

5. 2. Part Descriptions
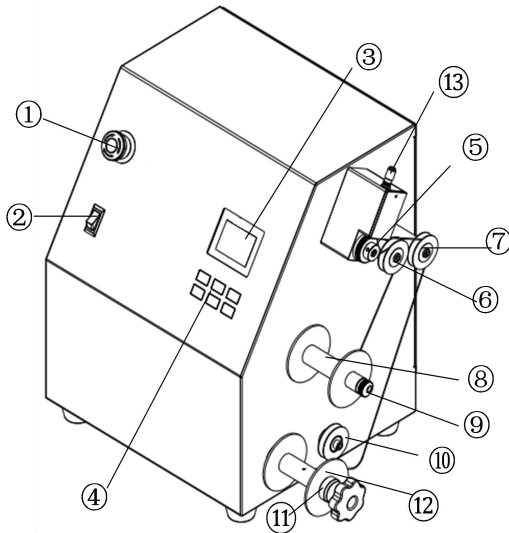
NO.	Part Name
1	Emergency Switch
2	Power Switch
3	LCD Screen
4	Buttons
5	Breaking Gear
6	Pulley 1
7	Pulley 2
8	Wires to be Broken
9	Eccentric Cap
10	Winding Pulley
11	Match Joint
12	Solder-Wire Reel
13	Micrometer

5.3. **Function Descriptions of the Main Interface**

```
                    Prog. NO.
                       |
  ┌──────────────┬─────────────┬──────────┐
  │              │    CH5      │          │
  │──────────────┴─────────────┴──────────│
  │     0.0mm                              │
  │   ├→-→-→-→-- Status: Ready             │
  │   ↓                                    │
  │               Wire Dia: 1.0mm          │
  │   ┌──────────┐                         │
  │   │          │ Speed: 230mm/s          │
  │   │          │                         │
  │   ←──────────→ Jog: 0.5mm              │
  │     62.0mm                             │
  │──────────────────────────────────────│
  │  Origin  │  Reset  │  Start           │
  └──────────┴─────────┴──────────────────┘

Reel width
```

5.4. **Key Descriptions**

```
                  ┌─── Setting ───┐
    Origin         Reset      Start/Pause
  ┌────────┐    ┌────────┐    ┌────────┐
  │        │    │        │    │        │
  │        │    │        │    │        │
  └────────┘    └────────┘    └────────┘

  ┌────────┐    ┌────────┐    ┌────────┐
  │        │    │        │    │        │
  │        │    │        │    │        │
  └────────┘    └────────┘    └────────┘
 Shift Left/+   Jog/Cont.   Shift Right/-
```
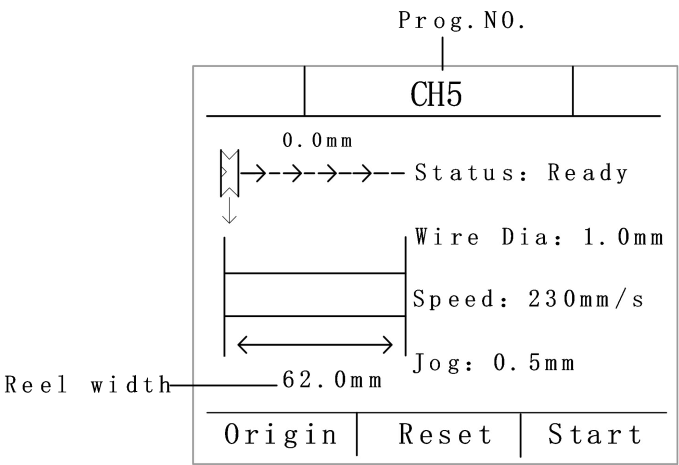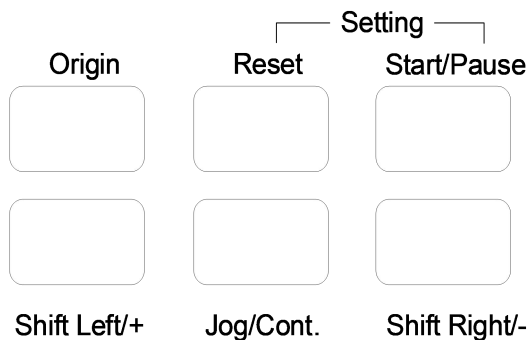
| Buttons	Functional Description
Origin	Long press to set or view the initial position of wire winding;Menu setting interface: switch in cycle
Reset	Long press the linear motor to return to the mechanical origin;Confirm the parameter setting and exit
Start/Pause	Long press to start or pause the operation
Reset & Start/Pause	Press at once to enter the menu setting interface.
Jog/Cont.	Short press in cycle to select Jog (0.5, 1.0, 2.0, 5.0) or Continuous, 5 modes available.
Shift Left/+	Value goes up
Shift Right/-	Value goes down
Reset & Shift Left/+ Reset & Shift Right/-	Program selection from CH0-CH5

6.Installation

1) Withdraw the blade and adjust the ⑬ Micrometer to more than 3mm.

2) Handling of the ⑫ Solder-Wire Reel ⑪Match Joint.

In order to ensure that the axis of the ⑫ Solder-Wire Reel is coaxial with the winding axis, one ⑪ Match Joint is installed on each end of the ⑫ Solder-Wire Reel.

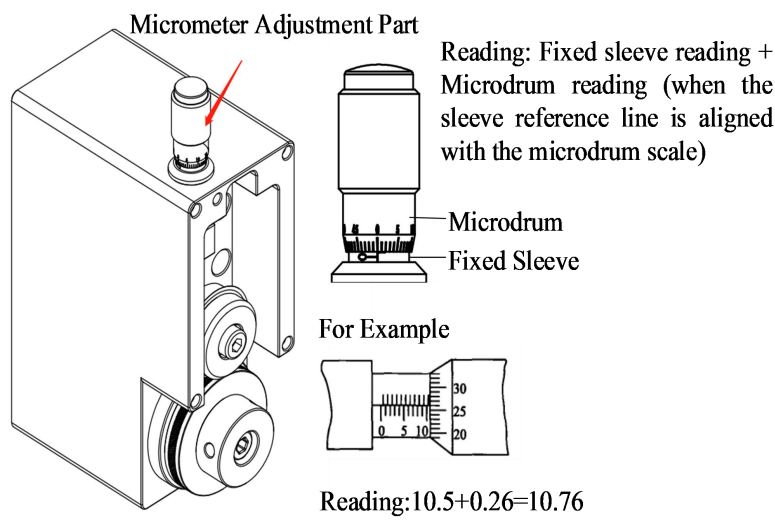At first use, the ⑪ Match Joint should be matched with the center hole of the ⑫Solder-Wire Reel. Insert all the cross-shaped stepped part of the ⑪ Match Joint into the hole of the ⑫Solder-Wire Reel, and then cut off the shaded part with a knife while ensuring coaxiality (as shown in the figure) .

The first use of the match joint

Cut off as shown in the picture

Remove the shaded part

Remove the shaded part
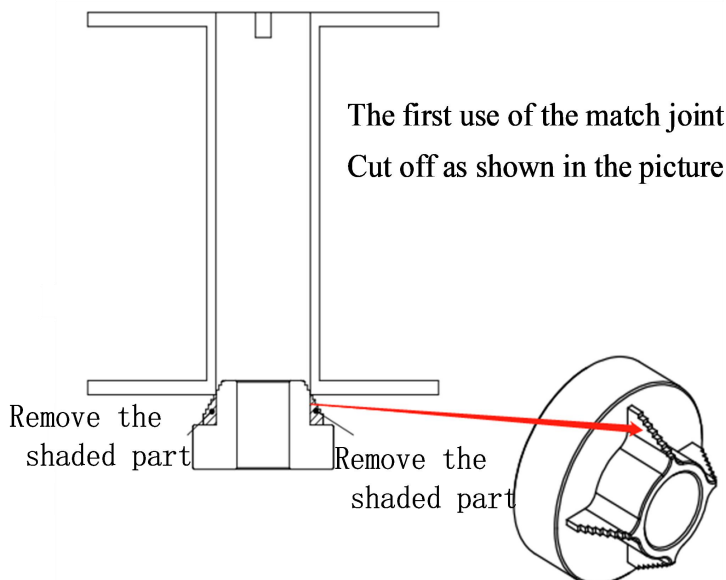
3) Put the ⑧Wires to be Broken on the fixed reel and tighten the outer ⑨Eccentric Cap to prevent the coiled solder from slipping out.

4) Pull out the solder-wire and wind it counterclockwise around the upper left ⑥Pulley 1, and then clockwise wind around the ⑤Breaking Gear. Go over the upper left ⑥Pulley 1, pull the solder-wire to and clockwise wind it around the upper right ⑦ Pulley 2. Then pull it down to and clockwise wind it around the ⑩Winding Pulley, and then counterclockwise wind around the ⑫ Solder Wire Reel.

5) Insert the front end of the solder-wire for more than 1cm into the hole on the left side of the ⑫Solder-Wire Reel to hook the ⑫Solder-Wire Reel. Turn the ⑫ Solder-Wire Reel counterclockwise to let the solder-wire wind around the reel for 1.5 revs, and then lock the ⑫ Solder-Wire Reel. Push the 1.5 revs of wire to the left side of the ⑫ Solder-Wire Reel.

6) Check the Cutting Depth Sheet, let the breaking blade cut the solder-wire through the ⑬Micrometer, and adjust to the corresponding value of depth (refer to the following figure) .

Solder Wire Dia/锡丝直径	Micrometer Scale/千分尺设置
.024（0.6mm）	0.34
.031（0.8mm）	0.48
.039（1.0mm）	0.62
.047（1.2mm）	0.76
.055（1.4mm）	0.90
.063（1.6mm）	1.04

7.Reading of Micrometer

Micrometer Adjustment Part

Reading: Fixed sleeve reading + Microdrum reading (when the sleeve reference line is aligned with the microdrum scale)

Microdrum

Fixed Sleeve

For Example

Reading:10.5+0.26=10.76

8.Menu Settings

1) In the main interface, press the buttons "Reset" and "Start/Pause" at once to enter the menu setting interface.

2) Press the button "Origin" to switch cyclically.

3) Then press "Shift Left/+" or "Shift Right/-" to set the parameters and press "Origin" to confirm.

4) Press "Reset" to go back to the main interface.

SET	
ProgNO	11
Wire Dia	
Speed	
Roll Ht.	
Roll Dia	
> > >	ENTER	BACK

ProgNO range：0～15

SET	
ProgNO	
Wire Dia	1.0mm
Speed	
Roll Ht.	
Roll Dia	
> > >	ENTER	BACK

Note: The parameter setting of the wire diameter: increase the solder-wire diameter that you require by 0.1

```
┌─────┬──────────────┬─────┐
│     │     SET      │     │
├─────┴──────────────┴─────┤
│ ProgNO        ░░░░░░░░    │
│ Wire Dia      ░░░░░░░░    │
│ Speed         230mm/s     │
│ Roll Ht.                  │
│ Roll Dia                  │
├──────┬────────┬───────────┤
│ >>>  │ ENTER  │  BACK     │
└──────┴────────┴───────────┘
```

Winding speed range：
60～230mm/s

```
┌─────┬──────────────┬─────┐
│     │     SET      │     │
├─────┴──────────────┴─────┤
│ ProgNO        ░░░░░░░░    │
│ Wire Dia      ░░░░░░░░    │
│ Speed                     │
│ Roll Ht.      62mm        │
│ Roll Dia                  │
├──────┬────────┬───────────┤
│ >>>  │ ENTER  │  BACK     │
└──────┴────────┴───────────┘
```

Reel Height Setting: use a ruler to measure the width of the empty reel, and round the measured number

Width range：10～80mm

```
┌─────┬──────────────┬─────┐
│     │     SET      │     │
├─────┴──────────────┴─────┤
│ ProgNO        ░░░░░░░░    │
│ Wire Dia      ░░░░░░░░    │
│ Speed                     │
│ Roll Ht.                  │
│ Roll Dia      28mm        │
├──────┬────────┬───────────┤
│ >>>  │ ENTER  │  BACK     │
└──────┴────────┴───────────┘
```

Reel diameter setting range:12～50mm default: 20mm.

```
┌─────┬──────────────┬─────┐
│     │     SET      │     │
├─────┴──────────────┴─────┤
│ Torque        10          │
│ Language                  │
│                           │
│                           │
│                           │
├──────┬────────┬───────────┤
│ >>>  │ ENTER  │  BACK     │
└──────┴────────┴───────────┘
```

Torque level setting: you can set the initial value starting from 10mm.
Torque rate range: 0～15

```
┌─────┬──────────────┬─────┐
│     │     SET      │     │
├─────┴──────────────┴─────┤
│ Torque                    │
│ Language      English     │
│                           │
│                           │
│                           │
├──────┬────────┬───────────┤
│ >>>  │ ENTER  │  BACK     │
└──────┴────────┴───────────┘
```

Two language options available:
Simplified Chinese/English

9.Operation

1) Turn on the power.

2) Press Reset & "Shift Left /+" or Reset & "Shift Right /-" to select the program.

3) Long press the Reset button to reset the ⑩ Winding Pulley, now the LCD screen displays the position of the Pulley as (0) .

4) Position adjustment of the ⑩ Winding Pulley.

Short press the Shift Left+/Shift Right- button to make jog adjustment on the position of the ⑩ Winding Pulley.

5) Long press the Start/Pause to start the solder-wire break.

Firstly, the unit will rotate slowly, and when the sensor detects the rotation of ⑤ Breaking Gear, it will run at the set speed. The unit stops automatically after a coil of solder-wire break is done.

After withdrawing the cutting blade to more than 3mm, you can remove the solder-wire and repeat the steps to continue solder-wire break.

10.Blade Replacement

Replace the blade with a proper one when it is damaged during use.

The replacement steps are as follow:

1) Withdraw the ⑬ Micrometer to the sale of 2mm.

2) Remove the cover first.

3) Insert an Allen wrench into the position ❶ which is pointed by an arrow to stop the blade wheel from rotating.

4) Remove the screw ❷ of the blade press plate.

5) Remove the blade press plate ❸ and blade ❹ in turn.

6) Install a new blade.

Grooving-Blade
Perforation-Sawtooth Blade
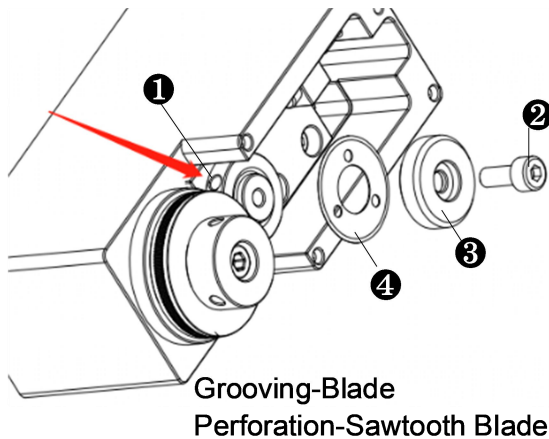
11.Troubleshooting

1) **Error**：The solder-wire slip off the ⑤Breaking Gear during operation and the unit shuts off.

Troubleshooting: First withdraw the cutting blade, adjust the reading of ⑬ Micrometer to above 3.0. Re-hang the wire on the ⑤ Breaking Gear, then adjust the ⑬ Micrometer to let the blade cut the wire again to the depth corresponding to the value on the sheet, and press the Start/Pause button to continue solder-wire break.

2) **Error:** The solder-wire snaps during operation and the unit shuts off.

Troubleshooting：Organize the loose wire on the ⑫ Solder-Wire Reel, then pull hard the broken front end of the wire, re-wind it around the broken position on the winded ⑫ Solder-Wire Reel for 2revs. And then press the broken front end with the winded wire, and press the Start/Pause button to continue solder-break.

3) **Error:** the winding range does not correspond to the range of the ⑫ Solder-Wire Reel.

Troubleshooting： The winding range of the ⑫ Solder Wire Reel is not fully wound on one side, and is over wound for the other side, press the Start/Pause buttons to shut off the unit when the ⑩ Winding Pulley reaches the Origin position.

a. If the left side is not fully wound, press the Shift Left/+ button to adjust the ⑩ Winding Pulley to the position of -0.5 , then long press the Origin button to redefine the zero position, and press the Start/Pause to continue the solder-break.

b. If the right side is not fully wound, press the Shift Right/- button to adjust the ⑩ Winding Pulley to the position of +0.5,then long press the Origin button to redefine the zero position, and press the Start/Pause to continue the solder-break.

4）**Error**：Out of step.

Troubleshooting：If torque of the winding motor is insufficient and cannot rotate, please increase the torque value in the menu setting.

Note：

*In order to avoid damage to the blade edge and extend the service life of the blade, withdraw the blade before and after the solder-wire break. Or withdraw before winding the wire on the ⑤ Breaking Gear.

*For any accident occurs during operation, press the ①Emergency Switch to cut off the power immediately.