

▼ Safety Instructions:



1. Before operating the equipment, it is necessary to read and understand the operating instructions.
2. Please wear labor protection equipment before operating the equipment, including: protective glasses, gloves, safety helmets, steel toe safety boots, and earplugs (for hearing protection).
3. Do not allow loose clothing, long hair or any other unstable parts to be placed near the equipment in operation.
4. It is forbidden to stand in the direction of the oil outlet, the direction of the cylinder extension and the direction of the tubing joint.
5. Ensure that the hydraulic equipment is switched off and that the power to the machine powered by the equipment is disconnected before carrying out any maintenance or repair.
7. Before operating the machine, please check whether the oil level of the oil tank is above 2/3 of the level gauge, if the oil level of the oil tank is too low, you need to add new hydraulic oil. Before refueling, make sure that each tool is fully retracted.
8. Do not operate the device when fatigue or under the influence of alcohol or drugs.
9. In case of problems, you must seek help from security or technical professional services.
10. Use hoses, fittings or fittings with a rated pressure of 70MPa or above. Use of components that are not rated for pressure may result in injury or damage to equipment.
11. It is forbidden to remove any safety equipment during operation.

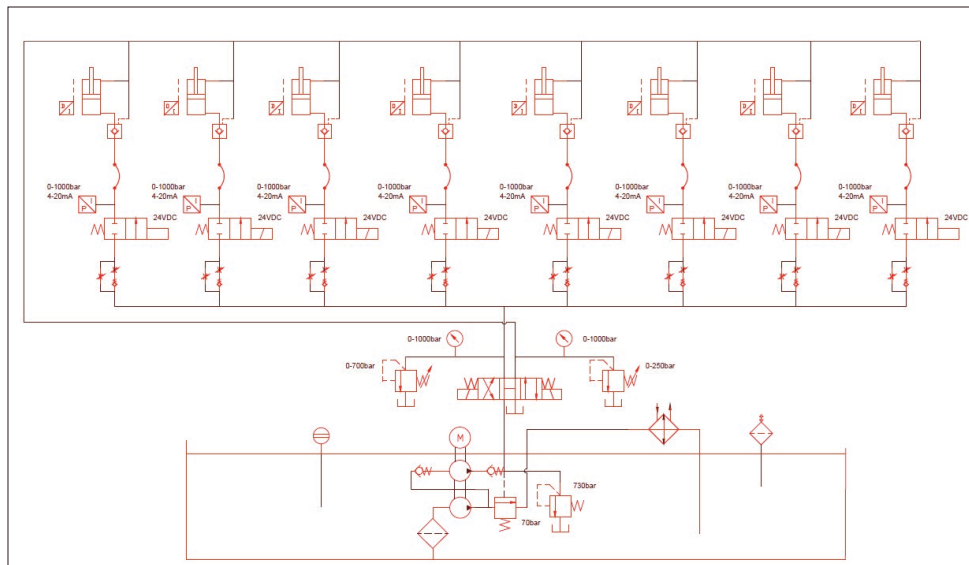
▼ Product List:

1. 8 - point synchronous jacking pump station X1
2. Hydraulic cylinders X8
3. 1000MM displacement sensors X8
4. Displacement sensor cables X8
5. Oil pipes X16
6. Several spare parts

▼ Specifications and parameters:

- Power: 4KW, 380VAC, three-phase four-wire
- Rated working pressure: 700bar
- Medium: ISO VG46 Anti-wear hydraulic oil
- Total tank capacity: 200L

▼ Hydraulic schematic diagram:



► Preparation Before Use:

-Cylinder placement

Install the cylinder on a flat, solid and load-bearing ground, and ensure that the position of the cylinder can make the cylinder bear the load as evenly as possible, and number the cylinder. For example: 8 cylinders are numbered 1, 2, 3, 4, 5, 6, 7, 8.

-Connection of oil pipes

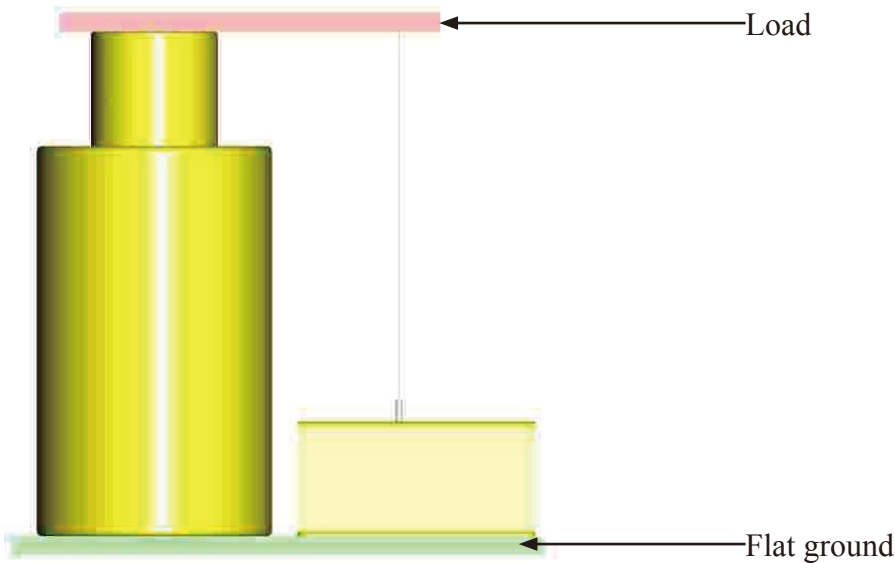
Each pump station has a total of 8 routes, each of which provides two oil ports A and B, which can be connected to the A and B oil ports of 8 cylinders respectively. The A port is the oil port of the rodless chamber of the cylinder, and the oil supplied by the A port extends the cylinder and starts lifting. The B port is the oil port of the rod chamber of the cylinder, and the oil supplied by the B port lowers the cylinder.

If the jacking cylinder is a double-acting cylinder, the A and B ports of the cylinder should be connected to the corresponding A and B ports of the pump station via oil pipes. For example: Port A of Cylinder 1 is connected to Port 1A of the pump station through an oil pipe, and Port B is connected to Port 1B of the pump station through an oil pipe, following the sequence. If the jacking cylinder is a single-acting cylinder, it only needs to connect the oil port of the cylinder to the corresponding Port A of the pump station via an oil pipe. For example: The oil port of Cylinder 1 is connected to Port 1A through an oil pipe, following the sequence.



-Install the displacement sensor and the displacement sensor line

As shown in the figure, install the displacement sensor on a flat surface or a fixed installation platform. Secure the pull cable of the displacement sensor to the load or a component that can move with the load, ensuring that the pull cable is parallel to the hydraulic cylinder's motion path. Connect one end of the displacement sensor cable to the signal output terminal of the displacement sensor, and the other end to the corresponding numbered signal port of the pump station. For example: the displacement sensor for Cylinder No.1 is connected to Pump Station S1 port, and so on, according to the sequence number.



-Check the oil tank level

Before each use, please observe the oil level in the tank through the side level gauge and ensure that the oil level is above 2/3 of the level gauge. If the oil level is too low, please add hydraulic oil to the filling port at the top of the tank until the level gauge is above 2/3. The total capacity of the tank is 200L. It is recommended to add hydraulic oil with the brand number ISO VG46 anti-wear hydraulic oil.

- ◆ The oil tank level should be checked after all loads have returned.

-Power connection

The rated voltage of the pump station is 380VAC, three-phase four-wire. Please select the appropriate cable according to the total power of the pump station, use the matching aviation plug to connect, and ensure that the cable line is complete, no false connection or leakage, and effective grounding.

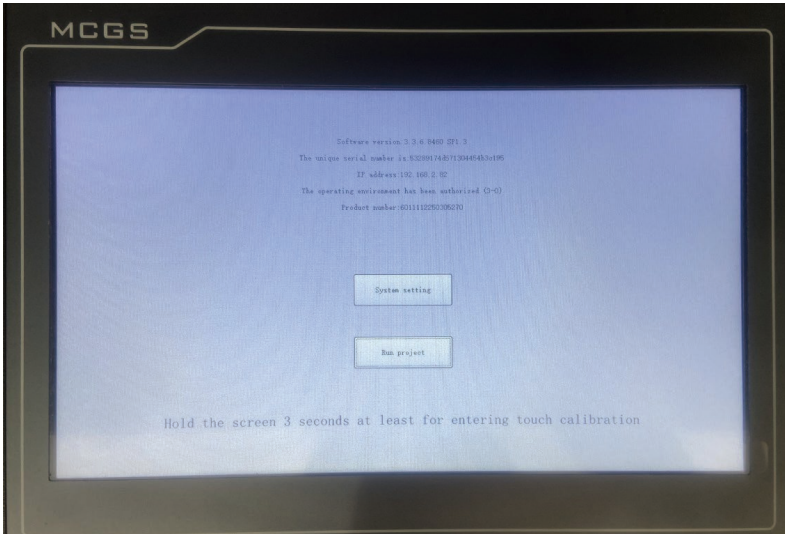
► Operating Steps:**▼ Electrical Box Panel:**

The load switch on the electronic control box is the power supply master switch. When the power supply master switch is opened, the top power indicator light will be lit and the display screen will be lit. The knobs and buttons below are motor start/stop button from left to right; action direction selection button: up, stop, down selection;

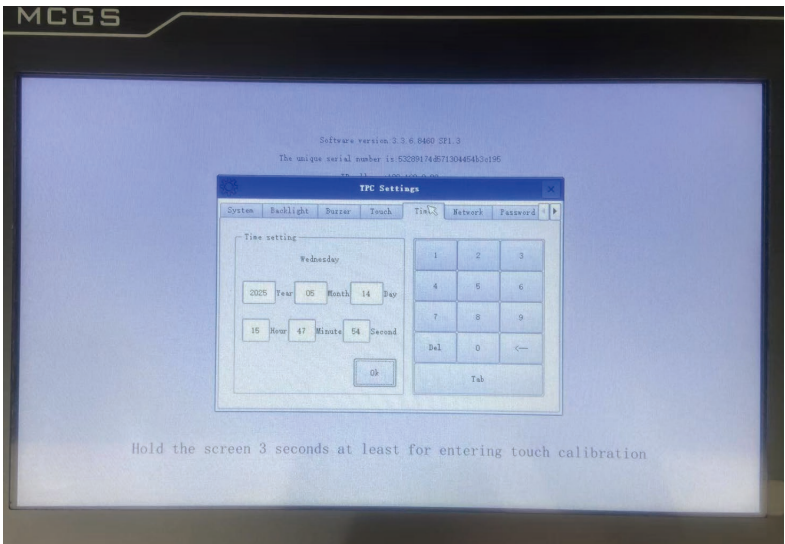


▼ Time Setting:

-After opening the power switch, the screen will light up. Long press the bottom of the screen to enter the selection interface.



-Click on System Settings to enter the system Settings interface.

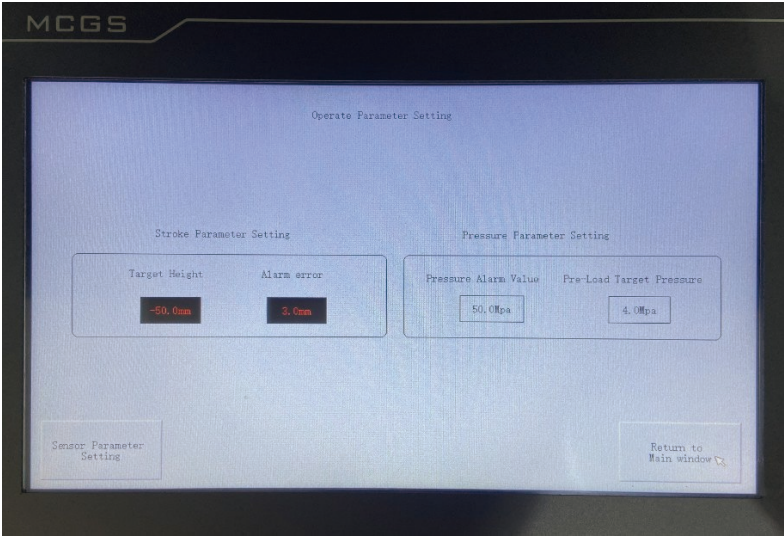


-Click the time option to adjust the time and change the time to the corresponding time of the local time zone. After setting, close the Settings bar and click the run program to enter the operation interface.

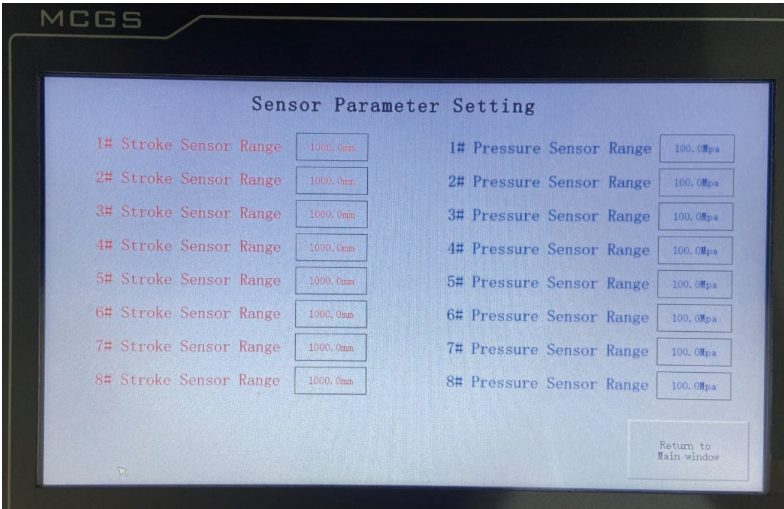
▼ Parameter Setting:

After entering the operation interface, click the parameter in the lower right corner. This interface can be used for parameter setting. Before each lifting action, please enter the parameter design interface to set the parameters, and then carry out the lifting operation after setting the parameters. The left side of the parameter setting interface is as follows:

- 1. Target displacement setting: if it is synchronous lifting, the target displacement value should be greater than the current displacement value of the main interface; if it is synchronous landing, the target displacement value should be less than the current displacement value of the main interface, and the displacement value can be negative.
- 2. Alarm error setting: The alarm error value is the maximum allowable displacement difference of each point. If the displacement difference between two points in the synchronization process is greater than the alarm error setting value, an alarm will be generated and the synchronization action will stop.
- 3. Alarm pressure setting: The alarm pressure is the maximum allowable pressure value during operation. If the pressure at any point in the operation exceeds the alarm pressure value, an alarm will be generated and the synchronous action will stop.
- 4. Pre-lift pressure setting: The pre-lift pressure is set to reach the pressure after running the pre-lift program, and the pre-lift is completed. The predetermined lift pressure is set according to the weight of the lifted object. The specific pressure value is based on the cylinder pressing the bottom of the lifted object without displacement.



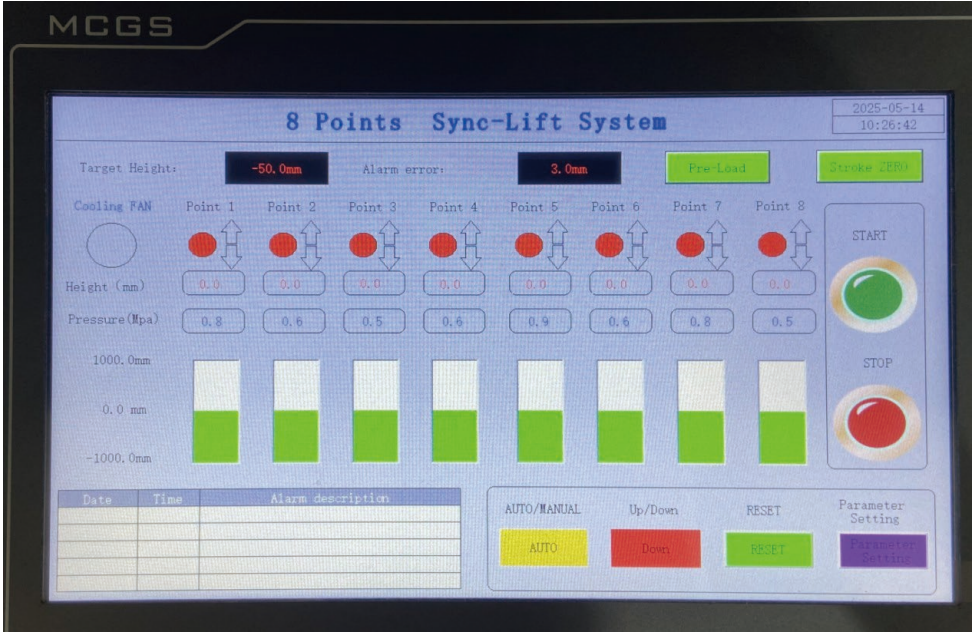
- 5. Click the button in the lower left corner to enter the sensor range setting. In this interface, you can change the pressure sensor and displacement sensor range. The factory setting is completed, so no changes are required.



6.Click the button in the lower right corner to return to the main interface

▼ Main Interface:

The main interface can monitor the current status in real time and perform synchronous operations.



1. The current time is in the upper right corner.
2. The first row above shows the target position value and displacement error alarm value in sequence, as well as the pre-lift start button and displacement reset button.
3. The leftmost button in the middle is the air-cooling start/stop selection button, which can be used to control the start and stop of the air cooling system. On the right are eight real-time parameter monitoring points. The circular icon at the top is for selecting points, allowing you to choose from 1 to 8, with any two or more points participating in synchronized actions. When the circular icon turns green, it indicates that the point has been selected. Below, the current displacement values, current pressure values, and relative displacement bars of each cylinder are displayed sequentially.
4. On the right side of the middle is the automatic lifting / lowering program start button (press to start); automatic lifting / lowering program stop button (press to stop).
5. The left side of the bottom table is the alarm information interface. After an alarm occurs during the operation of the program, you can view the alarm information through the alarm view interface. After troubleshooting, you can clear the alarm by clicking the reset button and then restart the operation.
6. On the right side of the bottom, there are manual/automatic mode selection, up/down selection, reset button and parameter setting entry button in sequence.

▼ Pre-Elevation

Install the hydraulic cylinder and displacement sensor, connect the oil pipe and displacement sensor wires. Set the pre-lift pressure in the parameter settings interface. Select the hydraulic cylinder that needs to participate in the action, press the motor start button on the electrical panel, click the pre-lift button to begin pre-lifting. The hydraulic cylinder will start to rise until it reaches the pre-lift set pressure, then stop, completing the pre-lift.

▼ Automatic Mode

To run in automatic mode, first select the operation mode as automatic. Click on the hydraulic cylinder that needs to participate in the action, choose whether it will move up or down, and press the displacement reset button. Set the meter displacement and alarm pressure. Press the motor start button on the electrical panel to activate the motor. Click the start button on the right side of the main interface to initiate the program, and begin the operation. After completing the synchronized work, the program will automatically stop, and close the motor to complete the task.

◆When running the synchronous lifting program, the target displacement setting must be greater than the current displacement. When running the synchronous lowering program, the target displacement setting must be less than the current displacement. The target displacement value can be set to a negative number. After a fault alarm occurs, if you need to restart the program again, you must first troubleshoot and then reset the button to clear the alarm before restarting the program.

▼ Manual Mode

To run in manual mode, first select the operation mode as manual. Then, select the hydraulic cylinder that needs to participate in the action. Press the motor start button on the electrical panel to activate the motor. Turn the action selection knob on the electrical panel to either up or down to begin the manual lifting or lowering action. After completing the action, turn the knob to the neutral stop position and press the motor start/stop button again to shut off the motor, thus finishing the action.

▼ Maintenance And Maintenance

-Hydraulic Maintenance

Regularly inspect the pump station, hydraulic cylinders, and oil pipes for any signs of hydraulic oil leakage or damage. Replace the hydraulic oil and wear- prone seals periodically. The pump station should drain the hydraulic oil from the tank every six months of continuous operation, clean the tank, and then refill it with fresh hydraulic oil. If the pump station operates in dusty or high-temperature environments, shorten the interval between oil changes.

1. Add a fuel tank side drain.
2. The hydraulic oil inside the pump station is discharged through the discharge port.
3. Open the fuel filling port, add the cleaning agent, and after cleaning, pour out the cleaning agent from the tank through the oil outlet.
4. Seal the oil outlet.
5. Add new hydraulic oil from the filling port until the oil level gauge shows more than 2/3 (the total tank capacity is 200L). It is recommended to use hydraulic oil grade ISO VG46.

-Electrical Maintenance

Check the electrical components of the pumping station regularly to see if there is any damage, whether the line connection is loose, and whether the signal line is damaged. If there is any damage, please replace and repair it in time.