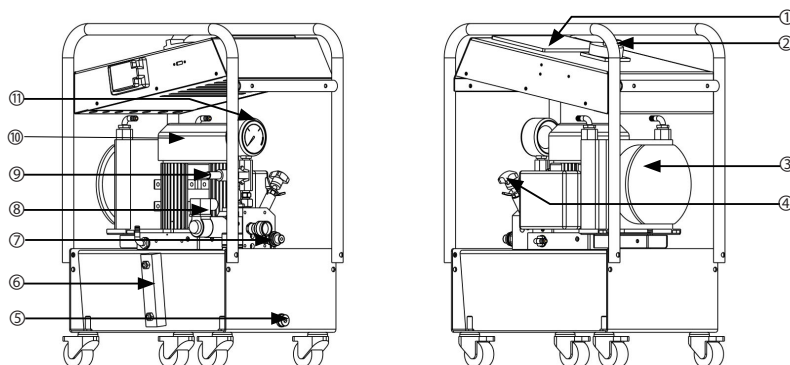


► HETW Product Components:



NO	Name
1	PLC touch screen
2	Mains switch
3	Air Cooling Radiator
4	Relief Valve
5	Oil Outlet
6	Oil Level Gauge
7	Quick Interface
8	Electromagnetic Directional Valve
9	Pressure sensor
10	Power-Driven Machine
11	Manometer

► Component Function Introduction:

► Hand Shank

The HE5TW10-AT is equipped with a three-button handle. The control motor start/stop button remains active, while the other two buttons are self-resetting. They are used to control the pump's start/stop, switch between manual mode and automatic mode. When the motor start button is pressed, the motor will start and run continuously; pressing it again will stop the motor.



► Overflow Pressure Regulating Valve

Before use, adjust the system pressure through the relief pressure regulator before connecting the tool to prevent damage from excessive pressure. When adjusting, first loosen the locking nut of the relief valve and turn the handle of the relief pressure regulator counterclockwise to release it. Connect the power supply and press the button on the handle to start the motor; at this point, the pressure gauge will display the pressure at port R. Next, press the solenoid valve switch button to establish pressure at port A. Continue pressing this button while turning the relief pressure regulator clockwise to reach the target pressure, then tighten the locking nut.



► Solenoid Directional Valve

The electromagnetic directional valve control system supplies oil to port A or port R.

When the solenoid valve is not energized, R port is supplied with oil, R port is connected to the mother joint, R port is the low pressure oil port, and the maximum pressure is 12 MPa;

When the solenoid valve is energized, oil is supplied at port A, which is connected to the male joint and is the high-pressure oil port with a maximum supply pressure of 70 MPa.



► pressure pickup

The pressure sensor can convert the pressure signal into an electrical signal. It can monitor the pressure in real time, trigger protection when overpressure and remind maintenance when under pressure, so as to avoid equipment damage and failure. In terms of control operation, it can feedback signals to the control system, adjust the output parameters of the pump, and cooperate to realize



► R Port Pressure Limiting Valve

The function of the pressure limiting valve is to limit the pressure in port R of the hydraulic pump. When the pressure reaches the set value, the pressure limiting valve opens overflow and makes the pressure no longer rise, so as to protect the components related to this branch from damage due to high pressure.



► Oil Level Gauge

Before starting, check the pump's oil level; it should be above 2/3 of the upper oil gauge. If the oil level is too low, prolonged operation without oil can affect the pump's lifespan and normal use, potentially damaging the motor. When hydraulic oil is insufficient, open the oil filler port and inject the same type of wear-resistant hydraulic oil as the original pump (it is recommended to use ISO VG46 grade hydraulic oil).



◆The oil level should be observed after all actuating elements have returned to their positions.

► Product Usage Steps:

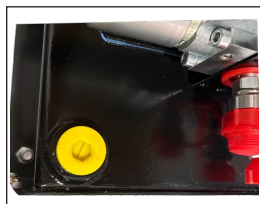
1. Preparation Before Use

-Check that all parts (frame, motor, pressure gauge, etc.) are undamaged, the feet are stable, and all connections are not loose. -Check the rated voltage. HE5TW10-AT intelligent electric hydraulic wrench pump is standard voltage 220V.

-Check the hydraulic oil level of the pump, and the oil level should be above 2/3 of the upper oil gauge. If the hydraulic oil is insufficient, please open the filling port and inject the same type of anti-wear hydraulic oil as the original pump (it is recommended to use hydraulic oil grade ISO VG46). The maximum filling amount is the top of the oil gauge.



Hydraulic oil level gauge



If the oil level is lower than 2/3, please rotate and remove the plug of this out-let, and then carry out the refueling operation.

-Install the exhaust plug, align the exhaust plug with the fuel filling exhaust port, and then rotate it slowly in a clockwise direction until it is tightened to the appropriate degree. Ensure that the tank ventilation function is maintained; replace the exhaust plug during handling or transportation and reinstall the sealing plug to ensure that it is sealed to prevent oil leakage.



Exhaust plug



Install the exhaust plug

- If the exhaust plug is not installed to discharge air, it will seriously affect the normal operation of the equipment. The internal air in the oil tank will cause pressure fluctuation and flow deviation, causing component wear and failure, reducing the smoothness and accuracy of operation.

2. Start And Set The Pressure

- Connect the power supply, press the motor switch button of the handle, touch the generator to run, check whether the motor is running normally, at this time observe the pressure gauge to check whether the initial reading of the pressure gauge is zero.



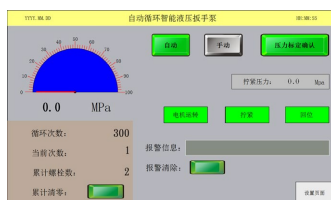
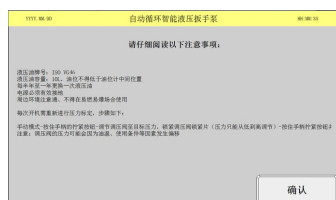
Press the motor start button to start the motor.



In the no-load state of the system, confirm that the initial reading of the pressure gauge is zero.

- If the initial reading of the pressure gauge is not zero or the motor runs abnormally, stop the machine immediately to troubleshoot the fault.

-Interface Introduction



Turn on the power switch on the electronic control box, the electronic control system starts, and the display screen lights up to display the interface of precautions. After reading carefully, click confirm, display the operation interface, click the lower right corner of the operation page to enter the parameter setting interface for parameter setting. After parameter setting is completed, click the lower right corner display page to return to the operation interface.

-Operation interface:

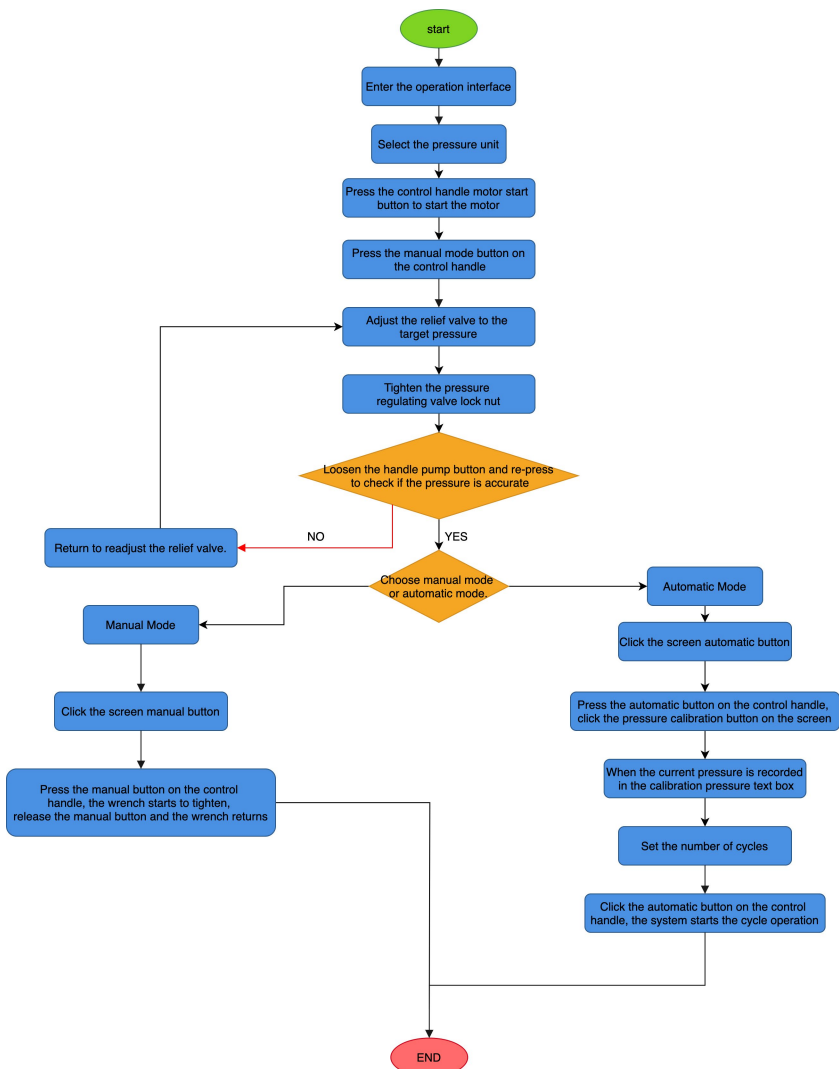
- The operation page has a pointer and a number to display the current pressure. Click on the unit behind the number pressure to convert the pressure unit, which can be converted to MPa, bar and psi.
- The number of cycles is the number of continuous actions in automatic mode, which can be set according to the number of wrench actions required for on-site bolt tightening; the current number is the number of current actions in automatic mode.
- The cumulative number of bolts is the cumulative number of bolts tightened from the last zero to this work. Cumulative zero: Click the cumulative zero button to clear the cumulative number of bolts.
- The automatic and manual modes can be switched manually by clicking the button. The button lights up to indicate that the mode program has been started. ? Pressure calibration confirmation: After setting the pressure, click the pressure calibration confirmation button. The set pressure is collected in the box below and the pressure setting is completed. (Pressure calibration should be carried out in manual mode)
- Motor operation, tightening and return: status display button, which displays the start/stop of the motor and the action state of the wrench respectively.
- Alarm information: Displays current alarm fault information.
- Alarm clearance: If the fault alarm occurs, the fault light will be on and the fault information bar will display the fault information.

After eliminating the fault item, click the alarm clearance button and the alarm button will be off before other operations can be performed.

-Parameter setting page:

- The return pressure is set to the value when the pressure reaches this value during the return of the wrench and the next action cycle will be performed. It is recommended that the set value be 6MPa.
- The tightening delay time is the pressure holding time after the wrench is tightened to ensure the effective action of the wrench.
- The alarm time is tightened. If the pressure does not reach the calibrated pressure within the set alarm time after pressurization, the alarm will be triggered.
- Return alarm time When returning, if the pressure does not reach the set return pressure within the set alarm time, the alarm will be triggered.
- The standby time of the motor is that if there is no pressure and return action switch in the set time, the motor will enter the standby state of shutdown. The motor can be restarted.

-Pressure guidelines are set:

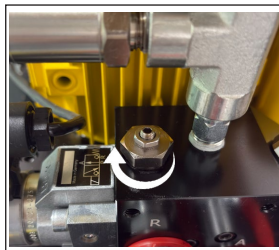


-Return Pressure Regulation Method

1. Loosen the upper locking nut of the R port pressure limiting valve.
 2. Press the pump start/stop switch button on the control handle. At this time, the pressure gauge shows the pressure of port R. Rotate the top adjusting bolt with a hex socket wrench. The pressure increases clockwise and decreases counterclockwise.
 3. After the pressure is expressed as the target pressure, the electric pump is closed.
 4. Tighten the locking nut to complete the R port pressure adjustment.
- ♦ The factory pressure of the R port pressure limiting valve has been set, and generally does not need to be adjusted.



Loosen the locking nut on the relief valve and rotate the relief pressure regulating valve clockwise slowly to achieve the target pressure at port A.

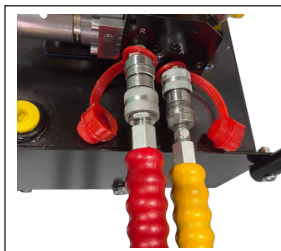


The return pressure is adjusted by the R port pressure limiting valve.

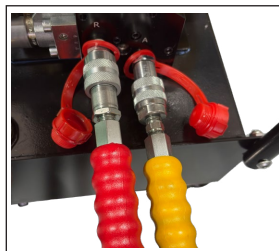
-Connect the hydraulic wrench, and install 8 quick connectors of 4 male and 4 female at the outlet of HE5TW10-AT respectively. The rated pressure of the connectors is 700Bar. It is recommended to use the matching male and female connectors, and equip with high- pressure hose under the same pressure.

♦ Before connecting the oil pipe, please observe whether the pointer of the pressure gauge is 0. If the pressure is not 0, start the electromagnetic directional valve 2-3 times under the condition of power on and motor not started, and then perform other operations after the pressure is reduced to 0.

Press the motor switch button of the handle, and after the motor stops running, keep the hydraulic oil pipe axially aligned and fully push it into the base of the outlet port. Rotate the sealing joint, rotate the outer lock ring clockwise to the limit mark, and then tighten.



The oil pipe is fully pushed into the outlet by axial alignment



Secure the outer lock ring.

♦ When using HE5TW10-AT, it must be connected to a joint or hose with the same pressure or higher pressure. Connecting a joint or hose with a lower pressure rating may cause the joint to fly out or the oil pipe to break, thus causing personal injury to the user.

3.Operation And Adjustment Of The Work

- Start the electric pump, confirm that the pressure has been set and the load equipment is connected correctly, then press the motor start button on the control handle to start the electric pump.
- In the process of work, pay real-time attention to the pressure gauge value, and adjust the overflow pressure regulating valve to stabilize the working pressure of the system at the target value, so as to ensure that the pressure fluctuation is controlled within a reasonable range.
- ♦There may be a deviation between the mechanical pressure gauge and the screen display pressure. Please take the mechanical pressure gauge as the standard and calibrate the mechanical pressure gauge regularly.

4. Monitoring During Operation

- Pressure monitoring:** pay real-time attention to the pressure gauge value, and adjust the overflow pressure regulating valve through fine adjustment to maintain the working pressure of the system at the target value, so as to ensure that the pressure fluctuation is controlled within the range of $\pm 0.5\text{MPa}$
- Oil level monitoring:** continuously observe the oil level of the oil gauge. If the oil level is lower than 1/3, stop the machine immediately and wait for the equipment to cool down. Then slowly inject an appropriate amount of ISO VG46 hydraulic oil through the oil filling exhaust port to restore the oil level to the normal range. During the oil filling process, pay attention to avoid impurities mixed into the hydraulic oil.

5.Release Pressure And Shut Down

- Close the motor:** After the work is completed, press the motor stop button on the control handle first, close the motor, then cut off the power supply, pull out the power plug, and ensure that the equipment is completely powered off.
- Remove the oil pipe:** After the system pressure is completely reduced to 0, carefully pull out the hydraulic oil pipe. When removing the oil pipe, pay attention to avoid the splashing of hydraulic oil in the oil pipe, so as to prevent injury to personnel or pollution of the working environment. After removing the oil pipe, properly organize and store it for next use.

► Troubleshooting:

Troubleshooting Guide		
Issue	Possible causes.	Solution
1. The pump does not start	Not connected to a power source.	Check whether the circuit is connected normally and restart.
	The electrical circuit of the pump is short-circuited or tripped.	Check whether the circuit is connected normally and restart.
	The voltage is too low.	Check the voltage and turn off other electrical loads.
	The socket cord is too long and too thin	Replace the high-power socket strip
	The handle button is damaged.	Contact the manufacturer for repair.
	Pump components are damaged.	Contact the manufacturer for repair.
2. The motor stops during pressurization	The voltage is too low.	Check the voltage and turn off other electrical loads. Replace the strip and check the input voltage.
	Current overload	Check the system for large damping terms that are causing overpressure.
3. The pump is not pressurized or the upper pressure is too low	Insufficient amount of oil.	Check the oil level and inject new hydraulic oil.
	The electromagnetic unloading valve opens.	Check the energization of the unloading valve.
	Leakage from the outside of the pump.	Observe leaks and carry out repairs or replacement of accessories.
	The hydraulic oil is too dirty and blocking the suction port.	Change the hydraulic oil and clean the suction port.
	Leakage inside the pump.	Contact the manufacturer for repair.
	System leaks.	Check for system leaks and repair them.
4. The system establishes pressure, and the tool does not move	Overloaded.	Check and select the right load.
	System congestion.	Check if the system is clogged and unblock the system.
5. The flow is too small	The hydraulic oil is too dirty and blocking the suction port.	Change the hydraulic oil and clean the suction port.
	There is a throttle valve in the system	Adjust the throttle flow.
	System congestion.	Check if the system is clogged and unblock the system.
6. The tool cannot be returned normally	The tool backstroke has a large damping	Check and remove the large damping term.
	The system has a return throttle valve.	Check the system and adjust the throttle valve.
	The system throttle valve adjustment is smaller.	Check the circuit and readjust the flow valve.
	Motor failure.	Contact the manufacturer for repair.
7. Severe fever	The system throttle valve adjustment is smaller.	Check the circuit and readjust the flow valve.
	Motor failure.	Contact the manufacturer for repair.