



INSTRUCTION

NAME: SOCKETS NECKING MACHINE

MODEL: SKQ-HT002

NO.: 201704-003

GENERAL INFORMATION

Sockets Necking Machine, (SKQ-HT002) is used for necking terminals in aviation connectors. PLC automatic control, manual material-loading, mechanical necking, automatic blanking, one-time completion, simple and convenient.

STRUCTURE AND PRINCIPLE

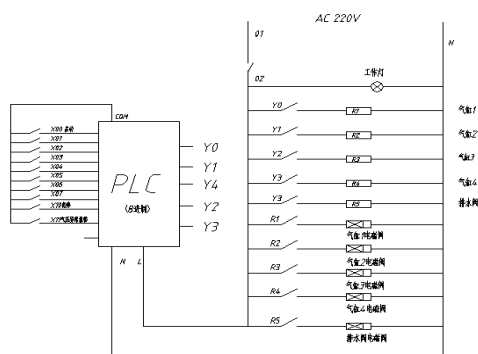
1 Main Performance

- 1.1 Simple and convenient operation
- 2.1 Suitable for contacts with similar structure

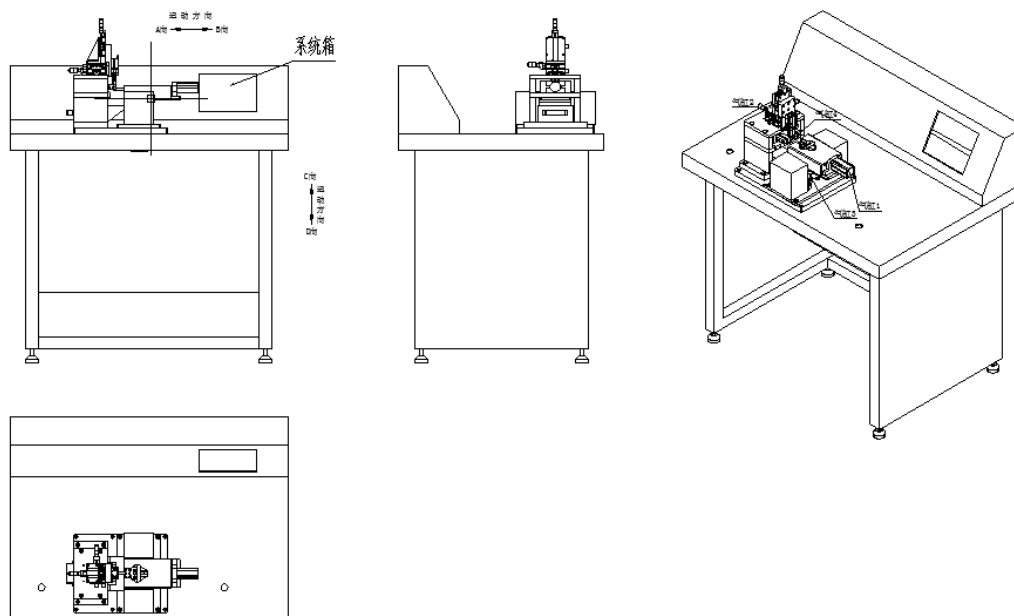
2 Technical Parameters

- 2.1 Working Voltage: 220v, 50HZ, control voltage 24v
- 2.2 Air Pressure: 0.65-0.8MPa
- 2.3 Necking Size: suitable for the socket of C1

3 Electrical Schematic



4 Mechanical Structure Diagram



5 Working Principle

Initial state: all cylinders are reset, the clamping block and the necking block are opened, the guiding block is exited and lowered

- 1) Manually insert the socket into the positioning hole of the guide block and press the start button
- 2) The vertical push cylinder solenoid valve is energized, the cylinder actions, and the vertical push device raises the block (the cylinder remains this state). After the position is reached, the Induction Switch 1 senses and the PLC receives the signal
- 3) PLC works, the parallel push device solenoid valve is energized, the cylinder actions, and the parallel push device sends the contact into the clamping position (the cylinder remains this state), after the position is reached, the Sensor Switch 3 senses and the PLC receives the signal
- 4) PLC work, make the clamping device solenoid valve energized, the cylinder actions (the cylinder remains this state), clamp the contact, and Delay 1 timing start
- 5) After the delay of M seconds (the timing starts when the Induction Switch 3 inducts), the vertical push device solenoid valve is de-energized, the cylinder is actuated, the vertical push device is lowered, the Induction Switch 2 is sensed after the position is reached, and the PLC receives the signal
- 6) PLC works, the parallel push device solenoid valve is powered off, the cylinder actions, and the parallel push device exits the clamp position, after the position is reached, the Sensor Switch 4 senses, the PLC gets the signal
- 7) PLC work, make the solenoid valve of the closing device energized, the cylinder action, necking completed, while Delay 2 starts, Delay 3 also starts counting
- 8) Delay 2 delays N seconds (the timing starts when the Induction Switch 4 inducts), the solenoid valve of the necking device is de-energized, the cylinder actions, the jaws open, and after Delay 3 delays N+1 seconds, the clamping block opens, the contact off

6 Main Components

NAME	PROJECT	QUANTITY	REMARKS
Clamping Mechanism		1	
Parallel Push Mechanism		1	
Vertical Push Mechanism		1	
Necking Mechanism		1	
Electrical Box		1	
Three-dimensional Adjustment Slide		1	
Workbench		1	
Working Lamp	220v8w	1	

OPERATION AND INSTALLATION INSTRUCTION

1 Operation

Firstly, turn on the air supply, and then turn on the power supply, and confirm that the equipment can work normally. Manually feeding, gently insert the contact into the guiding block. There must be no insertion, no position, etc. After confirming the safety, press the green start button to complete all actions at one time. In case of accident, press the emergency stop button to stop the machine.

2 Operation Interface

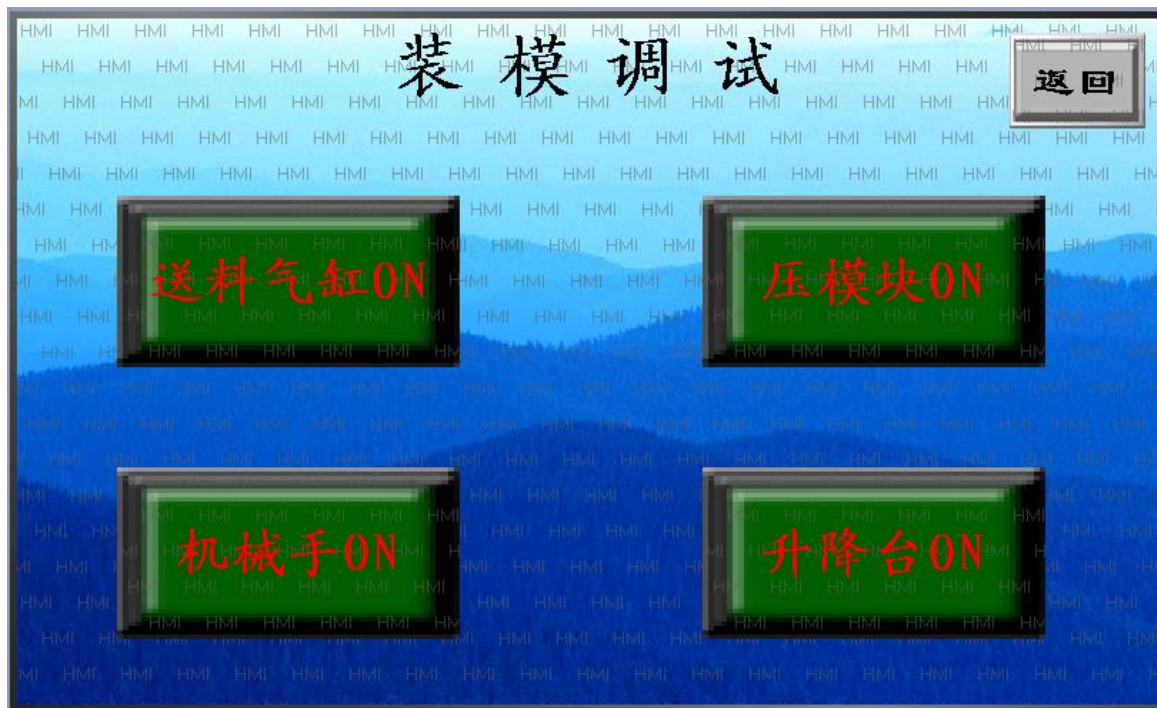
2.1 Main Interface

- a Debug: enter the next interface, manual loading interface

b Run: enter the next interface, automatic running interface
 c Settings: enter the next interface, password input interface



2.2 Manual Loading Interface



a Feeding cylinder ON: Feeding cylinder manual button, the initial state feeding cylinder is in the retracted position, press the button, the button flashes, and the feeding cylinder is in the extended position.

b Pressure module ON: Pressure module cylinder manual button, the initial state pressure module is in the open position, press the button, the button flashes, and the pressure module is in the pressed position.

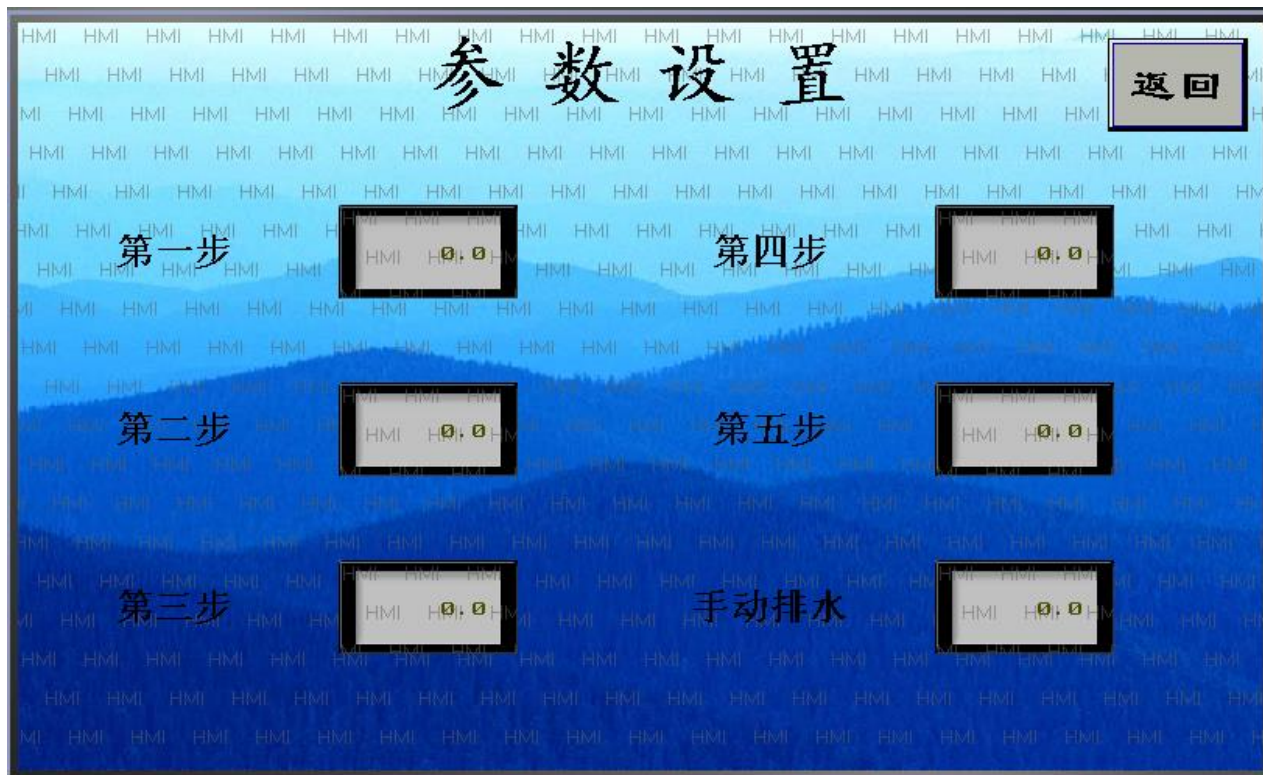
c Manipulator ON: Manipulator cylinder manual button, the initial state manipulator module is in the open position, press the button, the button flashes, and the robot stamp is in the pressed position.

d Elevator ON: Elevator cylinder manual button, the initial state elevator cylinder is in the extended position, press the button, the button flashes, and the elevator cylinder is in the retracted position.

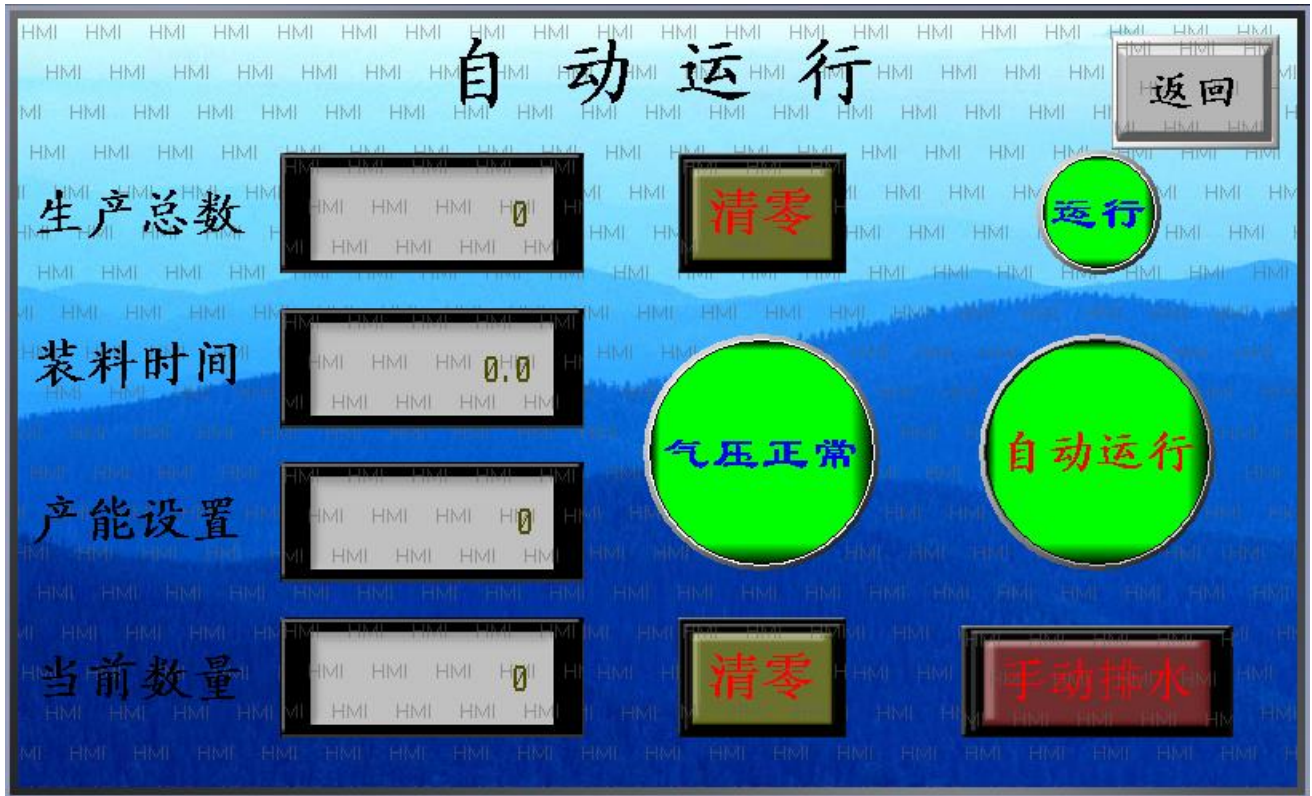
2.3 Password Input Interface (password 170216)



2.4 Time Setting Interface (factory setting D1=0.1, D2=0.1, D3=0.9, D4=0.1, D5=1.0, drainage=1.5)



2.5 Automatic Running Interface



2.5 Automatic Running Interface

- a Running indicator: When running normally, the indicator is green; after pressing the emergency stop, the indicator is red, and flashes.
- b Normal air pressure indicator: When air pressure is normal, the indicator is green; When air pressure is abnormal, the indicator is red and flashes.
- c Automatic running button: Press this button to automatically run the equipment. The cycle interval is the loading time which can be customized.
- d Manual drain button: Press this button to automatically drain the gas tank and drain time can be customized. The equipment cannot be drained while it is running. After the end of a crimping cycle, automatic drainage begins.

3 Installation

Place the device in a fixed position, turn on the air source and power supply, the air source is guaranteed to be 0.65-0.8Mp, and the power supply is guaranteed to be grounded.

4 Notes

- 1) Regular periodic rail lubrication and overhaul
- 2) Non-professionals are strictly prohibited to open the electrical cabinet
- 3) It is strictly forbidden to open the protective cover for crimping operation
- 4) Be careful when replacing the pressure module to avoid pinching

LIST OF MAJOR MECHANICAL COMPONENTS AND ELECTRICAL COMPONENTS

1 Mechanical Components

NAME	MODEL/ SPECIFICATION	BRAND	QUANTITY	REMARKS
Linear Slide	HGW15CA	HIWIN	2	
Linear Slide	MGW9C	HIWIN	1	

Thin Cylinder	SDA20X50-S	SMC	1	
Thin Cylinder	SDA40X30-S	SMC	1	
Parallel Clamp Cylinder	MHZ2-16D-S	SMC	1	
Parallel Clamp Cylinder	MHZ2-32D-S	SMC	1	
Three-dimensional Adjust Slide	MXYZ60	RSLS	1	
Buffer	ACA1007-2	SMC	2	

2 Electrical Components

NAME	MODEL/ SPECIFICATION	BRAND	QUANTITY	REMARKS
One-way Solenoid Valve	4V210-06	SMC	4	
Barometer	GF-60 PT1/4	AirTac	1	
Precision Pressure Regulating Valve	ARP30-03-3	SMC	1	
PLC		XINJIE	1	
Digital Pressure Switch	ISE30A-01-N-L	SMC	1	
Gas Tank	6L	Custom-made	1	
Pressure Regulating Valve	AW40	SMC	1	

ATTACHMENT

1 Supporting Tools

2 Technical Drawings

3 Digital Pressure Switch Debugging Manual