EPX2000

Electric Hydraulic Pump Station

User Manual

EPX2000

Instruction Manual of Single-acting Electric Pump

1. Purpose

1.1 This hydraulic pump station is suitable for hydraulic tensioners, hydraulic nuts, jacks and other hydraulic tooling.
1.2 This hydraulic pump station is suitable for single-acting jacks.
1.3 When lifting or lowering a load that exceeds the capacity, there will be danger, because the hydraulic circuit board is designed according to the actual use.
1.4 When this product is used outdoors, do not contact with rainwater.
1.5 The pump station can work continuously for a long time.

2. Introduction

2.1 Features of each part of hydraulic components
(1) This product can work efficiently within the permitted technical parameters.
(2) This product has the characteristics of light weight, large flow, air cooling system, compact appearance and so on.
(3) This product is convenient and simple to operate.
(4) This product is easy to maintain.
2.2 Operating temperature range: -20℃ — 60℃
Application range of normal temperature: 15℃ — 50℃
2.3 Working oil
Please use mineral anti-wear hydraulic oil grades L-HM32 or L-HM46; brands: Mobil, Shell, Kunlun, etc.
2.4 Instructions
Reference picture
2.5 Name of each component
Reference picture

3. Safety instructions

Warning: Although the operation according to the instruction manual will not cause accidents, this instruction manual cannot cover every aspect, so safety should be the first priority when operating.

3.1 Selection of equipment system

(1) When working, please choose a jack or tensioner with sufficient lift.
(2) The number of tools connected to the hydraulic pump should be appropriate.
(3) Please pay attention to the maximum load of the tensioner and hydraulic pump during operation.
(4) Select the tensioner that can meet the load lifting and working pressure, and the hydraulic pump and high-pressure tubing that meet the corresponding technical requirements.
(5) When the hydraulic pump is connected to multiple tensioners, please use a flow divider.

3.2 Precautions for using working oil

(1) Use the working oil recommended in this manual.
(2) Do not mix different types of working oil, and do not mix working oil with lubricating oil.
(3) Since the working oil will deteriorate with the increase in usage, please change the working oil regularly.
(4) When adding working oil, please add it from the oil port, do not mix it with other liquids.
(5) The height of the oil level should be within the range specified by the level gauge on the oil

tank.
(6) As the working oil is flammable, please avoid welding work around the equipment.

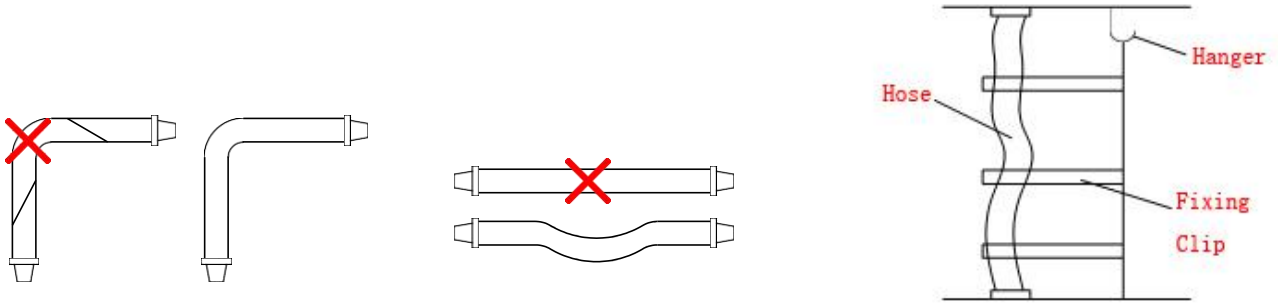
3.3 Precautions for operating hydraulic system
(1) Do not reinstall the security system and other equipment without authorization.
(2) Do not disassemble the safety system privately and change the installation location of the equipment.
(3) Do not modify the hydraulic system and control circuit without permission.
(4) Please use the hydraulic system correctly according to the instruction manual.
(5) Before operating the hydraulic system, please check and ensure that there are no obstacles around the equipment and ensure the safety of the operators.
(6) Equipment operation and maintenance must be performed by professionals.
(7) Once oil leaks, repair it immediately. Do not just let the oil leak, so as to prevent the leaked oil from sticking to the soles of shoes and causing accidents
(8) If any abnormal phenomenon is found during operation, please stop the equipment immediately and solve the problem.
(9) If you need to maintain, inspect and clean the equipment, please turn off the equipment and cut off the power supply.
(10) If you need to check and repair the hydraulic system, please release the pressure in the pipe first, unload the hydraulic pump station, and ensure that the equipment is under no pressure.
(11) To release the air in the hydraulic pipeline, please run the hydraulic pump slowly several times.
(12) When the noise inside the pressure pump is too loud, this is due to problems in the equipment or air in the pipeline, you need to check the oil volume in the tank, the hydraulic oil type, check whether the filter is blocked, and then release the pipeline pressure and Check whether the parts produce abnormal friction. Once a problem occurs, it is very important to compare the noise during normal operation with the abnormal noise.

3.4 Installation of hydraulic pump components and operation precautions
(1) Turn on the power supply.
(A) Use the power supply specified by the engine to connect to the engine.
(B) If you need to use an extension cable, please use a cable with a cross-sectional area greater than 4 square millimeters and a length less than 20 meters to avoid voltage drop.
(C) The ground wire must be connected.
(2) Do not modify the set pressure of the safety valve without authorization, otherwise it will cause danger.
(3) This pumping station cannot be used to carry the load for a long time, in case the load drops suddenly, which may cause danger.
(4) The installation should be stable and firm.
(5) Environmental conditions.
(A) Do not use in an environment with explosive gas or flammable gas.
(B) Standard hydraulic pumps are used indoors. If you need to operate outdoors in rain, be sure to take precautions.
(6) When the hydraulic pump is damaged or out of repair, do not use it.

4. Precautions for using high-pressure tubing

4.1 Installation considerations
(1) When connecting hoses, check the joints carefully and not block the hydraulic circuit. The wrong connection can cause problems or even danger to the tensioner.
(2) Tighten the connecting nut, if the connection is not firm, it will be dangerous in use.
(3) The sealing part should be cleaned before connecting the pipe joints to avoid other substances.
(4) The length of the installed hose should exceed the minimum bending radius.

(5) The pipeline should be laid when the hose is not forced to bend.
Once the hose is over 5 meters that needs to be suspended, it should be fixed with a fixing clip.
For the length used on the ground in the future, a suitable fixing clip should be provided to fix it.
(6) Folding and bending
When installing, the hose should be flat and slightly bent, otherwise the hose will be broken. (Figure 1)



Twist

Figure 1

4.2 Check hose
The hose should be replaced in the following situations
(1) There is oil leakage in the hose.
(2) The outside of the hose is damaged or the reinforcement layer is exposed.
(3) The hose is deformed (dents, swelling, twisting).
(4) The outside of the hose is deformed by a strong blow.
(5) The sealing surfaces at both ends of the hose are deformed.
(6) Even if there is no obvious appearance abnormality (such as natural deterioration, accumulated working time), it needs to be replaced regularly.
After two years of use, it should be replaced according to the degree of aging. The product delivery date is based on the certificate.
(Note) Once it has been used for more than one year, a heavy stress test should be carried out. After ensuring that there is no abnormality, it can be used.

4.3 Operation precautions
(1) When the equipment is running, do not touch the pipes and hoses.
(2) Do not pull the hose to move the stretcher and hydraulic pump.
(3) Do not loosen the joint when the pressure rises. (Dangerous consequences of pressure oil splashing and falling of the load)
(4) Do not place objects on the hose.
(5) Do not work near the hose (such as welding, etc.).
(6) Due to the steel wire reinforcement layer inside the hose, the high-pressure oil pipe is not insulated.
(7) Please use high-quality connectors.

4.4 Storage
(1) Avoid exposing high-pressure oil pipes to the sun.
(2) Avoid contact with dust.
(3) Avoid damaging high-pressure oil pipes.

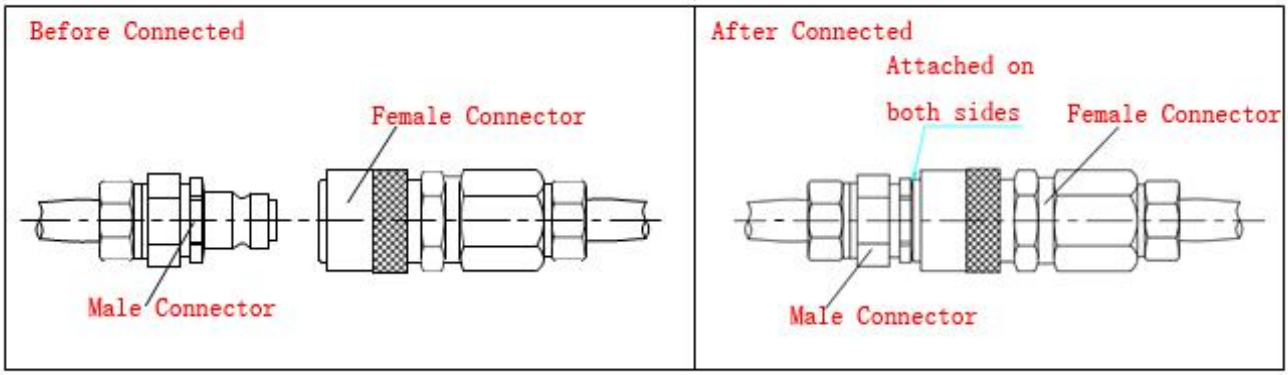
5. Check the hydraulic pump before use

5.1 Hydraulic pump installation

Install the hydraulic pump in a corresponding safe and stable location.

5.2 The power connection must be secure and safe

5.3 Pipe connection
Ensure that the correspondingly required high-pressure oil pipe or steel pipe is used to connect the tensioner and the hydraulic pump.
Connect the connector of the hose to the connector of the tensioner, and make sure that it is fully inserted.
Avoid dirt on the joints. The connection form is shown in Figure 2



5.4 Check the oil level
When the bolt tensioner shrinks, check whether the oil level of the liquid level gauge in the oil tank is normal.
If the oil is found to be lacking, it should be refueled to the normal use level, and dirt should be prevented from entering the fuel tank during the refueling process.

5.5 Venting the fuel tank
When the hydraulic pump is used, prevent the vent of the fuel tank from being blocked. If the fuel tank vent is blocked during operation, accidents and dangers will occur.

5.6 Check the appearance

6. Operation sequence description

(1) Turn the unloading valve to the "closed" position.
(2) Press the electric control handle button "ON" and the hydraulic pump starts to work and the tensioner is lifted. When the set pressure is reached, the motor stops and the pressure is maintained.
(3) Loosen the unloading valve (turn it counterclockwise) and the tensioner will reset.
(4) Please adjust the set pressure according to the actual pressure; do not work with overload.
(5) When setting the pressure, it should be under the operating pressure of the tensioner or with only the oil pipe connected.

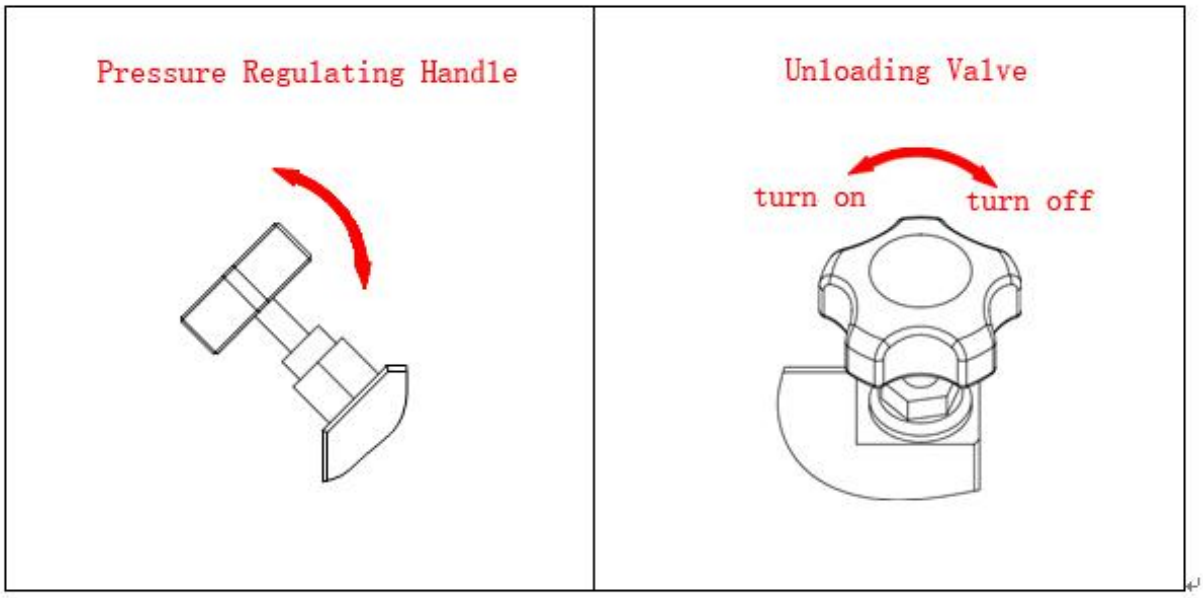


Figure 3

7. Equipment components description

7.1 Pressure regulating handle (pressure regulating valve)

(1) Composition of pressure regulating handle (pressure regulating valve)

Model	Set Pressure	Adjusting Screw	Spring	Cone Tip	Cone Seat
EPX2000	0-200 MPa	M8	Piano wire	Alloy	Alloy

(2) Operation of pressure regulating handle (pressure regulating valve)

Rotate the adjustment screw to change the pressure

Rotate to the right (clockwise)——pressure rises

Rotate to the left (counterclockwise)——pressure drops

Please adjust the pressure as needed, and observe the change of the pressure gauge pointer when adjusting the pressure.

7.2 Safety valve

The operation must be carried out under the guidance of an experienced operator, and the safety valve screw shall not be adjusted without authorization.

It is dangerous to adjust the safety valve for no reason.

8. Motor description

8.1 Operation precautions

Check the motor for damage or other abnormalities.

The motors are all brushless motors, which may produce sparks when starting; pay attention to the operating environment.

8.2 Precautions for replacing accessories
When replacing parts, it is recommended to use the original manufacturer parts.
Manufacturers specify brand or well-known brand accessories.

9. Daily inspection by the operator

Item	Check Item		Notes before operation	Daily notes
	Item	Check equipment, Usage, Warning, Note	O	O
Appearance check	Hydraulic pump components	no cracks, no damage	O	O
	Oil leakage	No abnormality	O	O
	Dust and foreign matter	The surface of the hydraulic pump is clean	O	O
	Mounting bolts	no damage, no looseness	O	O
	Engine switch	no damage, no looseness	O	O
	Hose	no abnormalities, intact	O	O
Operation check	No loading operation	No abnormality (sound, vibration, speed, etc.)	O	O
	Loading operation	No abnormality under the maximum pressure, sound, output pressure, speed and other parameters are normal	O	O
	Performance test	Engine output current, valve operation, displacement, output pressure, safety valve, etc. function normally	—	O
Working oil	Check the degree of deterioration	Reddish brown (oxidized), milky white (mixed with water), Dark brown (deteriorating)	—	O
	Oil volume	Is it sufficient (check the oil level gauge)	O	O

Notes:
(1) Check before use
Ensure that the hydraulic pump can work normally during operation
(2) Normal inspection
Detect the wear level of equipment in daily use and record it
The frequency of use
(A) Less used (one hour per week) ……every season
(B) Frequently used (one hour per week) ……monthly
(C) Frequent use (four hours per week) ……Weekly
(1) Once a problem with the equipment is found, perform visual inspection and operational inspection first, and then disassemble the equipment to check whether there are cracks or damaged parts inside.

9.2 Manufacturer maintenance
(1) Once an abnormality is found in the daily inspection, please repair it in time and do not continue to use it.
(2) Daily maintenance
Please check and maintain the equipment by the manufacturer within three years after purchasing the equipment or regularly every year.
Every year: frequently used
Within three years: less used
Note) Please contact us or our agent. Repair costs will be on you.
9.3 User check
(1) Working oil
(A) The quality of working oil affects the service life and loss of hydraulic equipment. Please keep working oil away from dirt, dust, impurities and rain.
(B) Change the working oil. Change the working oil at least twice a year
Deterioration of working oil: When the color of the working oil is reddish brown, milky white, or dark brown, the working oil needs to be replaced.
(2) Storage
Protect the hydraulic pump with a cover to prevent moisture from entering, and store the hydraulic pump in a dust-free and dry place.

10.Common problems, causes and solutions

Common problems	Causes	Solutions
Engine not working	Power failure or loose connection	Repair or tighten
	Power failure or loose connection	Replace
	Voltage is too low (between rated voltage ±10%)	Ensure the correct voltage
	Motor burned out	Replace
	pump damaged	Replace or repair hydraulic pump
Abnormal intermittent of the motor. The engine stops working when the pressure rises	Voltage is too low	Connect to standard voltage Change to a thicker cable or connect a power source closer
	The cable cross-sectional area is too small to provide enough power	
	The distance between the hydraulic pump and the power supply is too long	
Pressure does not rise	Not enough working oil	Fill the hydraulic pump
	Blocked vent	Unblock the vent
	The tensioner and the pipe are not smooth.	Unblocked pipeline
	oil leakage inside hydraulic pump parts	Replace or repair hydraulic pump
	Oil leakage from fittings, pipes or tensioners	Tighten the screws or repair
	The filter is blocked (the hydraulic pump is often with noise)	Clean the filter and replace with new oil
	Working oil temperature is too high (above 60℃)	lower the temperature
	Damaged hydraulic valve or control valve	replace or repair
	Wear of thimble, cone seat or steel ball in unloading valve	replace
The hydraulic pump is running normally, but the tensioner is not running, or the running speed is too slow	Loose pipe joints	Tighten the screws
	The inner diameter of the hose is too thin or the flow resistance is too high	Choose a hose with the correct inner hole diameter
	Damaged seal	replace or repair
	Oil leakage	repair

11 Warranty

The product enjoys a one-year warranty after being sold. During the warranty period, if the product is damaged due to quality reasons, we provide free replacement and repair services.

In addition, we are not responsible for any losses caused by natural disasters and accidents, as well as damages caused by unauthorized removal of equipment, repair of equipment, and supplement of consumables.

The warranty is limited to the products we sell.

The following problems are not covered by the warranty:

(1) The hydraulic pump is not installed in accordance with the instructions

(2) There is a problem with the connection between the hydraulic pump and other equipment.

(3) Problems caused by the user's unauthorized modification of the hydraulic pump.

(4) Problems caused by repairs by other manufacturers that are not repaired by the specialized repair manufacturer.

(5) Problems caused by improper customer maintenance management.

(6) Problems caused by not following the instructions when operating the equipment.

(7) Hazards caused by earthquakes, fires, floods, tsunamis, gas leaks, or any irresistible human force.

(8) The problem of secondary damage to the hydraulic pump station caused by user equipment.

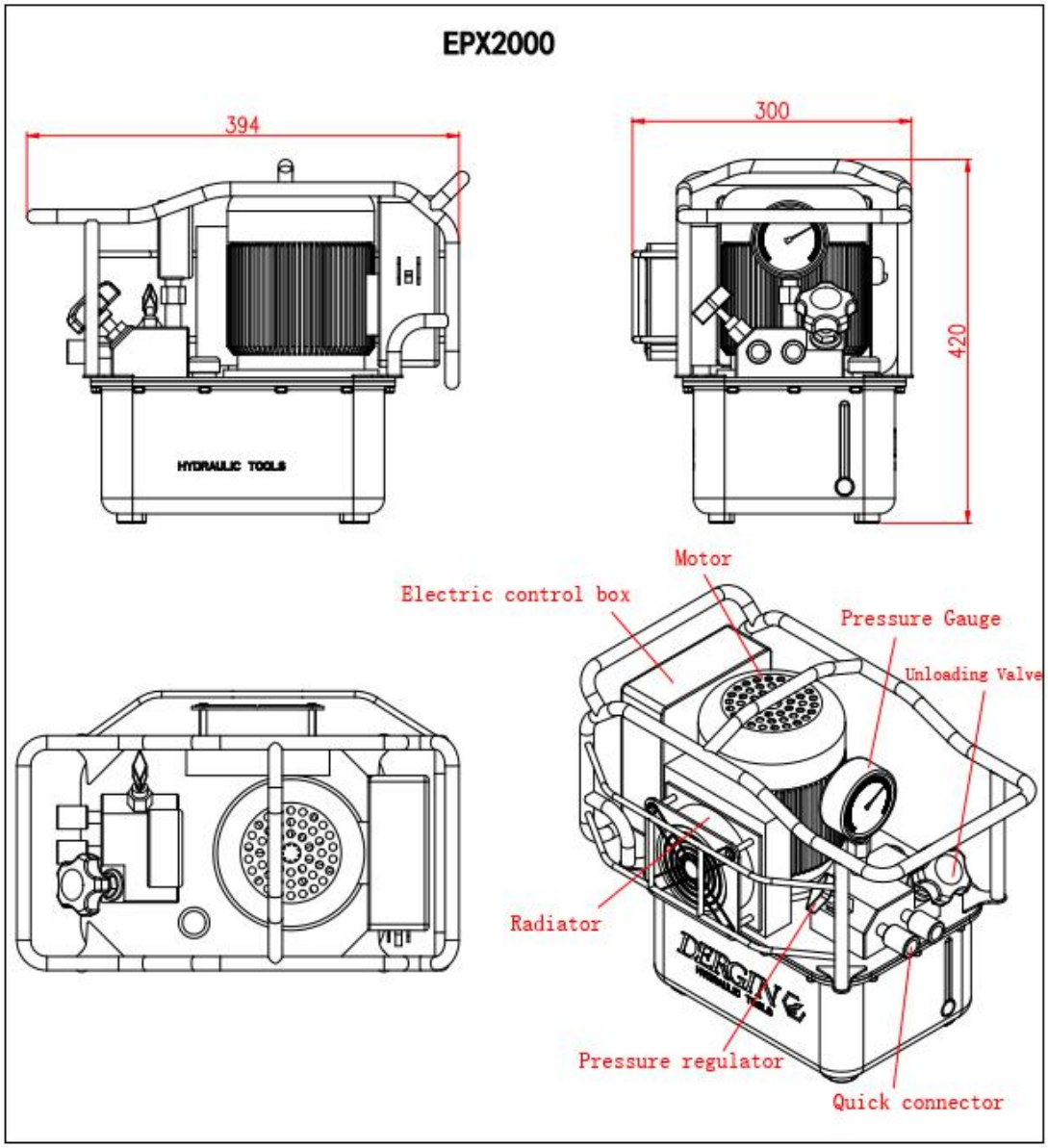
(9) The equipment has problems caused by the customer's use of self-made parts.

All damages caused outside the scope of our responsibility.

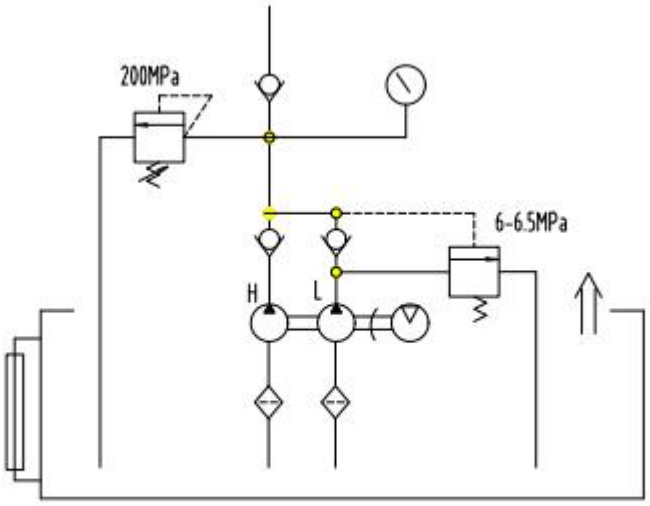
Model	Fuel tank capacity	Flow	Output pressure	Input power	Power	Volume	Weight
	L	L/min	MPa		KW	L*W*H	Kg
EPX2000	8	2.5	3	220V/50Hz	1.1	394*300*420	23
		0.3	200				

12. Pump station outline, hydraulic schematic diagram

(1) Pump station outline



（2）Hydraulic schematic diagram



After-sales service

Please read this manual carefully before requesting our after-sales service department to repair this pump. Please do not repair this pump yourself without the approval of our authoritative department.