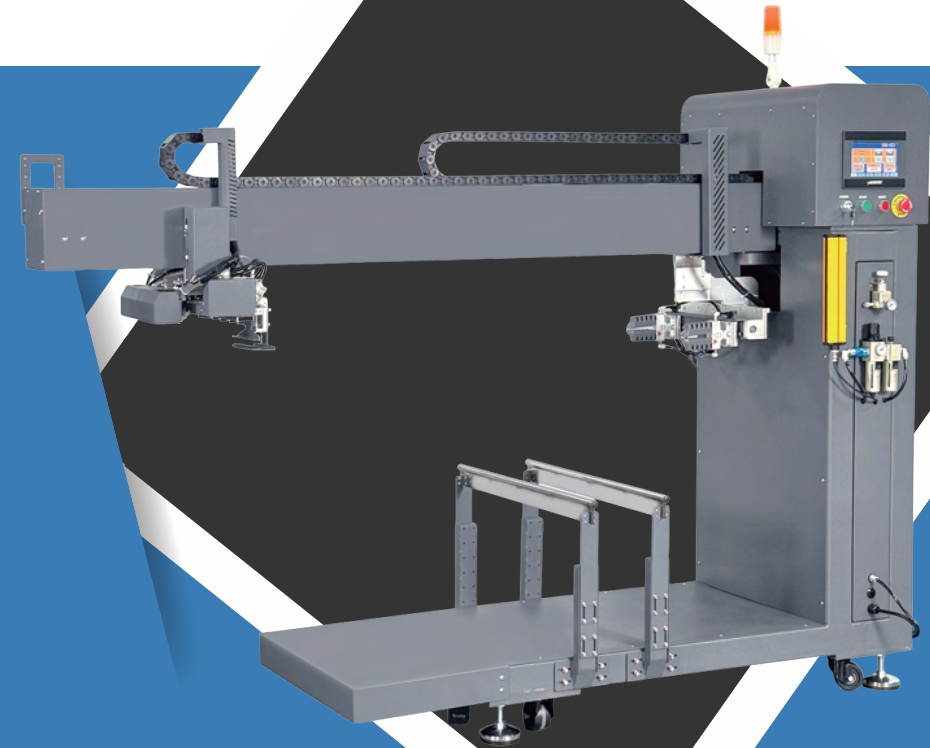


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Model: X-Peel Pro

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X-Peel Pro User Manual

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Overview

1.1 Equipment Overview

Thank you very much for choosing our X-PeelPro Integrated Film-Peeling and Garment-Unloading Machine!

Please read this user manual carefully before use to ensure proper operation. Please keep this manual in a safe place for quick reference at any time.

Due to variations in configuration, some machines may not include all the features listed in this

1.2 Safety Precautions

NOTICE



The manufacturer is not responsible for damage, injury, production loss, or other losses caused by improper operation, unauthorized modification, incorrect installation, incompatible parts, or service by unqualified personnel.

1.3 Operating Environment

- Indoor, dry, clean, and well-ventilated location
- Storage Ambient Temperature: 32–122°F;
- Storage Ambient Relative Humidity: Below 80% (non-condensing).
- Operating Ambient Temperature: 32–104°F;
- Operating Ambient Relative Humidity: Below 80% (non-condensing)
- Stable, level, heat-resistant work surface
- Keep away from water, excessive dust, corrosive gases, flammable materials, and explosive vapors

1.4 Grounding & Technical Parameters

1.4-1 Grounding Requirements:

To prevent electric shock or fire accidents caused by electrical leakage, overvoltage, or insulation breakdown, please ensure the power control system is reliably and securely grounded. The grounding resistance must be less than 10 Ohms, the wire length must be within 20 meters, and the wire cross-sectional area must be greater than 4 mm². Machines in motion present inherent dangers! It is the user's responsibility to design effective error-handling and safety protection mechanisms during production. This equipment carries no obligation or liability for any incidental or consequential damages resulting from operation.

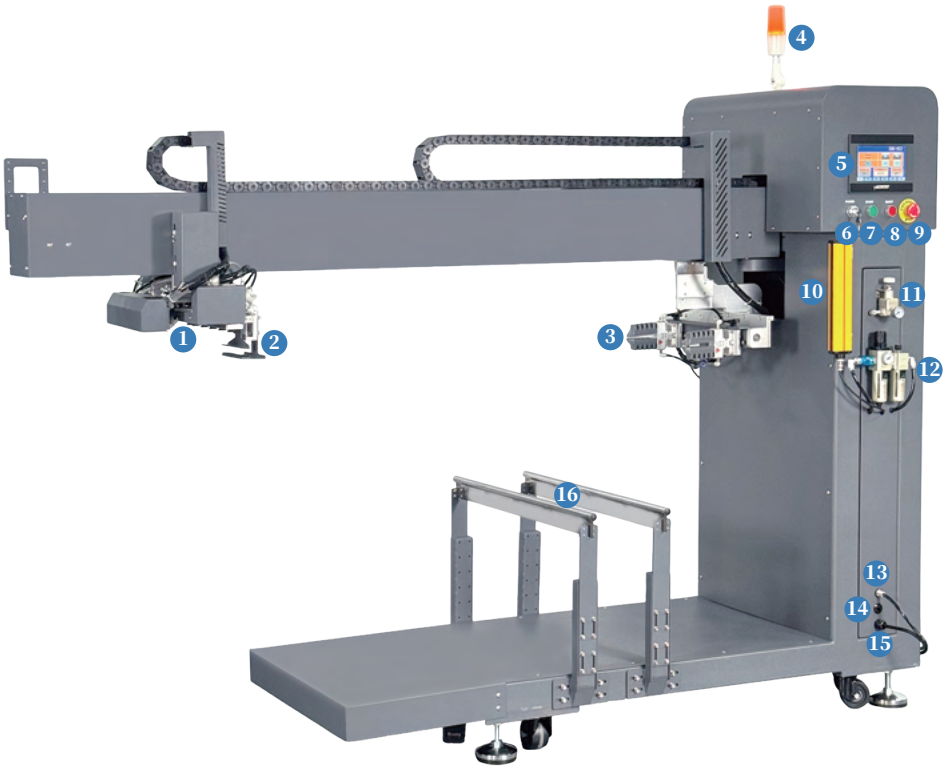
1.4-2 Technical Parameters:

Parameter	Specification
Model No.	X-Peel Pro
Controller	PLC(MX310-32 + TK8072IP)
Amp \ Voltage \ Power \ Phase	9A\220V\2KW, 60HZ

Appearance and Functions

2.1 Exterior View

(Please refer to the images in your original document for labels 1 through 16.)



2.2 Component Names and Functions

1. Vacuum Suction Nozzles: Used to pick up the DTF film via suction and place it at the designated position.

2. Film-Peeling Grippers: Used to clamp the DTF film to execute the peeling action.

3. Flexible Grippers: Used to clamp the garment to execute the unloading action.

4. Machine Status Indicator Light:

○ **Green:** The machine is running in Automatic Mode.

○ **Yellow:** The machine is in Teaching Mode.

○ **Red:** Emergency Stop is pressed or an abnormal status has occurred. Please check the alarm prompt on the touchscreen controller.

5. PLC Touchscreen Controller: Controls machine actions and program settings.

6. Power Switch: Turns the machine power ON and OFF.

7. Start Button: Tap once to enter Automatic Mode; the status indicator light will turn green.

8. Reset Button: Press and hold for 2 seconds to reset the suction nozzles and flexible grippers to their home positions.

9. Emergency Stop (E-Stop) Button: When an abnormality occurs, press this button to stop the machine immediately; the status indicator light will turn red.

10. Safety Light Curtain: If a person or object is detected entering this area while the machine is running in automatic mode, the machine will stop immediately, and the status indicator light will turn red. Press and hold the reset button V1/V2 to reset, then press the Start button to re-enter Automatic Mode.

11. Pneumatic Regulating Valve: Adjusts the air pressure value of the flexible grippers to change their gripping force.

12. Pressure Gauge Assembly: Adjusts the air pressure suitable for the machine and displays the current operating pressure.

13. Air Supply Inlet Connector: Provides the air source required for all machine actions.

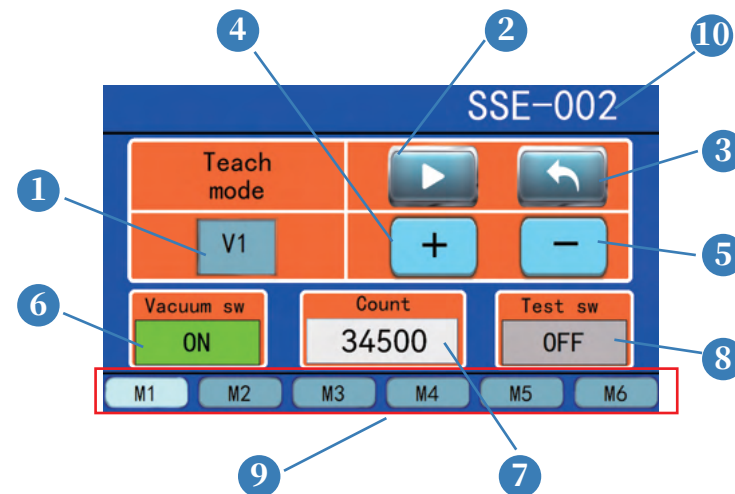
14. Ethernet Port: Communication interface for connecting with multi-station X4/6/8 systems.

15. Power Cord: Supplies the required electrical power to the machine.

16. Garment Rack: Used for placing garments that have completed the transfer process.

2.3 PLC Touchscreen Controller Interface and Functions:

2.3.1 Main Interface and Functions



1. Flashes when in Teaching Mode. Press the "+" or "-" buttons to adjust the film-pickup position of the suction nozzles.

2. In Teaching Mode, tap once to confirm that the current action is complete.

3. Return Key: In Teaching Mode, exits the interface without saving.

4. & 5. In Teaching Mode, used to adjust the film-pickup position of the suction nozzles.

6. Turns the suction function of the nozzles ON and OFF.

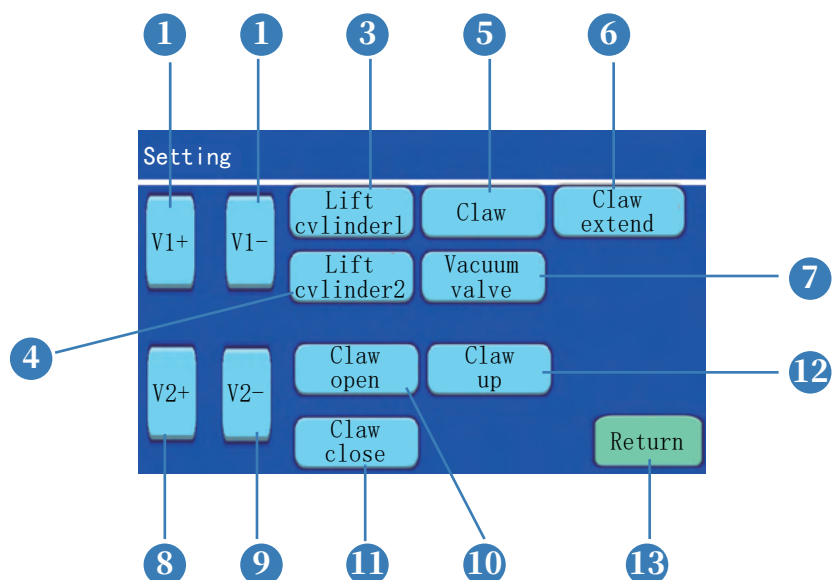
7. Counter: Increments by 1 every time a film-peeling action is completed. Press and hold this area for 2 seconds to reset the counter to 0.

8. Test Switch: In Teaching Mode, turn this switch ON and tap the Start button once to review/preview the currently taught action.

9. Press and hold any of these buttons for 2 seconds to independently perform teaching and storage for the 6 groups of film-peeling points (M1–M6).

10. Engineering Mode Access Point: Press and hold this area for 2 seconds to enter the Engineering Mode settings interface.

2.3.2 Engineering Mode Interface and Functions



1 & 2 (V1+ / V1-): Adjusts the film-suction position of the suction nozzle axis. This operation can only be performed when V2 is at its home origin.

3 (Lift cylinder 1): Suction nozzle lifting cylinder 1.

4 (Lift cylinder 2): Suction nozzle lifting cylinder 2.

5 (Claw): Waste-film clamping lifting cylinder.

6 (Claw extend): Waste-film clamping forward/backward movement cylinder.

7 (Vacuum valve): Suction nozzle vacuum switch.

8 & 9 (V2+ / V2-): Adjusts the garment-clamping position of the flexible gripper axis. This operation can only be performed when V1 is at the film-pickup position.

10 (Claw open): Opens the flexible grippers.

11 (Claw close): Closes the flexible grippers.

12 (Claw up): Flexible gripper lifting switch.

13 (Return): Returns to the main interface.

2.4 Preparation for Startup

1. Confirm that the equipment is connected to a power supply that meets the specifications.

2. Confirm that a dry air source is connected.



3. Turn on the main breaker, then press the power switch on the operation panel "POWER". The equipment will power up and enter the Main Interface as shown in the figure.

2.5 Automatic Operation



1. Press and hold to select the desired parameter set (for example, selecting "M1" as shown in the figure).



2. Press the "START" button to enter the automatic running status. The interface will display "AUTO mode" and the status indicator light will turn green.

3. Wait for the multi-station machine (X4/6/8) to send the film-peeling and garment-unloading signals.

2.6 Teaching Method



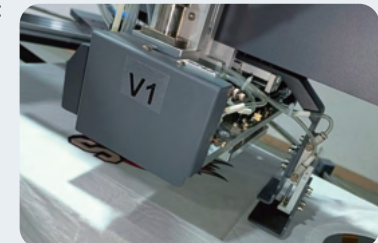
Note: Teach Mode must be initiated from a non-automatic running state (when the status indicator light is yellow). If the machine is in the Automatic state (when the status indicator light is green), please press the "Emergency Stop" button on the panel and rotate it to reset, then enter Teach Mode.



1. First, press and hold for 2 seconds to select the profile number to save (for example, select "M2").



2. Tap the "▶" button on the touchscreen. "V1" will begin flashing. Tap the "-" or "+" buttons on the touchscreen to move "V1" to the desired film-peeling position, as shown in the figures below:





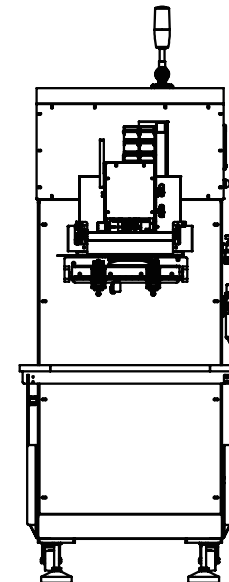
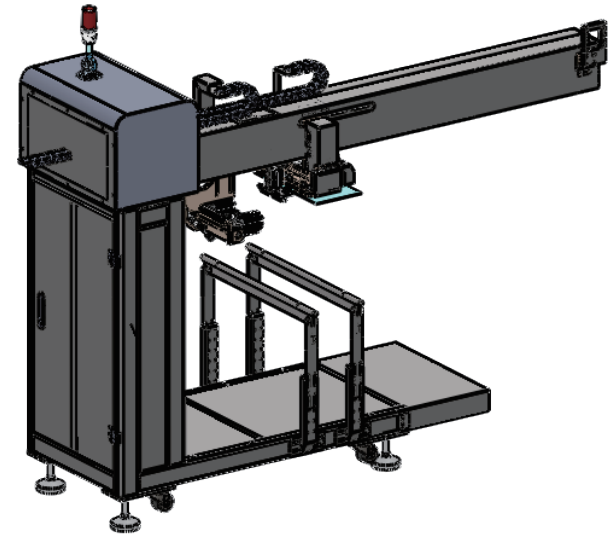
3. Press the "►" button again. "V1" will return to its home origin, and a pop-up window displaying "Finish teach!" will appear.

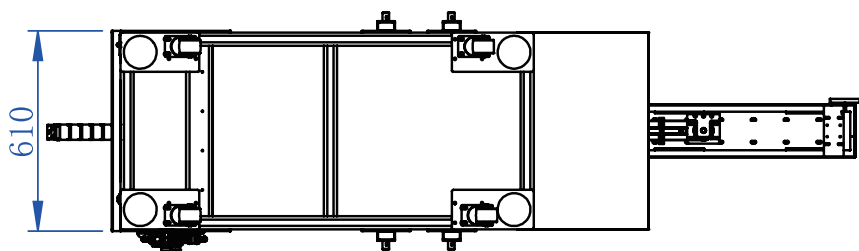
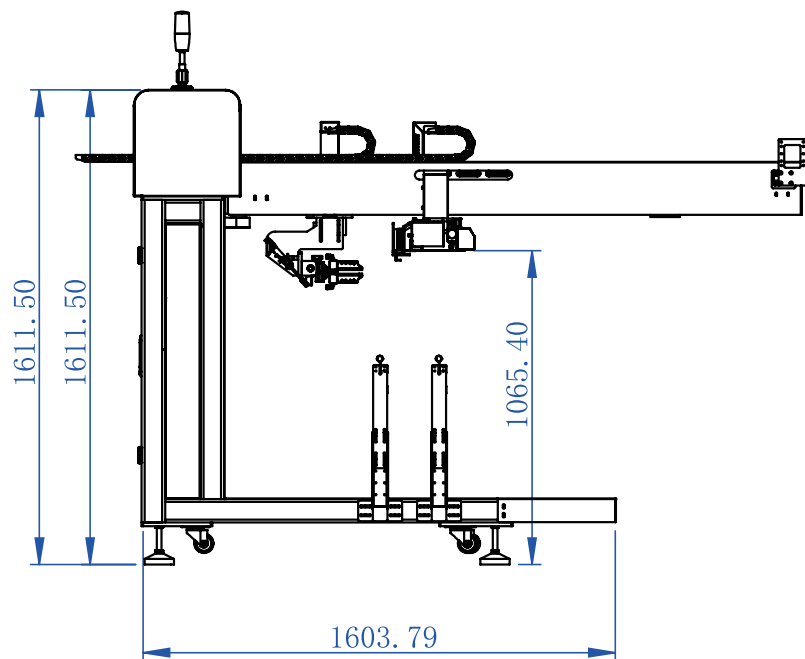


1. Tap the "Save" button to save the settings and exit, completing the data configuration for M2. If you tap the "X" button, the system will exit without saving the current data.

2.7 Equipment Dimension

(Refer to the technical drawings in your original document for specific measurements.)





Troubleshooting

1. If the fault window shown in the figure appears, please turn off the power. Check whether the axis home/origin switch is disconnected or if there is a mechanical jam. Once confirmed normal, restart the power.

Servo alarm !
Please check the
fault and reset !

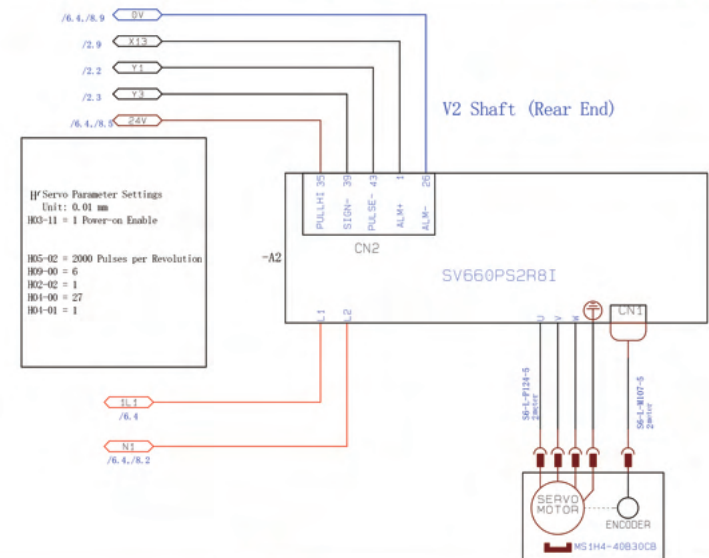
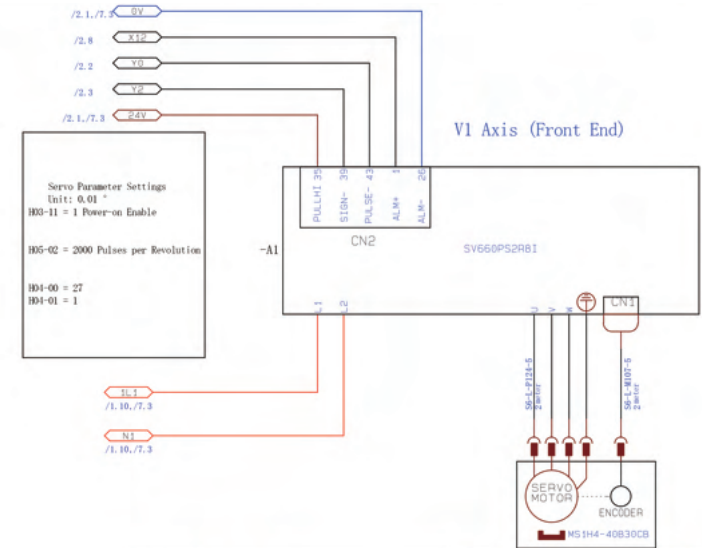
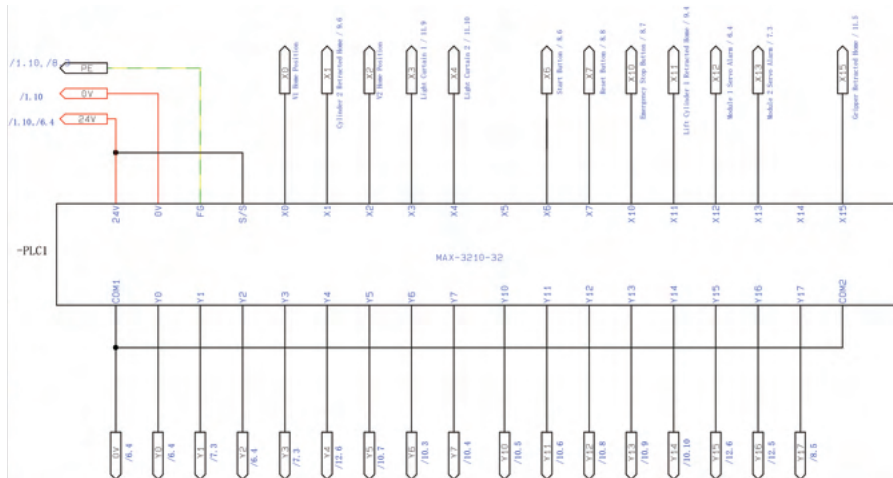
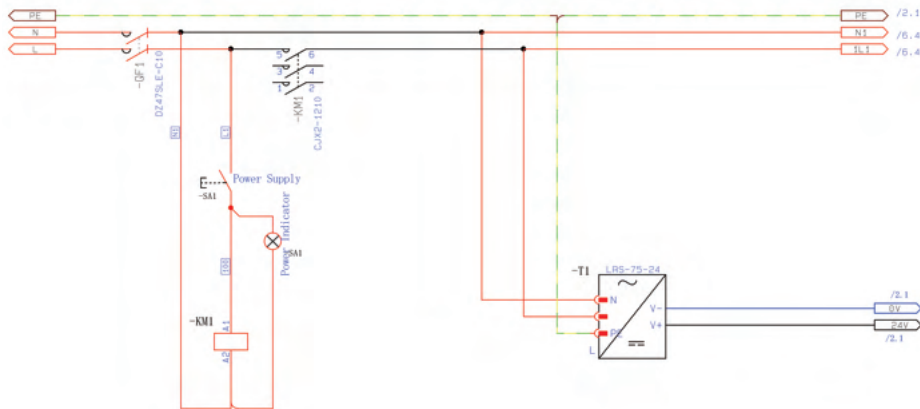
Reset

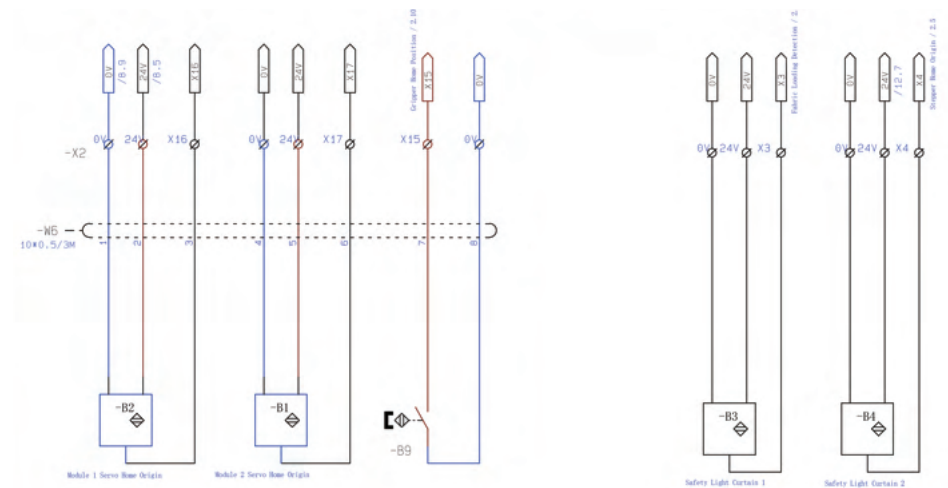
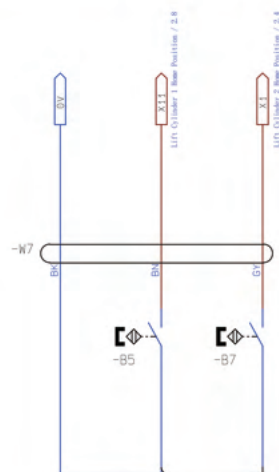
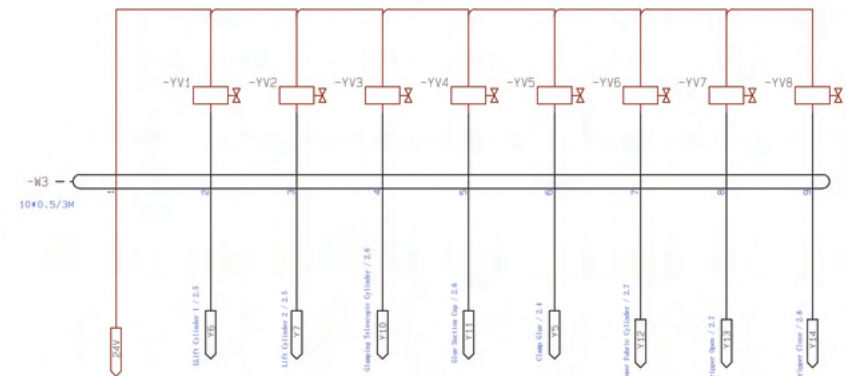
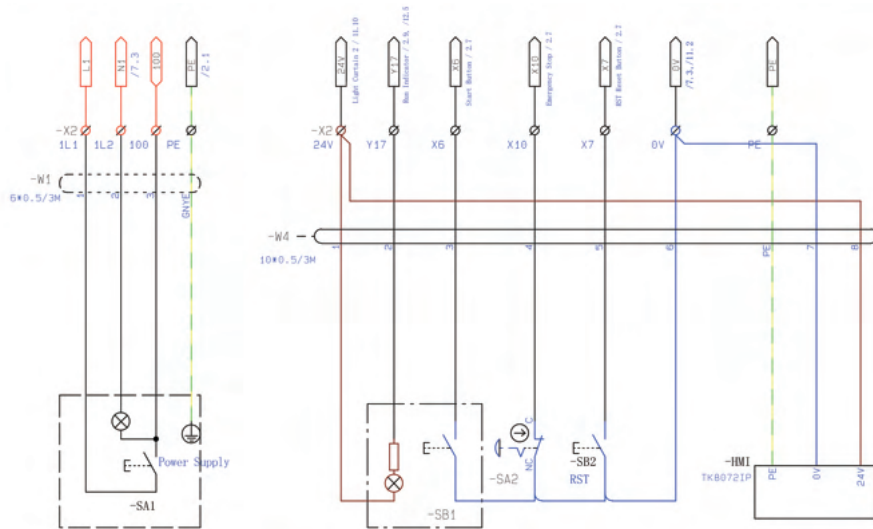
2. If the fault window shown in the figure appears, please check the air supply pressure and verify whether the cylinder upper limit switch is displaced or disconnected.

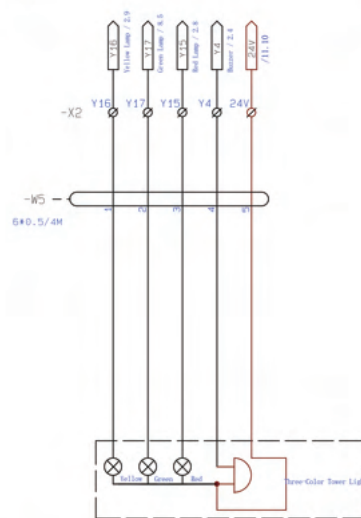
Cylinder alarm !
Please check the
fault and reset !

Circuit Diagram

(Refer to your original document for the diagram layout.)







Pneumatic Diagram

(Refer to your original document for the diagram layout.)

