



# YL-650E

## Installation & Operation Manual



### Special Note

▲ When you receive the car hoist , Please check if the packaging is damaged and if any accessories are leaking out.

▲ Read this manual carefully before installation and follow the instructions in this manual.

▲ The lift should be installed in a sufficiently large space to allow unrestricted operation and a safe distance.

▲ The lift must be installed on a sufficiently strong ground. Min 104mm to 200mm

▲ The lift should not be installed minimum 200mm from edge of concrete

▲ The lift should not be installed in an environment with large amounts of dust, chemicals and other corrosive media.

▲ Before installation, check whether the power supply is consistent with the instructions and the nameplate of the lift.

## **Warning:**

▲ It cannot be installed on loose and brittle ground such as asphalt and tiles

▲ It cannot be installed on concrete with large defects

▲ The pre-cast of conduit and other forms of power connection must comply with the relevant wire installation regulations.

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## **Common tools for installation of lift:**

Bar level, 5 meter steel tape measure.

Open wrench assembly 10mm-24mm

One set of internal hex key wrench assembly

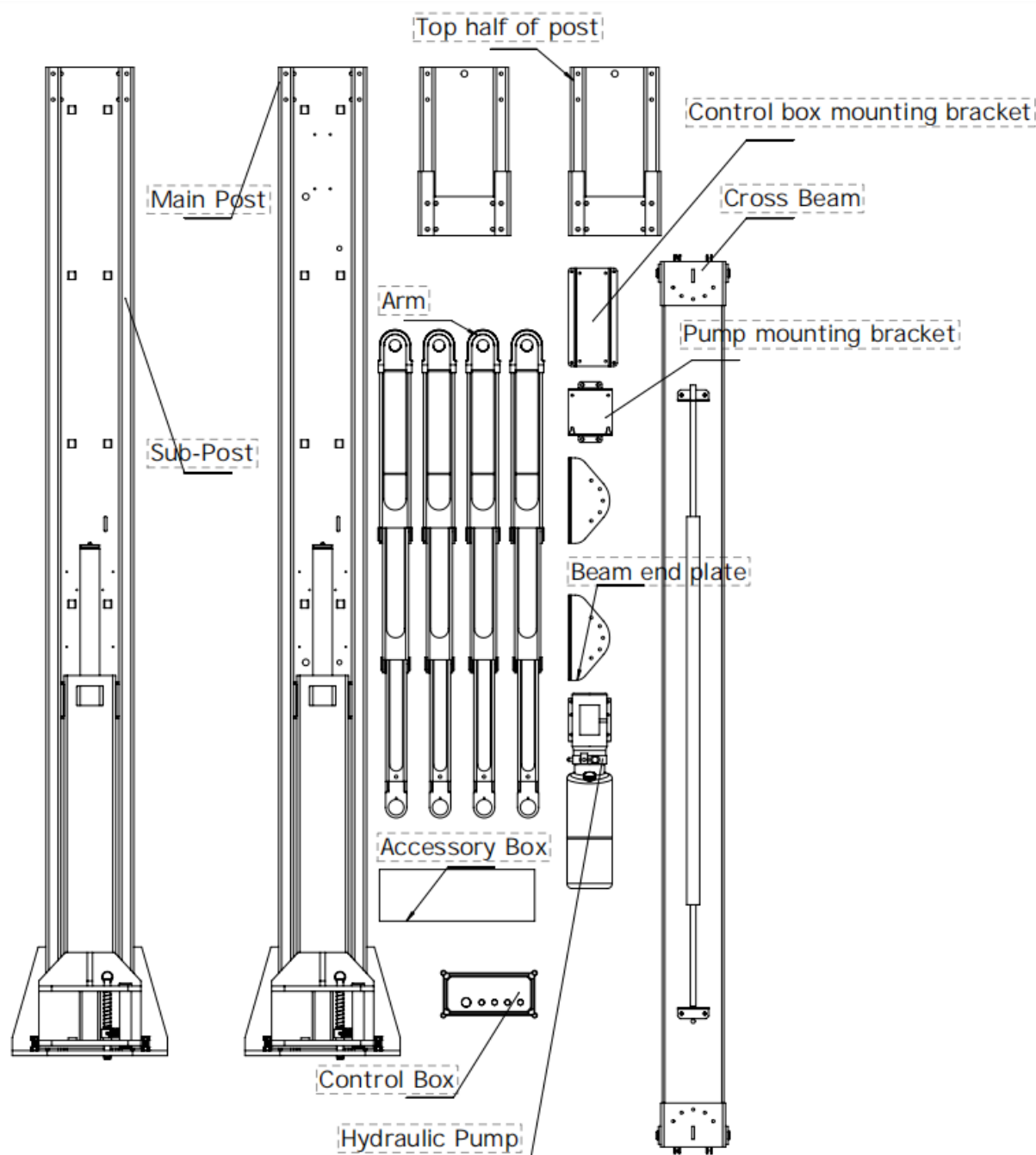
150mm Phillips screwdriver

Hand hammer 3Kg, impact drill

Activity wrench 40mm impact drill bit  $\Phi 20$

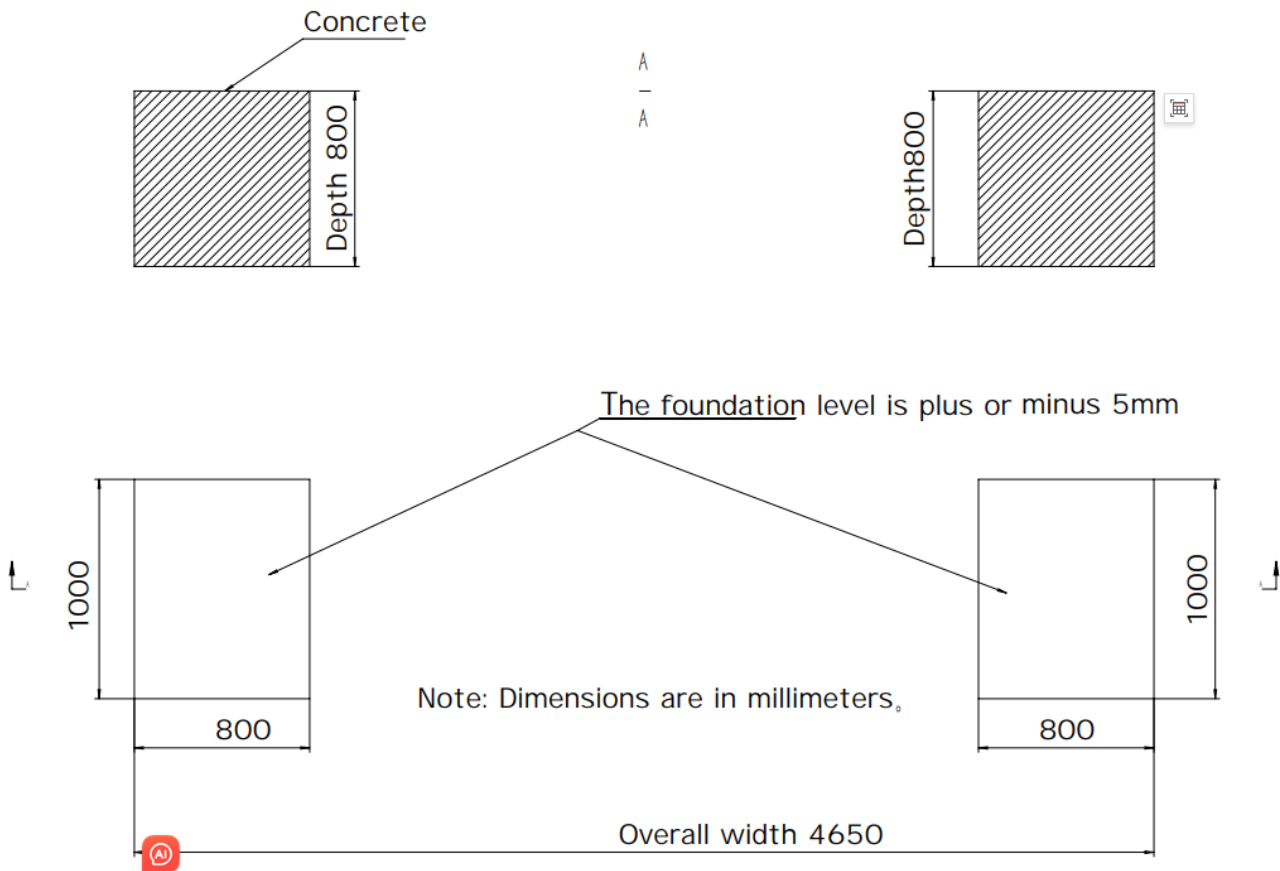
Electrical engineer's multimeter

## **1、 Overall structure of the lift**



Open the hoist package to check whether the parts are complete and undamaged. If any of the above occurs, please contact the manufacturer, dealer or transportation department in time.

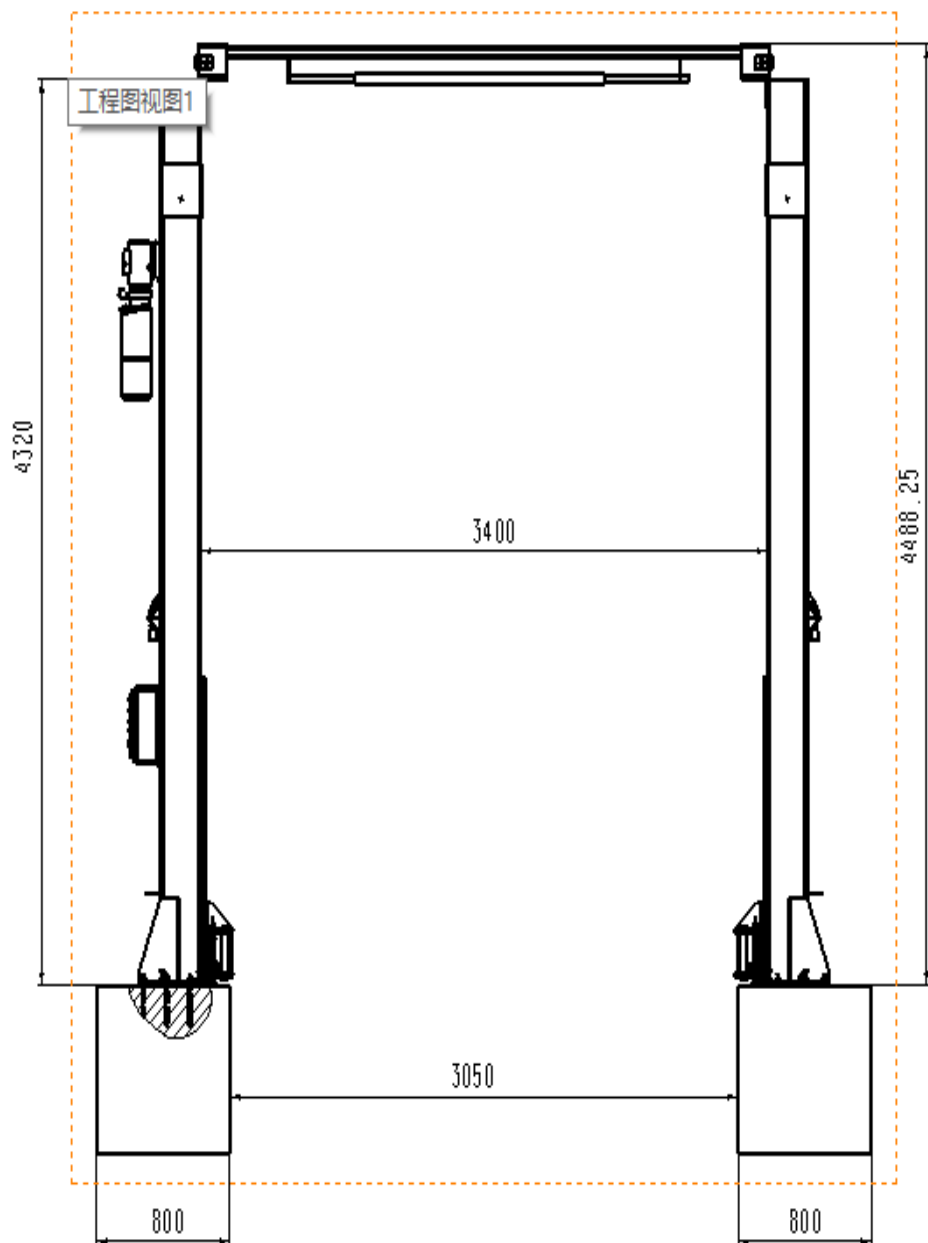
## 2、 Installation size and schematic diagram of the lift



The easiest installation method of the hoist is to determine the position of the main column, install and connect it horizontally according to the site, lift the whole side, fix the main column, measure the width between the two columns and the parallelism of the side of the column, and then fix the auxiliary column.

If it is not convenient for personnel to install a single column alone, it must be equipped with climbing equipment, and the climbing installation personnel must

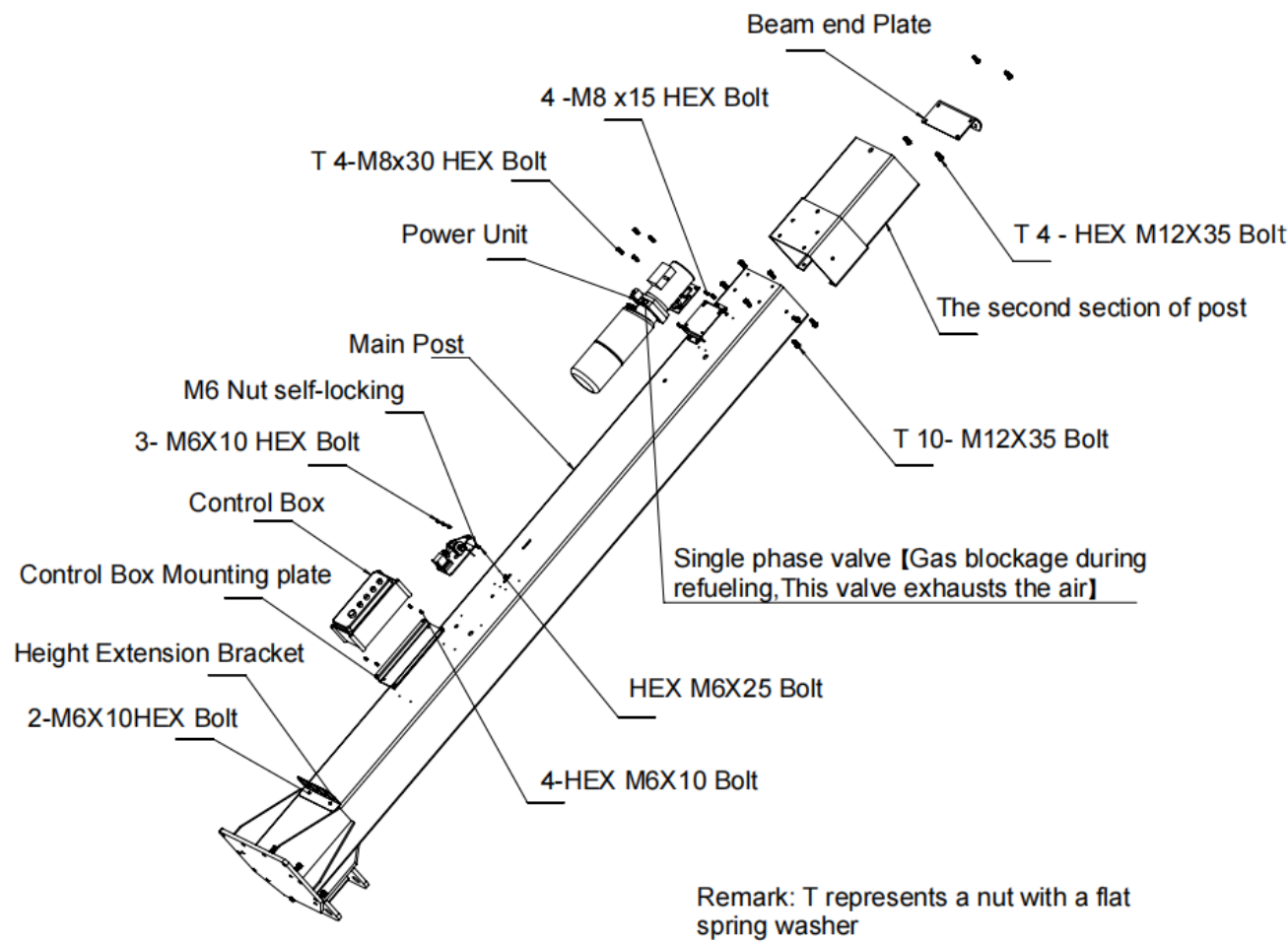
have safety rope protection to avoid safety problems. [as shown in the figure]



Note: The hoist uses AW46# hydraulic oil 16L [if the temperature in winter is

greater than or equal to-10, AW32# can be used for a short time]

Column installation drawing



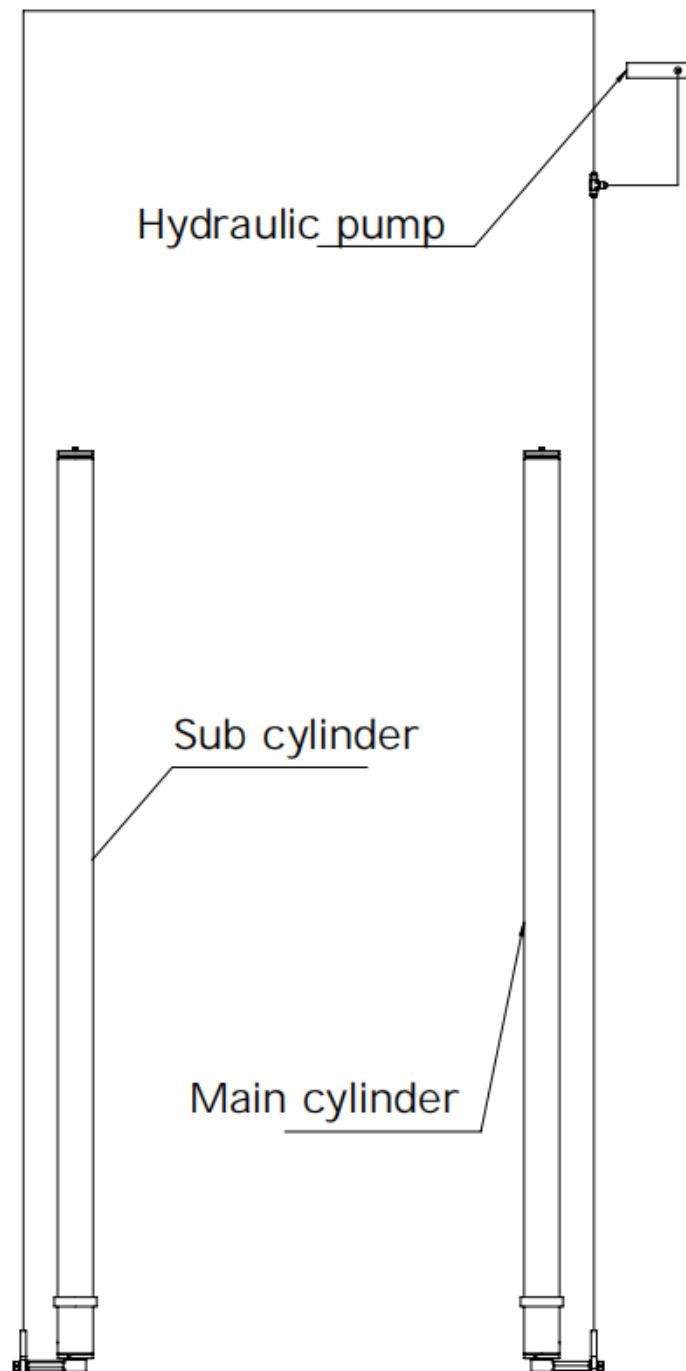
Note: The three-phase motor needs to be adjusted to turn left and right, while the

single-phase motor does not need to be adjusted. [Right rotation is forward rotation]

The external hexagon bolt on the front of the valve plate is a single-phase valve.

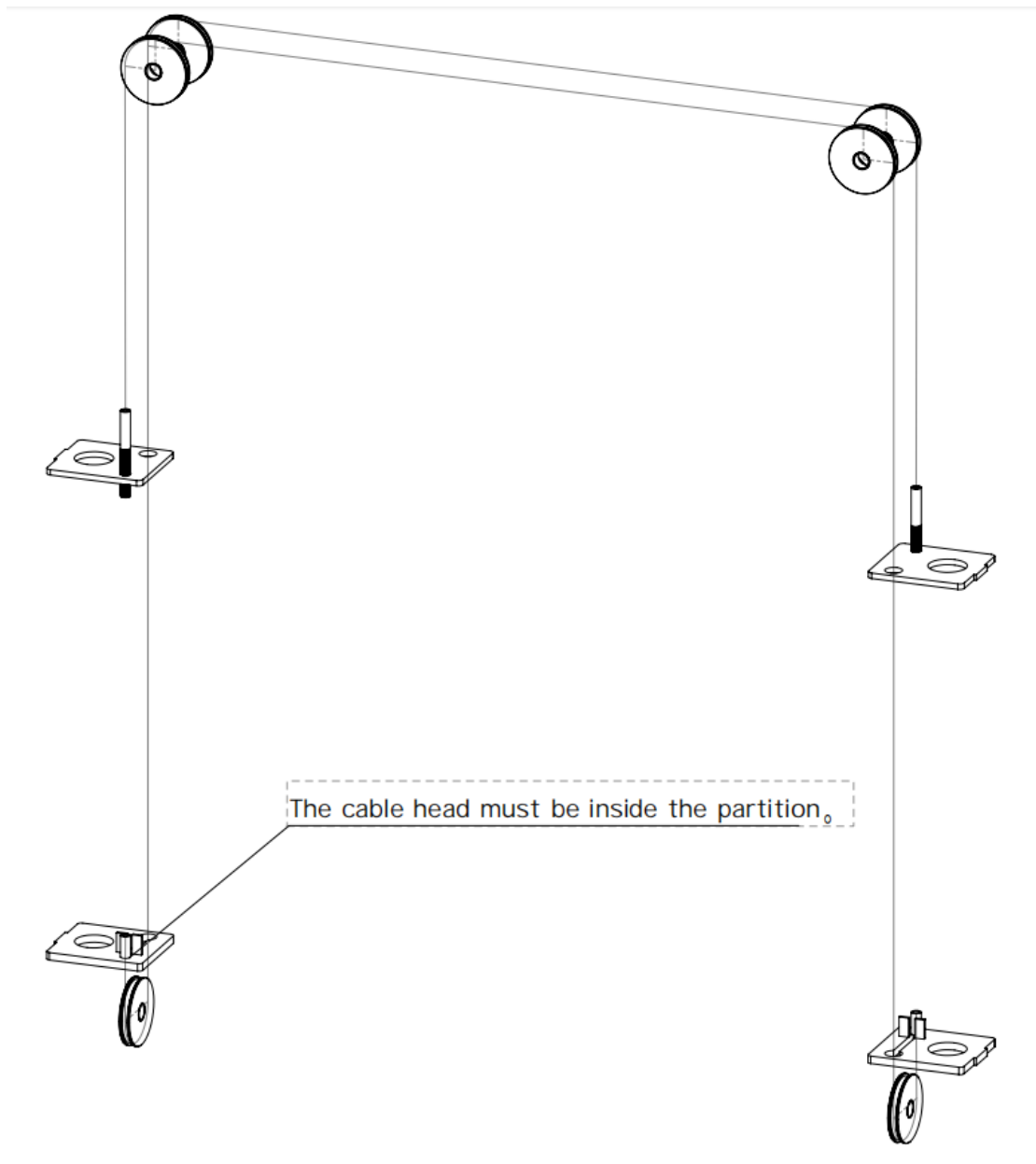
### **3、Hydraulic schematic diagram of the lift**





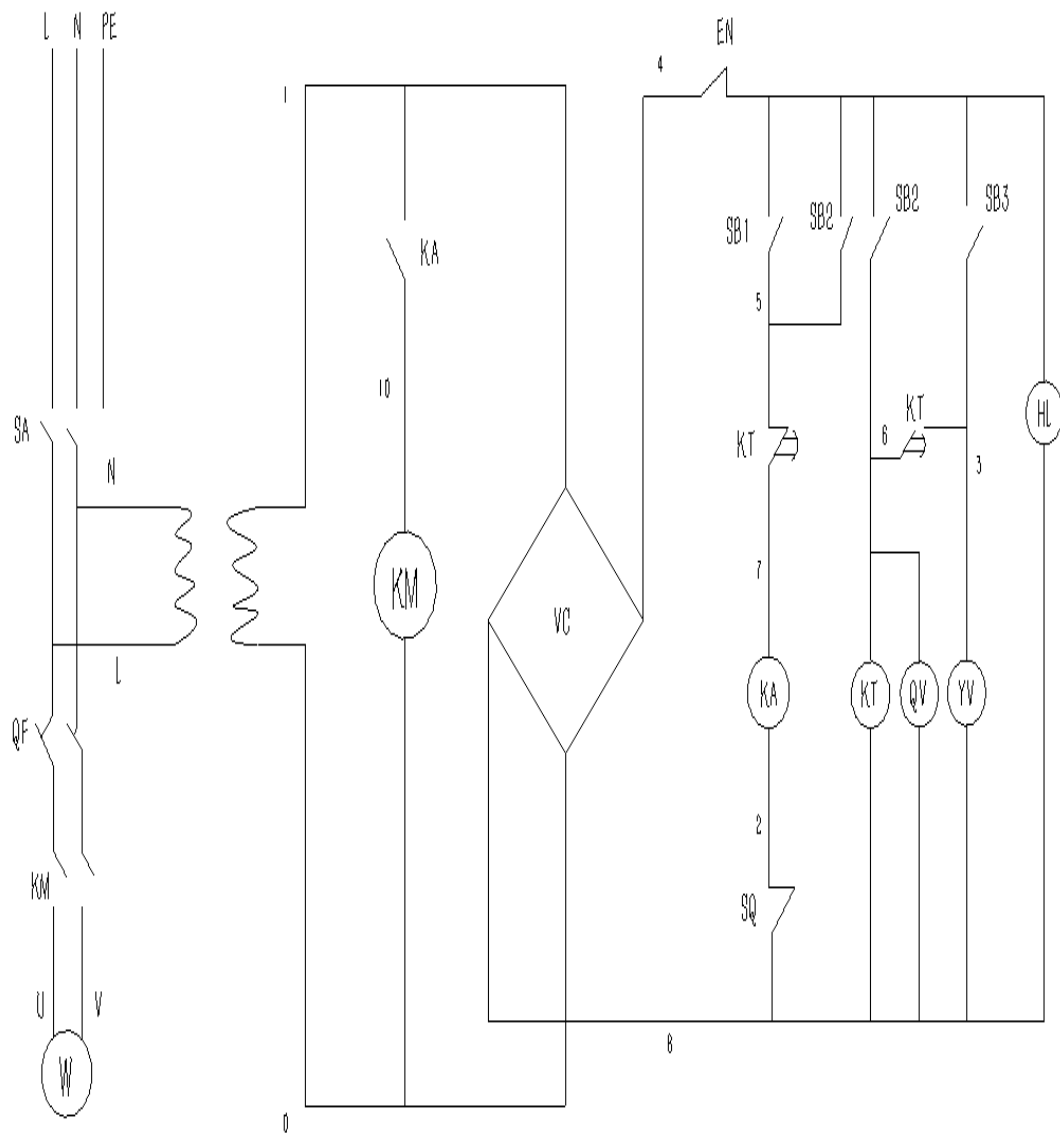
Note: The oil pipe passes through the outside of the steel wire rope pulley at the diagonal corner of the crossbeam.

#### 4、 Schematic diagram of lifting cables



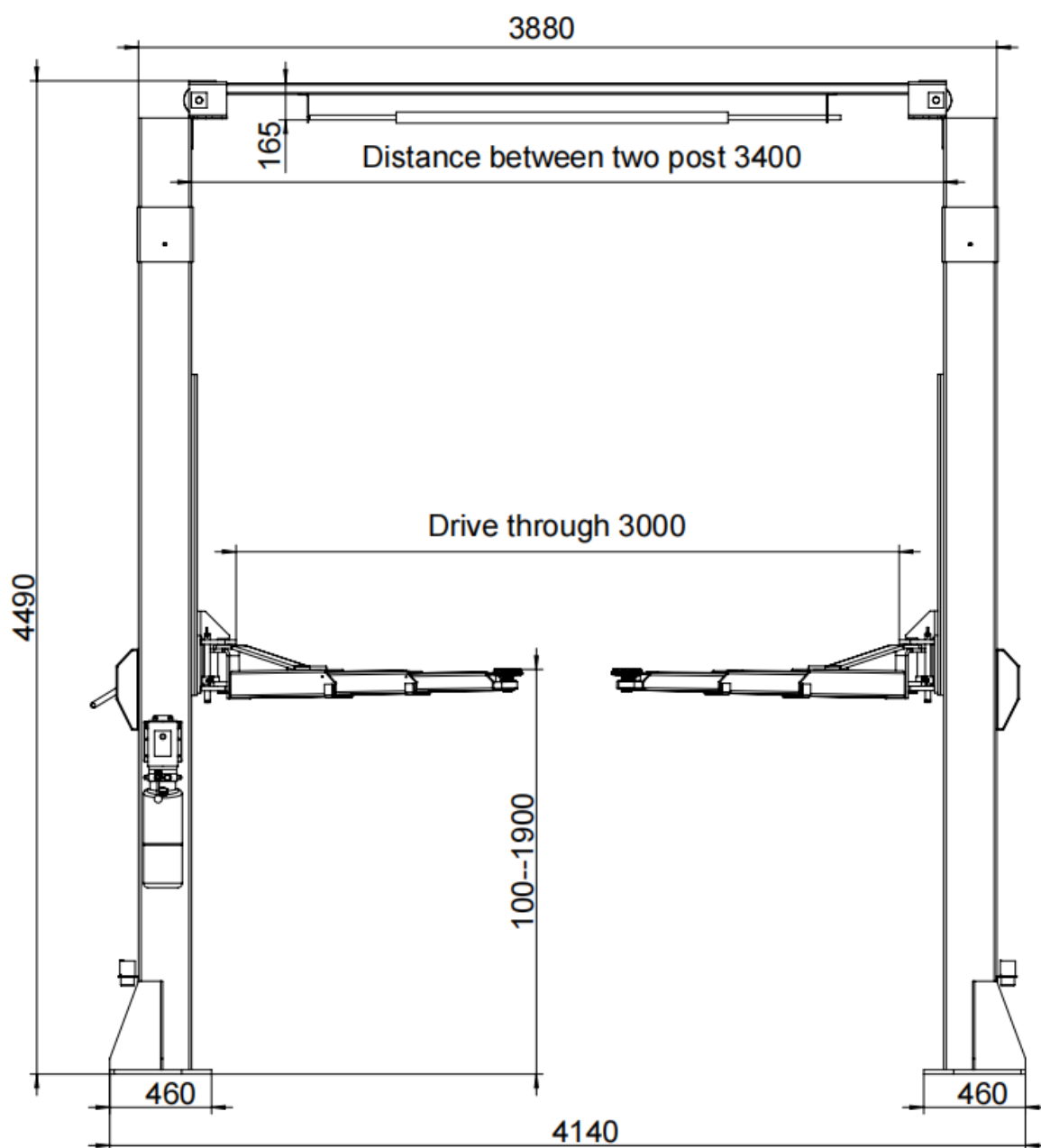
Note: The steel cables bolt must be installed with 2 nuts.

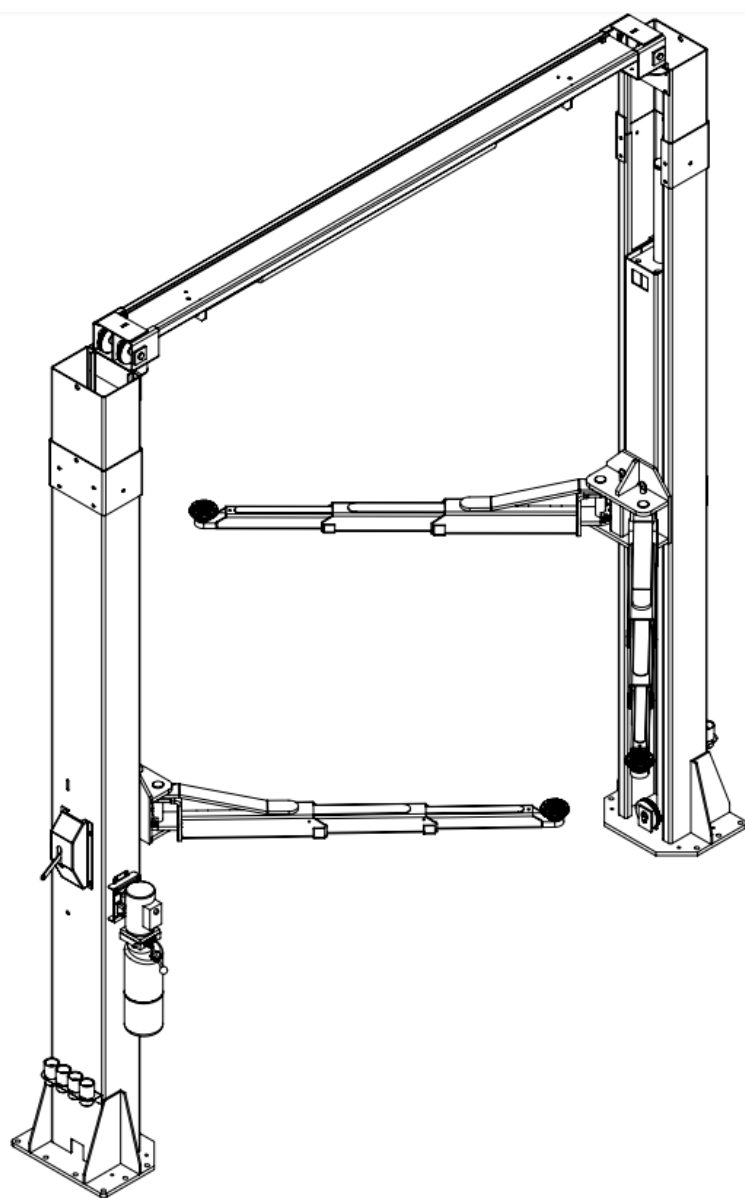
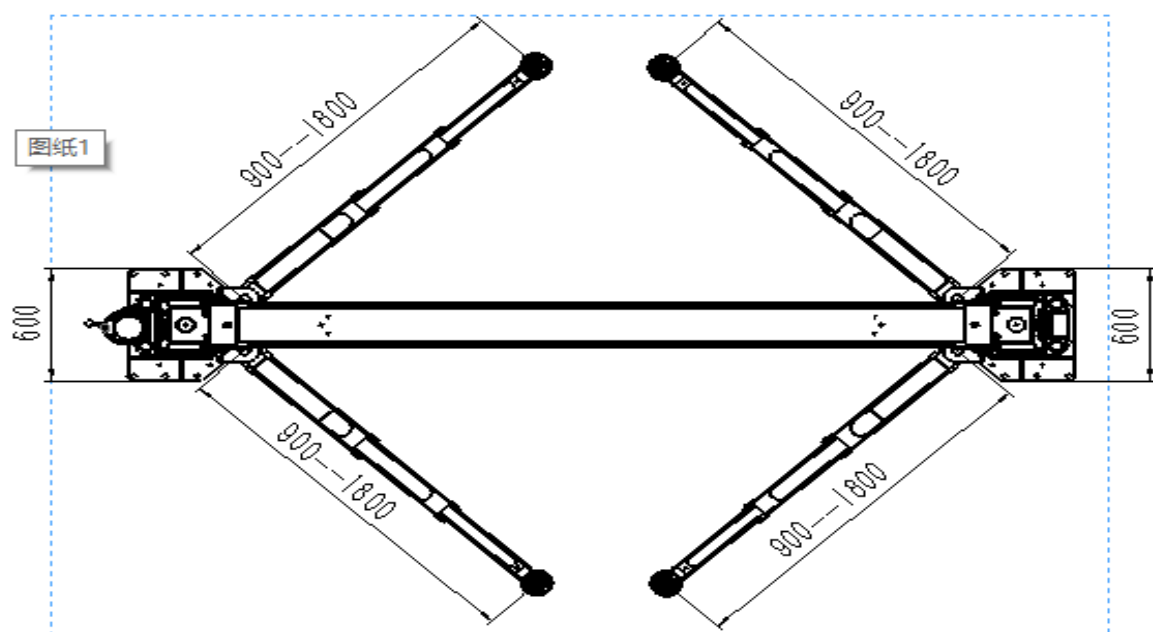
## 5、Lifting machine electrical schematic diagram



Note: The electrical components in the electrical box may be loosened under transportation vibration, which can be removed and reinstalled.

## 6、Lifting machine size diagram





## **7、 Lifting machine operating procedures**

### **7.1 Safety precautions**

Operators must be professionally trained and familiar with equipment performance and operation methods.

- Do not overload the equipment [determine the rated load of the equipment]
- Ensure that there is no one in the vehicle and valuables have been removed before lifting.
- Personnel shall not stand or work under the lift machine during lifting.
- Do not lift vehicles with a shifted center of gravity, chassis deformation or serious oil leakage.

### **7.2 Pre-operation inspection**

- Check that the power cable is not damaged or leaking electricity
- Check whether the function of the operating handle, button, emergency stop switch and so on is normal
- Check that the lock gear of each arm is intact
- Observe whether there is oil stain and debris on the ground in the vehicle area

### **7.3 Standard operating procedures**

#### **Step 1: Vehicle positioning**

- Guide the vehicle slowly into the workstation
- Park the vehicle in the center of the lift and tighten the handbrake
- Place the wheel stop to fix the rear wheel

#### **Step 2: Adjust the support arm**

- Select suitable rubber pad [optional]
- Adjust the support arm to the vehicle's designated lift point [refer to the vehicle maintenance manual]

### **Step 3: Test run the lift**

- Press the up button and lift the vehicle off the ground by 10-15cm
- Shake the vehicle hard to confirm stability
- Check whether the contact point of the support arm is firm

### **Step 4: Full lift**

- Continue to rise to the working height
- Confirm that the safety lock is in the locked state
- Place a "Working" warning sign

### **Step 5: Drop operation**

- Clean tools and debris under the equipment
- First, remove the safety lock device [electrolysis one-click down]
- Slowly descend to the complete unloading of the support arm
- Retract the support arm to the parking position

## **7.4 Maintenance**

- Daily: Clean the guide rail and check the hydraulic pipeline
- Weekly: replenish grease, check anchor bolts and nuts of all parts
- Monthly: test the sensitivity of the safety lock
- Annual: comprehensive overhaul by professionals [hydraulic oil filtration or replacement]

## **7.5 Emergency handling**

- In case of power failure/failure; manually unlock and use the manual pressure relief valve to descend slowly
- Stop operation immediately if abnormal sound is found
- Cut off the power supply and report for repair when hydraulic oil leaks

## **7.6 Prohibited matters**

- Prohibit single-side lifting operation
- Do not use a lift to support the removed parts
- Maintenance work is prohibited when the gear is not locked
- Do not modify the structure of the equipment or remove the safety device

## **Safety**

**Standard operation is the core guarantee to avoid accidents**

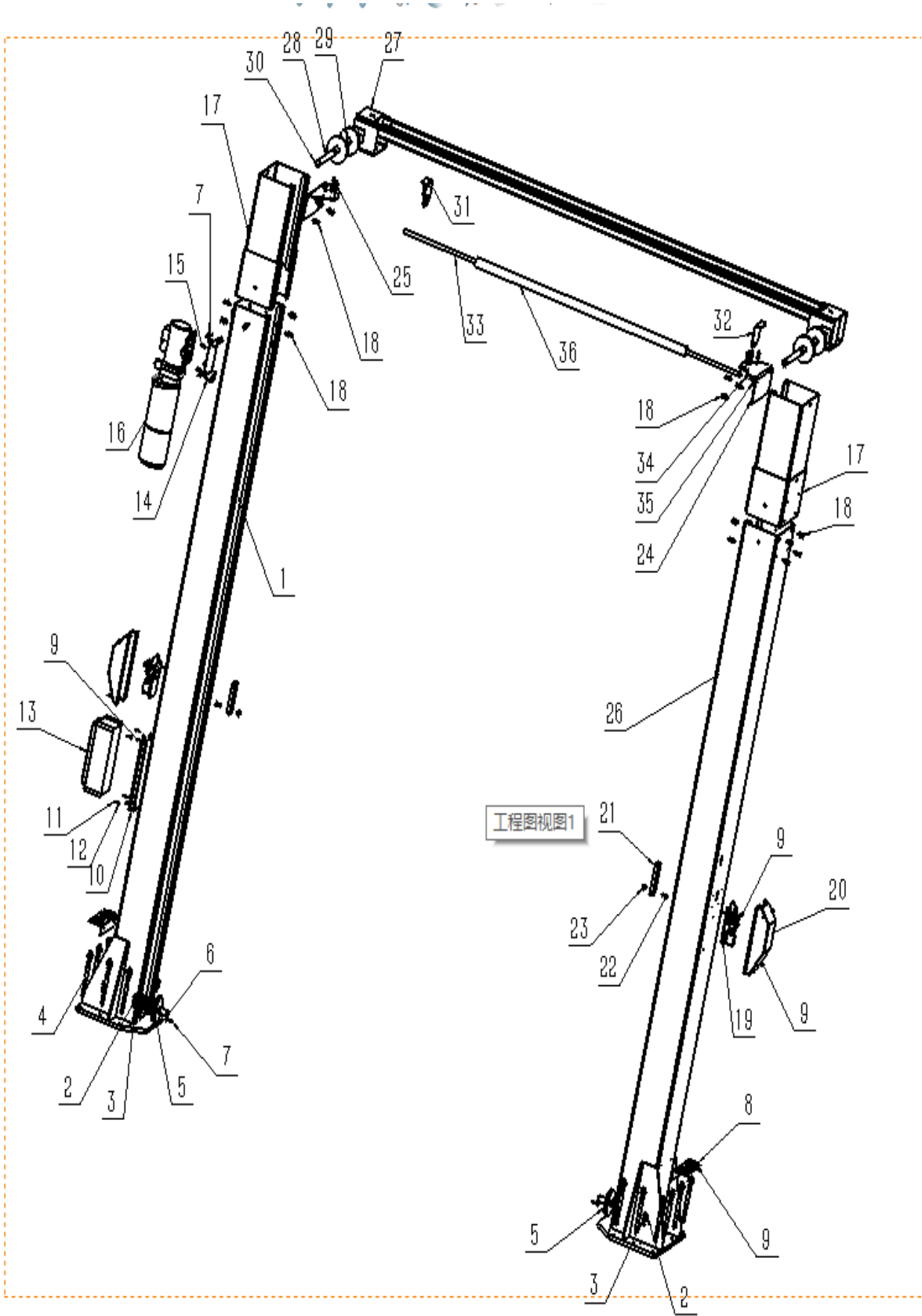


## 8、 Common problem solutions





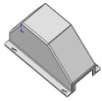
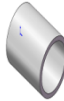
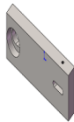

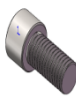





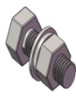





Fault phenomenon	Failure cause	Elimination method
The motor stop running	<ul style="list-style-type: none"> <li>· Power protection circuit breaker</li> <li>· supply voltage</li> <li>· limit switch</li> <li>· any power-generating or power-driven machine</li> </ul>	<ul style="list-style-type: none"> <li>· Close the circuit breaker and check the connection</li> <li>· Check whether the voltage is the same as that of the motor</li> <li>· Check the contact point between the limit switch power line and the switch</li> <li>· Measure the motor coil on and off</li> </ul>
The motor runs but does not rise	<ul style="list-style-type: none"> <li>· Motor reversal</li> <li>· Load reduction valve is unloaded</li> <li>· The hydraulic pump draws in air</li> <li>· The oil level in the oil drum is low</li> </ul>	<ul style="list-style-type: none"> <li>· Phase sequence is adjusted through the contact point of the circuit breaker</li> <li>· Close the throttle valve and it can be lifted, that is, manually unload the valve or electrolytic unload valve. If it is newly installed, it can be disassembled and manually press several times to solve the problem. This situation can be solved by cleaning impurities during use.</li> <li>· The single-phase valve is removed, and the air can be discharged by moving the up button</li> <li>· If you go up a certain height and don't go up, add some oil</li> </ul>
The operating load of the motor can rise, but the heavy load does not rise.	<ul style="list-style-type: none"> <li>· The power supply voltage is not enough or the diameter of the power supply line is not enough</li> <li>· The safety relief valve is not adjusted correctly</li> <li>· Overloading of the lift</li> </ul>	<ul style="list-style-type: none"> <li>· Check the power supply and power cord</li> <li>· Remove the overflow valve safety cap, loosen the anti-loosening nut, and adjust it clockwise for half a circle</li> <li>· Check the weight of the vehicle</li> </ul>

The motor operation rise stop button will automatically slide down	<ul style="list-style-type: none"> <li>· There are foreign matter in the single-phase valve</li> </ul>	<ul style="list-style-type: none"> <li>· Remove and clean or replace.</li> </ul>
The lift is slow	<ul style="list-style-type: none"> <li>· The gap between the oil pipe pressure head is insufficient</li> </ul>	<ul style="list-style-type: none"> <li>· Replace the oil pipe</li> </ul>
The electrolytic lock drops and the lock cannot be opened	<ul style="list-style-type: none"> <li>· The time relay delay is not enough</li> </ul>	<ul style="list-style-type: none"> <li>· Adjust the time relay knob</li> </ul>
The lift cannot rise horizontally	<ul style="list-style-type: none"> <li>· There is gas in the cylinder that needs to be discharged</li> <li>· The balance wire rope is not adjusted properly</li> </ul>	<ul style="list-style-type: none"> <li>· Raise the hoist to about 10cm and stop. Open the oil pipe joint to let the trolley fall automatically to the bottom.</li> <li>· Adjust the bolts of the steel wire rope of the secondary column when rising, and adjust the bolts of the steel wire rope of the main column when descending.</li> </ul>
The anchor bolt is not fastened firmly	<ul style="list-style-type: none"> <li>· The bolt hole is drilled too large</li> <li>· The concrete thickness is not enough or the concrete number is not enough</li> </ul>	<ul style="list-style-type: none"> <li>· Pour the fast-drying concrete into a hole that is too large and drill again.</li> <li>· Recondition the foundation</li> </ul>
The indicator light of the electronic control box is on and the button does not work	<ul style="list-style-type: none"> <li>· Poor button contact</li> <li>· The contact of the time relay is not good or damaged</li> </ul>	<ul style="list-style-type: none"> <li>· Check the contact points of the button with the contact points of the wires at both ends</li> <li>· Pull out the time relay and reinstall it or replace it with a new one</li> </ul>

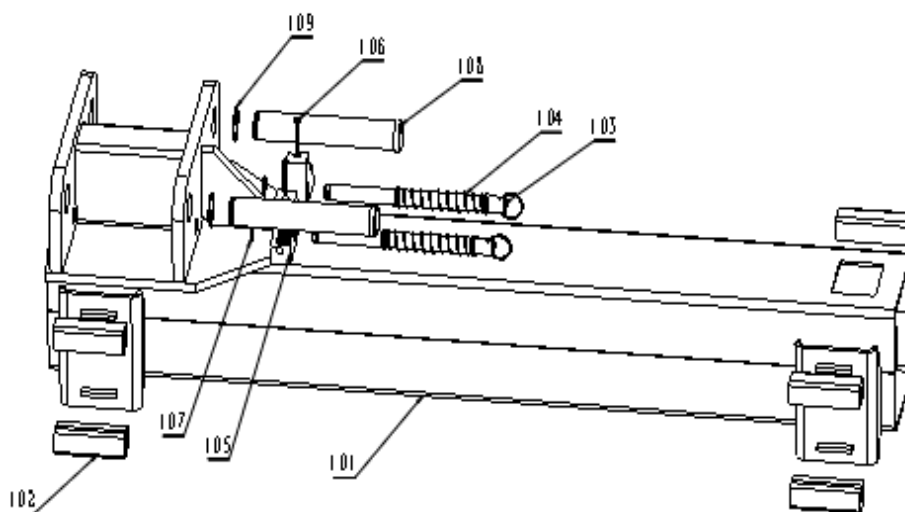
9、List of machine parts



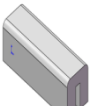







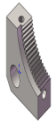
Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	1	Main column assembly welding	1		10	650A A control box mounting plate	1
	2	External six M16X45 bolts	8		11	Crosshead M5X20 bolt	4
	3	M16 nut [8.8]	8		12	M5 nut [8.8]	4
	4	M20 car repair foot bolt [set]	15		13	control box	1
	5	Internal six M6X10 bolts	22		14	650A Pump station installation frame	1
	6	rope sheave	6		15	External six M8X25 bolts [set]	4
	7	Base rope wheel shaft assembly welding	2		16	Power unit [column electrolysis]	1
	8	Internal six M8X15 bolts	6		17	650E Two sections of column assembly welding	2

	9	Increase the height of the sleeve	2		18	External six M12X35 bolts [set]	28
Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	19	650A electrolytic bracket assembly	2		28	650A beam pulley shaft	2
	20	650A column lock cover [no hole]	2		29	650A crossbeam rope wheel sleeve	8
	21	650A column lock plate	2		30	Axis card $\Phi$ 30	4
	22	Internal six M12X25 bolts	2		31	650A beam switch limit frame assembly	1
	23	M12 flange nut	2		32	650A beam limit rod fixing frame	1
	24	650A beam end plate	2		33	650A beam limit rod assembly welding	1
	25	External six M10X30 bolts [set]	10		34	M10 flat washer	1
	26	650A sub-pillar assembly welding	1		35	External six M10X30 bolts	1
	27	650A beam assembly welding	1		36	650A beam limit rod sleeve	1

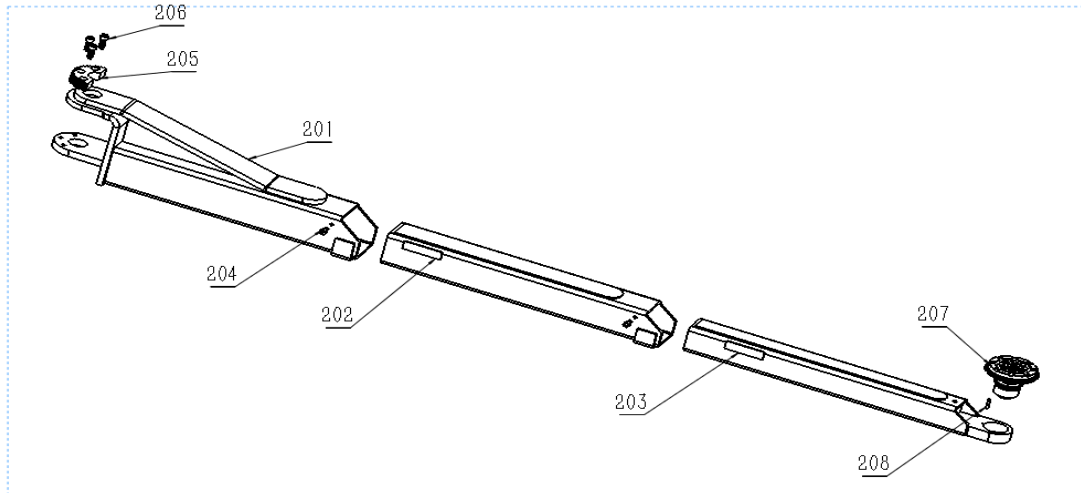
## List of machine parts






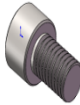
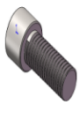



Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	101	Cable group welding	1		106	Internal six M6x55 bolts	2
	102	slider	8		107	Axis card Φ 30	2
	103	Assembly of the slide lock gear shaft	2		108	Arm support shaft	2
	104	Climb lock rod spring	2		109	Axis card Φ 45	2

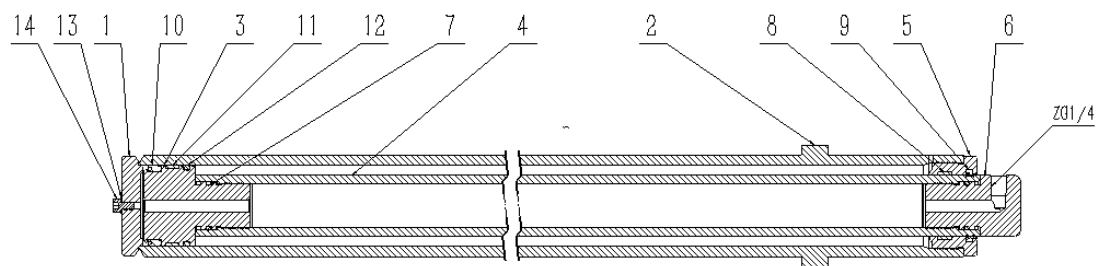
	105	Climb the small lock block	2				
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## List of machine parts





Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	201	Head joint support arm welding	1		205	Lock the arm bracket	1
	202	Two sections of arm welding	1		206	Internal six M12x30 bolts	3
	203	Three sections of arm welding	1		207	Pallet assembly	1
	204	Internal six M10x16 bolts	2		208	Three arm supports for feet and ankles	1

# List of machine parts

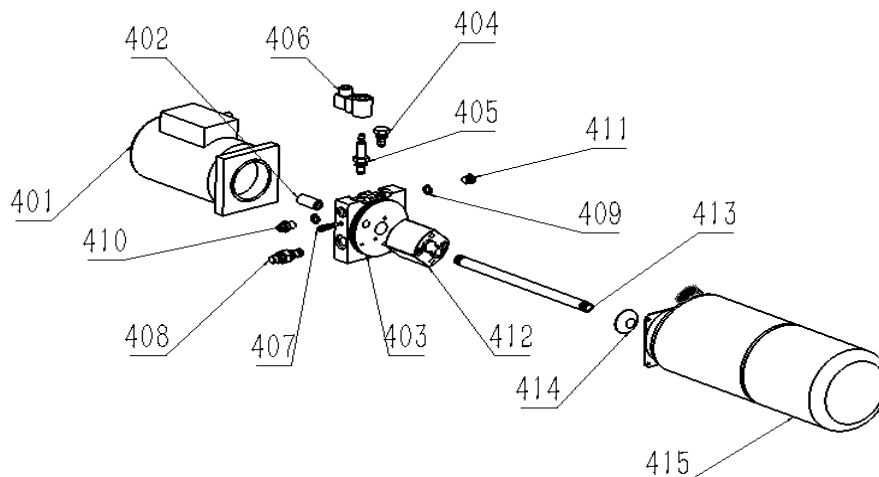
















Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	1	Cylinder block	1		8	Guide ring 50-45-10	1
	2	cylinder tube	1		9	DH45-53-5-6	1
	3	plunger	1		10	KD60-50-10	1
	4	Cylinder rod	1		11	Guide ring 60-55-10	1
	5	guide bushing	1		12	O-ring D60X4	1
	6	Cylinder rod joint	1		13	650E cylinder exhaust hole pressure pad	1




	7	O-ring d30X3.1	2		14	Internal six M6X10 bolts	1
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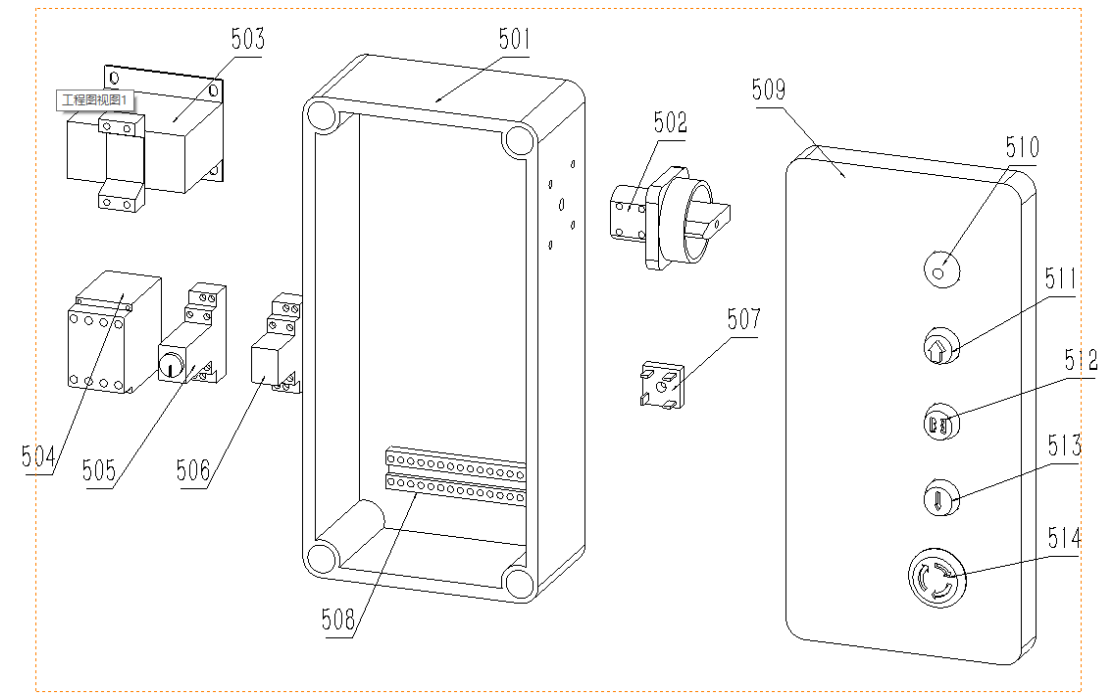
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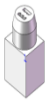


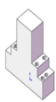
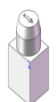


Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	401	Electrical equipment [electrolysis]	1		409	Φ 14 combination pads	2
	402	coupling shaft	1		410	16x1.5 to 14x1.5 press combination pads [directly head]	1
	403	Valve plate [column type]	1		411	M14x1.5 plug	1
	404	check valve	1		412	gear pump	1
	405	Electromagnetic unloading valve	1		413	fuel sucking pipe	1
	406	Electromagnetic unloading valve coil	1		414	screen	1
	407	shutoff valve	1		415	tough drum	1

	408	overflow valve	1				
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# List of machine parts



Picture	Code	Part name	Quantity	Picture	Code	Part name	Quantity
	501	Control box base [164-353]	1		508	Terminal strip [15 positions]	1
	502	Combination switch [26-20-2GS]	1		509	Cover of control box [164-353]	1
	503	Transformer [150A]	1		510	Indicator light [DC24]	1
	504	Contactor for AC [1810]	1		511	Up button [LA38]	1
	505	Time relay [8 hole DC24]	1		512	Lock button [LA38]	1

	506	Intermediate relay [8 hole DC24]	1		513	Lower the button [LA38]	1
	507	Rectifier bridge [FBPC2510]	1		514	Emergency stop button [LA38]	1

## List of accessories

### Electrolytic lock the gantry

Number	Name	Quantity	Remarks
1	Expansion screw 20*200	16 sets	
2	Increase height	Eight	
3	Increase the height of the bracket	Two	Four holes
4	pallet	Four	Pads + trays + spiral sleeves
5	Lengthen the three-way nozzle	One	
6	cored screw	Two	
7	14-piece set	Four	
8	Big flat head 6 x 10	Six	Lock plate screws
9	Hexagon 8*20	Eight sets	
10	Semicircular head 6 x 6	12	Lock box screws, height bracket
11	Hexagon 12*30	20 sets	Two section posts
12	Hexagon 10*30	22 sets	Crossbeam, limit switch
13	Plastic gasket	Ten	

14	35 Spring clips	Four	
15	O molding ring	Four	