

# **Double-head Cutting Machine For Aluminum PVC Windows & Doors**

## **Instruction Manual**

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## **1.Main purpose and scope of application**

This double-head cutting machine for aluminum PVC windows & doors (referred to as double-saw 02), used for cutting aluminum and plastic profiles at 45°~90° angles. This equipment can cut profiles with a maximum thickness of 100mm, and cut profiles with a length of 450mm~3500mm, and has the function of single-head and double-head cutting. Double saw 02 is an ideal equipment for the aluminum-plastic door and window processing industry.

## **2.Main specifications and parameters**

Saw blade diameter: 350mm

Min cutting length: 450 mm

Max cutting length 3500 mm

Max cutting width: 100 mm

Cutting angle: 45°~90°

Input power: 2.2kw

Speed 2800r/min

Feeding speed: 6~50mm/s

## **3.Working conditions and working environment**

Power source: 380 +10% V 50Hz (three-phase four-wire)

Environment temperature: 15°C~35°C

Air pressure: 0.5~0.8 Mpa

## **4.Features and main structure**

### **4.1 Features of this machine**

The machine is advanced in technology, reliable in performance, simple in operation, and pneumatic in easy maintenance. The saw head is fed in a swing mode, and the profile is better stressed.

### **4.2 Main structure**

This machine is composed of saw head, workbench, body, control cabinet and other parts.

#### 4.2.1 Saw head

The saw head is divided into a fixed saw head and a movable saw head. The saw head is lifted and lowered by an air cylinder, and the speed is adjustable. The movable protective cover of the saw head will automatically rise when the saw head is dropped, and automatically reset when the saw head is raised, which plays a role of safety protection.

#### 4.2.2 Workbench

The workbench is divided into a fixed workbench and a movable workbench, on which a fixed saw head and a movable saw head are respectively installed. Installed at the left end of the machine body, the movable table is on the right side of the fixed table, which can move horizontally along the guide rail and can be locked at any position required.

#### 4.2.3 Body

The fuselage is composed of guide rails, guide rail boxes, racks, electrical boxes, supports, etc. The guide rail is an inverted T-shaped guide rail with high precision and long life. The supporting frame is an auxiliary supporting mechanism when cutting long profiles, and its position is adjustable.

#### 4.2.4 Control cabinet

The control cabinet is installed at the front left of the machine body, and its position is adjustable.

### **5. System description**

The electrical control panel is equipped with head selector switches SA1, SA2, power indicator HL, motor start button SB3, motor stop press saw SB4, and work buttons SB1, SB2 (clamping three-in button). A power switch QS is installed on the upper left side of the fuselage. This machine uses two 1.5kw new energy-saving Y series motors, and a travel switch (model LX19-111) is installed under each motor. Its original state is under pressure, (connected to the normally closed contact, the original state is In the disconnected state). For electrical and pneumatic principles, please refer to 12.1 Electrical Schematic Diagram and 12.3 Pneumatic Schematic Diagram.

## **6. Installation and adjustment**

### **6.1 Environmental requirements**

The double saw 02 should be installed on a hard concrete floor, and its working environment should be dry, dust-free, and non-corrosive, and the temperature should be 15~35°C.

#### **6.1.1 In place**

Move the double saw 02 to the installation position, and pay attention to keeping the machine level when moving.

#### **6.1.2 Leveling**

First, remove the fixing device for saw head transportation and the workbench shim, and wipe the guide rail clean. Adjust the six leveling bolts under the fuselage to make the coplanar deviation of the two guide rail surfaces less than 0.5mm.

#### **6.1.3 Power connection**

Input power supply voltage 380 +10% V, frequency 50Hz.

#### **6.1.4 Grounding**

The grounding wire must be in accordance with the electrical wiring diagram requirements. The grounding wire specification should be a soft copper core with a cross-sectional area greater than 2mm<sup>2</sup> and a green-yellow combined color insulated wire, and the grounding resistance shall not be greater than 4 ohms.

#### **6.1.5 Air connection**

The working pressure is 0.5~0.8Mpa, and the air consumption is 100L/min. Connect the air pipe with an inner diameter of 10mm from the air source to the connector of the air source processor and supply air to check for air leakage.

### **6.2 Adjustment**

#### **6.2.1 Adjustment of the clamping cylinder**

loosen the five-star handle that fixes the clamping cylinder, move the cylinder to the desired position, and then tighten the five-star handle.

### 6.2.2 Adjustment of cutting angle

Loosen the head tightening handle, pull out the machine head angle positioning handle, rotate the machine head to the required angle according to the scale instructions, and release the positioning handle. After the cutting angle is checked, tighten the machine head tight handle.

Note: After this work is completed, be sure to manually drop the two saw heads before starting the motor to check whether the saw head interferes with the clamping cylinder or other parts. If there is interference, adjust it, and start the motor after the adjustment is complete. .

### 6.2.3 Adjustment of feed speed

The size of the feed speed can be adjusted by the opening degree of the speed control valve. The specific method first loosen the lock nut of the speed control valve, and turn the speed control handwheel clockwise, the feed speed of the cylinder will decrease, otherwise the feed speed of the cylinder will increase. Tighten the nut after the adjustment is complete. After the adjustment, the cylinder feed should be stable, without impact, crawling, etc. (This operation should be performed after the power is off).

### 6.2.4 Adjustment of cutting length

Loosen the fixed handle of the movable worktable, shake the moving handle of the worktable to bring the attached finger to the required scale, and tighten the fixed handle. After starting the trial cutting and calibrating the length of the workpiece, you can proceed to the next step.

## **7.Maintenance**

### **7.1 Add grease**

Add grease regularly to the saw head bearing.

### **7.2 Maintenance of the air processor**

The water distribution air filter is discharged every shift and cleaned once a week. The pressure of the pressure gauge is adjusted to 0.5~0.6MPa. The lubricator ensures a certain oil level (N32 mechanical oil), and the amount of oil dripping is adjusted to about one drop per minute.

### **7.3 Motor belt adjuste**

The tension of the motor belt can be adjusted as required. This can be accomplished by rotating the M10 bolt at the rear end of the motor bottom plate.

### **7.4 Saw blade replacement**

7.4.1 Remove the rod end bearing on the U-shaped block.

7.4.2 Remove the fixed protective cover.

7.4.3 Unscrew the saw blade chuck and remove the saw blade.

7.4.4 Install the new saw blade in the reverse order of the above, and take care to wipe clean the matched shaft hole.

### **8.Troubleshooting**

8.1 If the pressure of the pressure regulating valve does not rise, check whether the spring of the pressure regulating valve is broken in order to replace it in time.

8.2 When the lubricator does not drip oil, check whether the inlet flow is reduced and whether the oil needle is blocked by dust, and solve the problem in time.

8.3 For electrical and pneumatic faults, refer to the electrical schematic diagram and pneumatic schematic diagram and deal with them as appropriate.

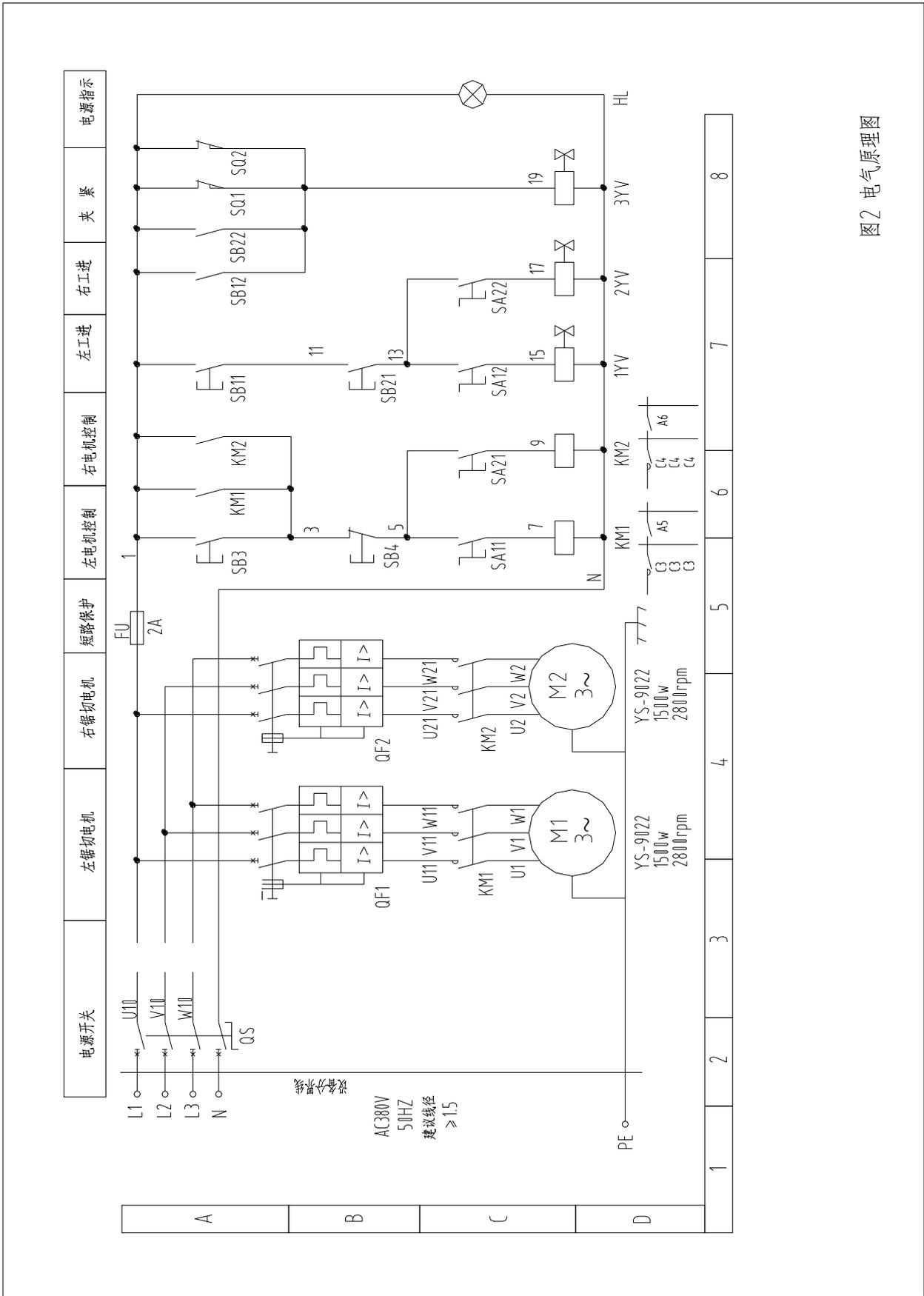
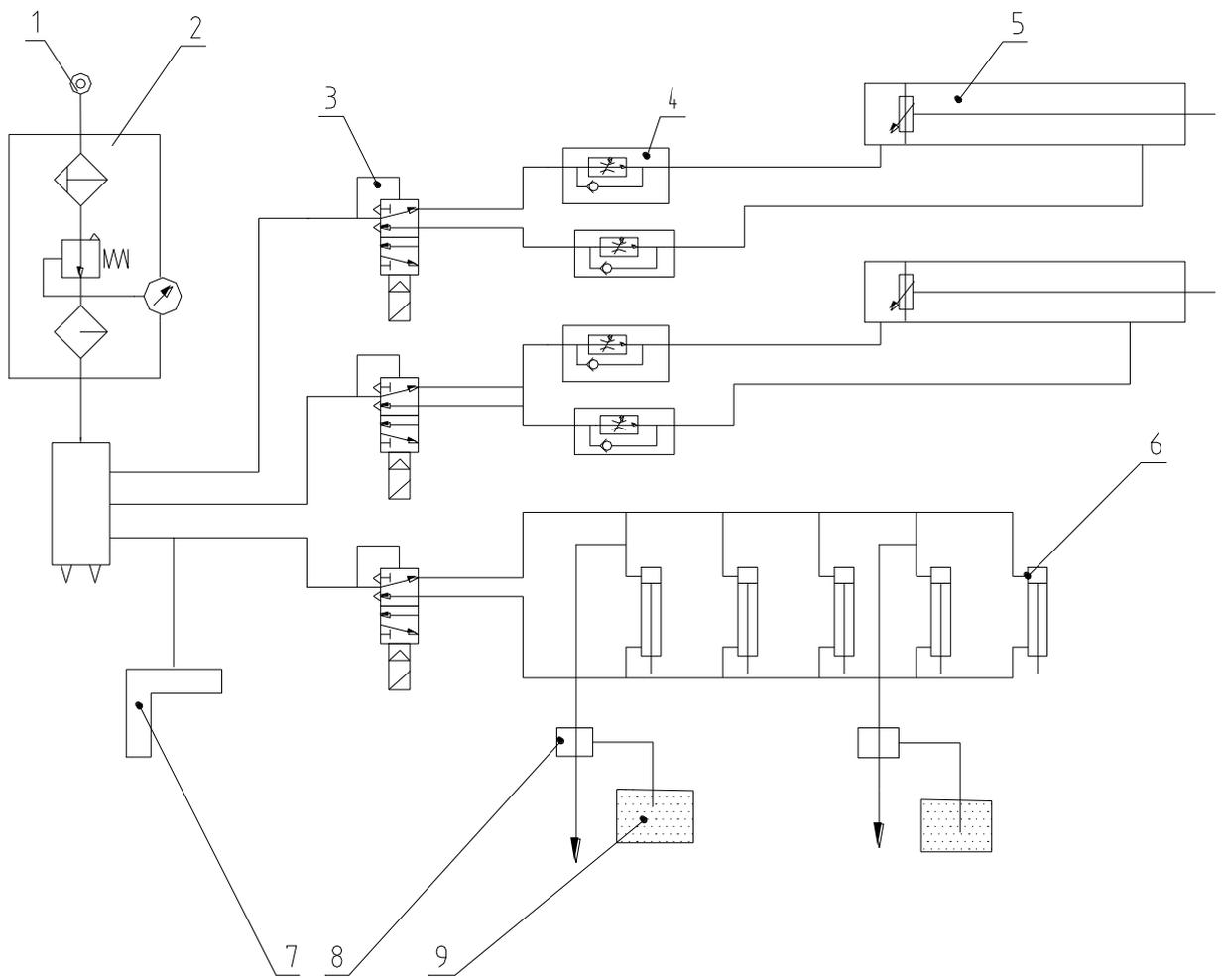


图2 电气原理图

Electrical schematic diagram





气动原理图

**Pneumatic schematic diagram**

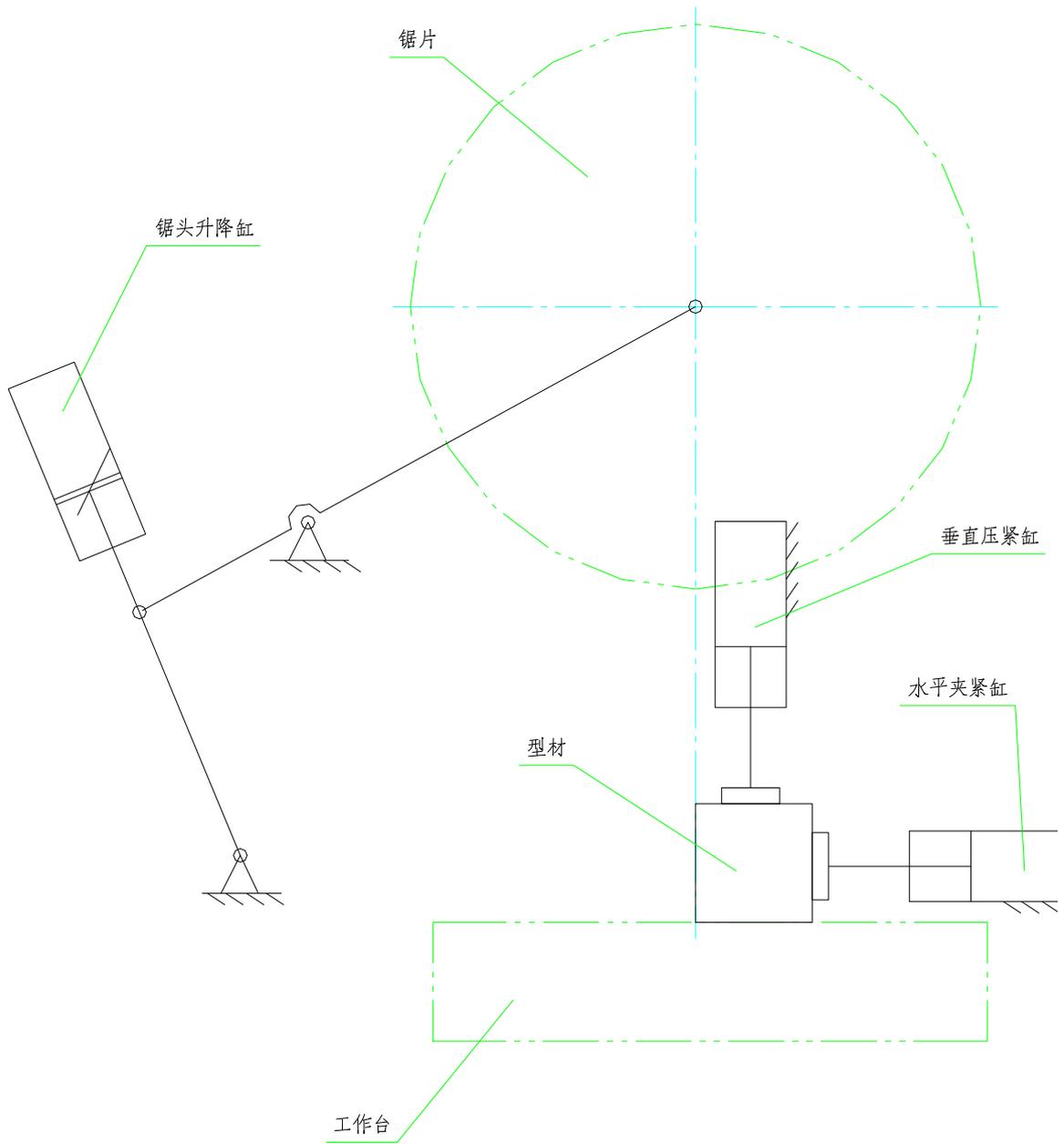


图5 气缸位置示意图

**Cylinder diagram**