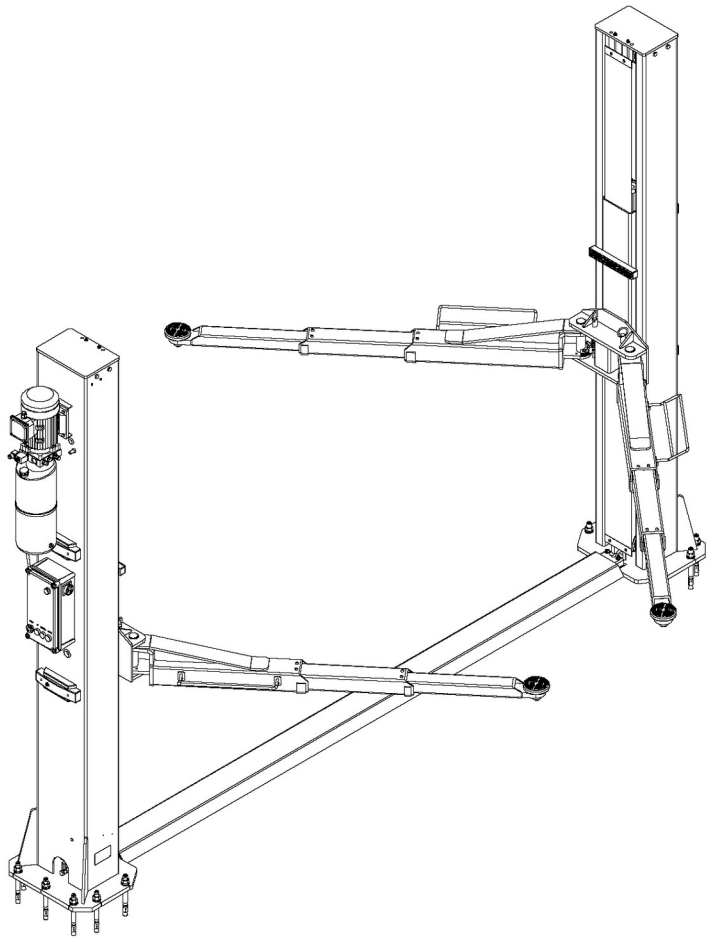
Model: CLD 5500 SL Smart Lift

- Base plate two post lift
- Electric release
- Lifting capacity: 5500Kg

Installation, Operation and Maintenance

Instruction Manual



The instructions are part of the product. Please put it somewhere you can find it any time. Read the complete instructions carefully and then start to install, operate and maintain.
The manufacturer and the dealers will not be responsible for any accidents caused by customer's arbitrary modification of the accessories or wrong operation.

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Safety Instructions

1.1 Important statement

Hammer Tools provides a one-year warranty for this lift. Contact Hammer Tools if a quality defect occurs within this period. Damage caused by incorrect installation or operation, overloading, an unsuitable concrete foundation, normal wear or insufficient maintenance is excluded.

●The lifting machine is designed for lifting vehicles and does not allow any other use. Neither the dealers nor Hammer Tools are liable for the accidents and damage caused by the machines for other purposes.

●Be sure to pay attention to the tonnage mark on the machine and shall not attempt to lift the vehicle beyond the rated lifting weight.

●Please read the manual carefully before installation and operation of the lifting machine so as to avoid any loss of property or even personal injury caused by improper operation.

●Any user may not alter the control part of the machine or other mechanical parts without the permission of the manufacturer.

1.2 Qualified operator and instructions for use

1.2.1 Professional trained personnel can operate the lift.

1.2.2 Electrical connections must be operated by personnel with electrical qualifications.

1.2.3 Untrained persons must not operate the lift.

1.3 Safety precautions

1.3.1 Do not install the lift on asphalt. The thickness of the concrete must meet the requirements.

1.3.2 Before you operate the lift, read and understand the instructions for safety operation carefully.

1.3.3 This lift is intended for indoor use unless an outdoor version has been specifically supplied.

1.3.4 Keep hands and feet away from moving parts, especially while the lift is being lowered.

1.3.5 Professional trained personnel can operate the lift.

1.3.6 The operator is not allowed to wear loose clothing so as not to be caught in the moving parts during the lifting of the machine.

1.3.7 Keep the lift and surrounding area clean and free of stored objects or other obstructions.

1.3.8 The lift is designed to lift the vehicle as a whole, not a part; Do not attempt to lift vehicles that exceed the rated weight.

1.3.9 Before working beneath a vehicle, make sure the lift is supported by its mechanical safety locks.

1.3.10 Position the lifting pads at the lifting points specified by the vehicle manufacturer. Raise the vehicle slowly and check its stability before continuing to the required height. Stop immediately if it tilts or slips.

1.3.11 Regularly inspect all parts for damage. Check that the lift moves freely and evenly. Carry out the required maintenance. Stop using the lift immediately if anything is abnormal and contact the dealer.

1.3.12 Lower the lift completely after use.

1.3.13 Without the permission of the manufacturer, the parts of the lifting machine shall not be changed without authorization

1.3.14 If the machine is not used for a long time, the user needs

A. Disconnect the power supply. B. Drain and collect the hydraulic oil. C. Lubricate moving parts with hydraulic oil.

Attention□

The car lift is a high-risk product, improper installation or operation, or unauthorized modification of mechanical parts, may cause injury or even death of the operator, carefully read the manual, work in strict accordance with the requirements, and do not discharge liquid randomly, to protect the surrounding environment.

1.4 Warning signs

All safety warning signs presented on the machine with the purpose to draw the operator’s attention from dangerous or unsafe situations.

The labels must be kept clean and they have to be replaced if detached or damaged. Read the meaning of the labels carefully and memorize it.


PRECAUTIONS
FOR SAFE OPERATION
WARNING
Only trained personnel should operate the lift.
WARNING
Read all safety caution, and warning instructions before operating lifts.
WARNING
The lifting vehicle must not exceed the rated load.
WARNING
LOCKING
It is not allowed to work under the vehicle if safety teeth are not engaged.
WARNING
Always raise a vehicle with four swing arms.
WARNING
When operating the lift, pay close attention to the entire lifting process.
WARNING
Always keep lifitng area clear when raising or lowering a vehicle.
WARNING
Using the four support arm points to raise the vehicle in a balance way.
WARNING
Do not go into the car or climb onto the lift during raising or lowering.
WARNING
Always use safety stands when moving / installing heavy components.
WARNING
Avoid excessive rocking of vehicle while on lift.
WARNING
10cm
Stop to check the locking arms are engaged completely and the stability of lifted vehicle after a short raising, then raise to the desired height.

Meaning of the safety pictograms

Read left to right, row by row, from top to bottom.

1. Only trained personnel may operate the lift.

2. Read all safety and operating instructions before use.

3. Never exceed the rated capacity.

4. Mechanical safety locks must be fully engaged before anyone enters beneath a raised platform.

5. Always raise a vehicle using all four lifting arms.

6. Watch the entire lifting and lowering movement carefully.

7. Keep the danger area clear during raising and lowering.

8. Position all four pads at approved lifting points and balance the load.

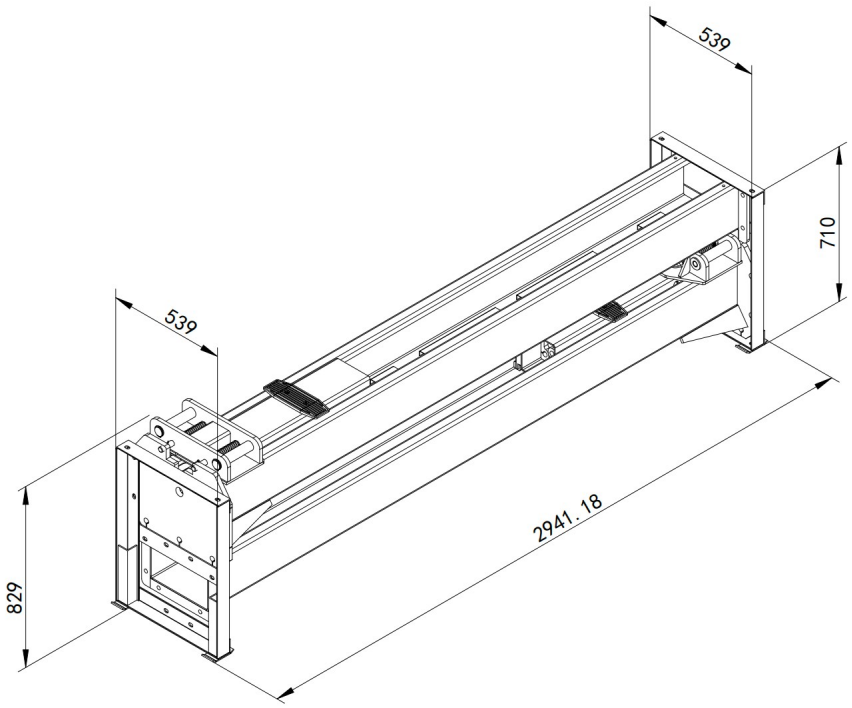
9. Do not enter the vehicle or climb onto the lift while it is moving.

10. Use suitable safety stands when removing or installing heavy vehicle components.

11. Avoid excessive rocking or shaking of the raised vehicle.

12. Stop after a short lift (about 10 cm). Verify full engagement of the arm locks and vehicle stability before raising further.

1.5 Noise standard



Lifting machine noise should be less than 75dB, for your health sake, it is recommended to put a noise meter in your work area, observe the noise of the lifting machine at any time.

1.6 Package

Packing weight as total: 880Kg

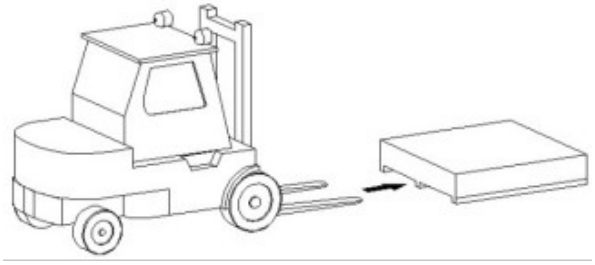
Main lift packing size as below:

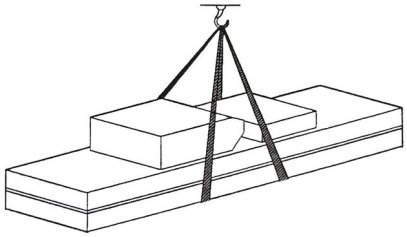
1.7 Transport

Use a crane or forklift with a capacity of at least 1 tonne to load and unload the packaged lift. A second person must guide the operation from a safe position. Secure the load against falling. Transport by road or sea.

At the arrival of the goods, verify that all items specified in the delivery notes are included. If finding missing parts, possible defects or damage due to transport, one should examine damaged cartons according to ‘Packing List’ to verify the condition of damaged goods and missing parts, also the person in charge or the carrier must be immediately informed.

This is heavy equipment. Do not attempt to load, unload or carry it manually. Use the lifting arrangements shown in the illustrations.





Handled by crane

Handled by fork-lift truck

1.8 Storage

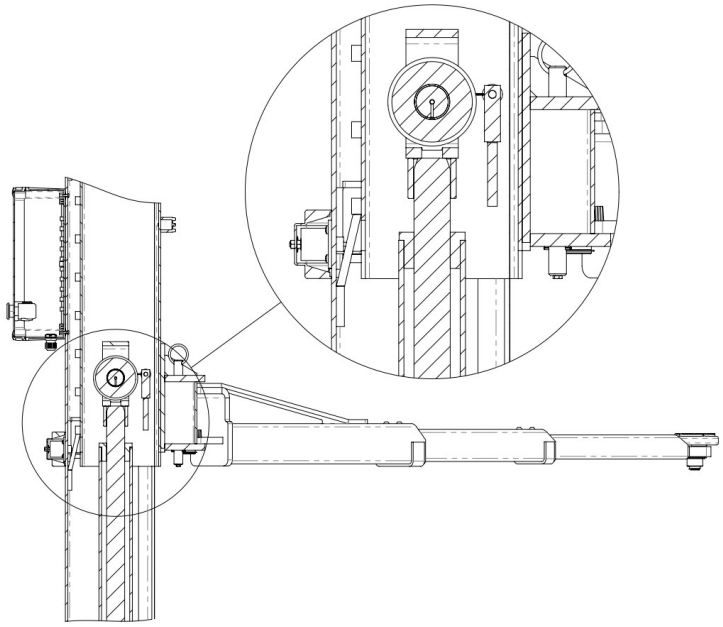
Store the equipment indoors. If temporary outdoor storage is unavoidable, protect it fully against water.

-Use box truck in the process of transport, use container storage when shipping.

-The temperature for machine storage: -25ºC-- 55ºC

Product Introduction

2.1 Product description

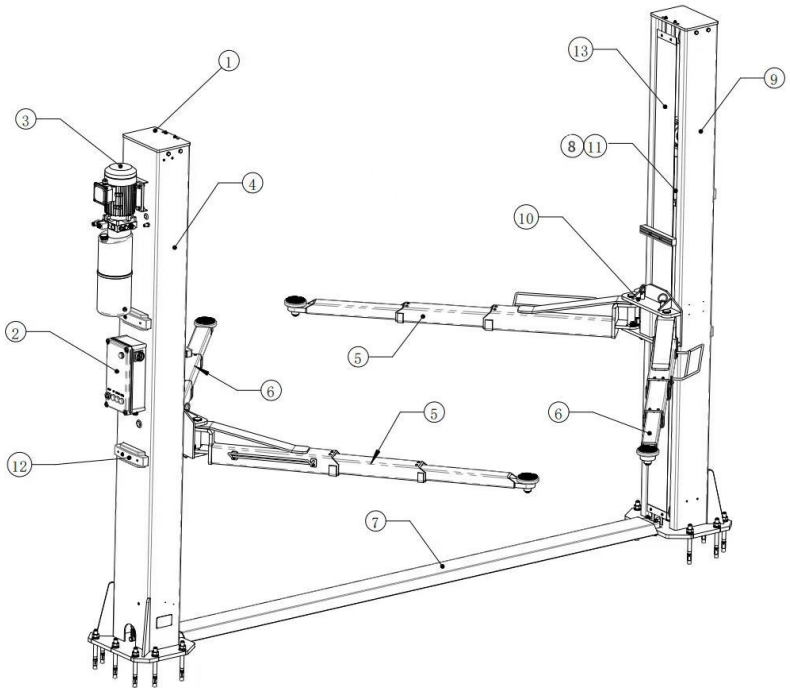


The base-plate two-post lift consists of a main column, auxiliary column, carriages, lifting arms, hydraulic cylinders, power unit, chains and a floor cover plate. The gear pump supplies oil to the cylinders. The piston rods raise the carriages and lifting arms via the chains. Mechanical safety locks engage during raising to prevent descent if the hydraulic system fails.

Safety structure icon

2.2Technical data

Type	Lifting capacity	Lifting/ Lowering time	Lifting height	Total height	Total width	Width between	Power supply	Motor power
CLD 5500	5500kg	50s	1900mm	2824mm	3980mm	3300mm	400 V, three-	2.2 kW



2.3 The main structure of the whole machine

NO	Part Name	Quantity	Remarks
1	Column top plate	2	
2	Control cabinet	1	
3	Hydraulic power unit	1	
4	Main column	1	
5	Left arm 890-1800mm	2	
6	Right arm 890-1800mm	2	
7	Base plate	1	
8	Main cylinder	1	
9	Auxiliary column	1	
10	Lifting carriage	2	
11	Auxiliary cylinder	1	
12	Safety lock system	4	
13	Column curtain	2	

Installation

3.1 Before installation

3.1.1 Tools and equipment needed

Required tools: 1. Lifting equipment; 2. 10 L anti-wear hydraulic oil, grade No. 20 as stated in the source manual (supply quantity; see filling instructions); 3. Hammer drill with 18 mm bit; 4. Chalk; 5. Measuring tape; 6. Magnetic plumb bob; 7. 8 m water-level hose, diameter 15 mm; 8. Open-ended spanner set; 9. Hex key set; 10. Phillips screwdriver; 11. Flat-blade screwdriver;

12.A needle nose pliers, 13. Φ17,Φ19,Φ22 Socket wrench each 1, 14,Hammer 1 pieces (4 pounds), 15. Circlip pliers 1 piece

3.1.2 Ground requirement

Install the lift on a solid, level concrete foundation. Concrete strength must exceed C20/25, the level deviation must be less than 5 mm and the thickness must be at least 300 mm. Newly poured concrete must cure for more than 20 days before installation.

3.1.3 Check accessories

Unpack the lift and check every item against the packing list in Appendix 1. If parts are missing or damaged, contact the supplier before proceeding. Continuing installation despite missing or damaged parts is at the installer's risk.

3.2 Precautions during installation

▲ During installation, please observe that the two upright columns are parallel and vertical to the ground, and shall not be tilted.
▲ hydraulic hose and steel cable connection, the joint must be connected in place, so as to avoid oil leakage and steel cable loose.
▲ All bolts and nuts must be tightened to ensure fastening.
▲ No vehicles shall be placed during the test.

3.3 Installation steps

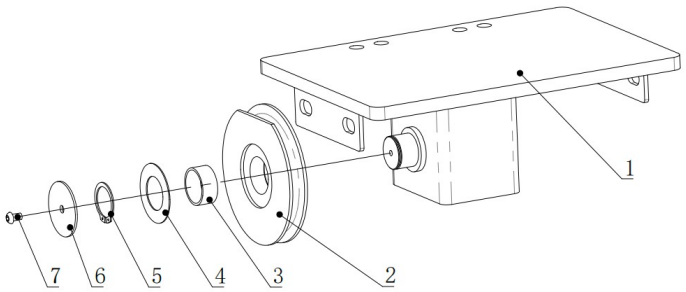
Step 1: Remove the packing material, take out the accessory case, the bottom plate, etc.. Be sure to read and understand the manual carefully before proceeding to the next step

Step 2: Place support between two columns or hang a column with a crane and remove the screws on the packing rack

CAUTION: Secure each column against tipping before removing the transport frame. Falling columns can cause serious injury and damage the parts stored between them.

Step 3: After removing the first column, place support under the second column, and then carefully remove the screws.

Step 4: Place the main and auxiliary column flat on the ground, and take out the supporting arm, control box, wire rope and other accessories inside the column.

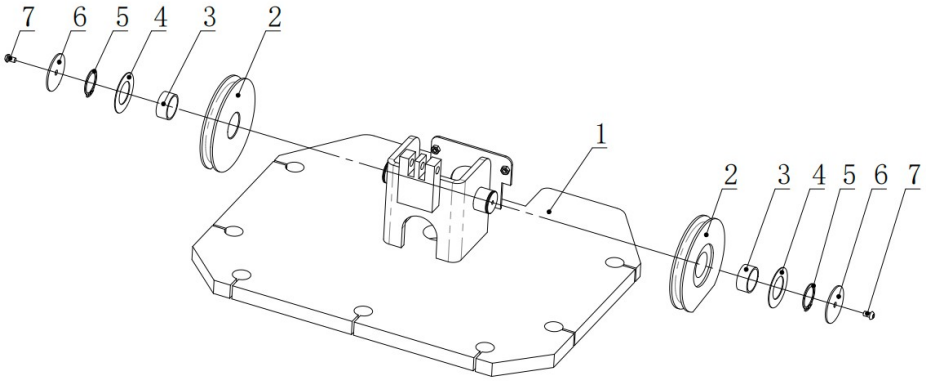


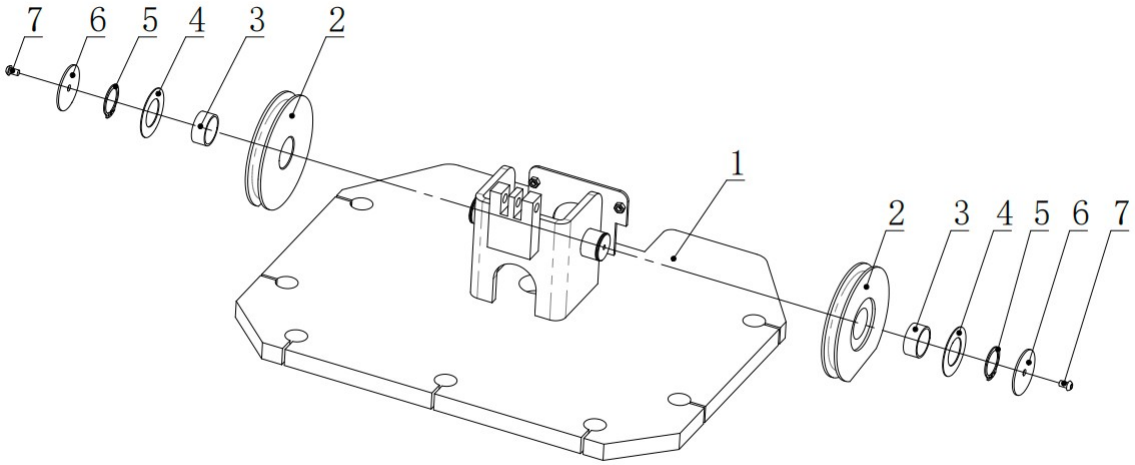
Step 5: Remove the rope wheel at the top of the main and vice columns with circlip pliers, as shown in the figure below:

1. column top plate 2. cable wheel 3. oil-free bushing 4. cable wheel gasket 5. external circlip 30

6. retainer plate 7. M6*10 hex socket screw

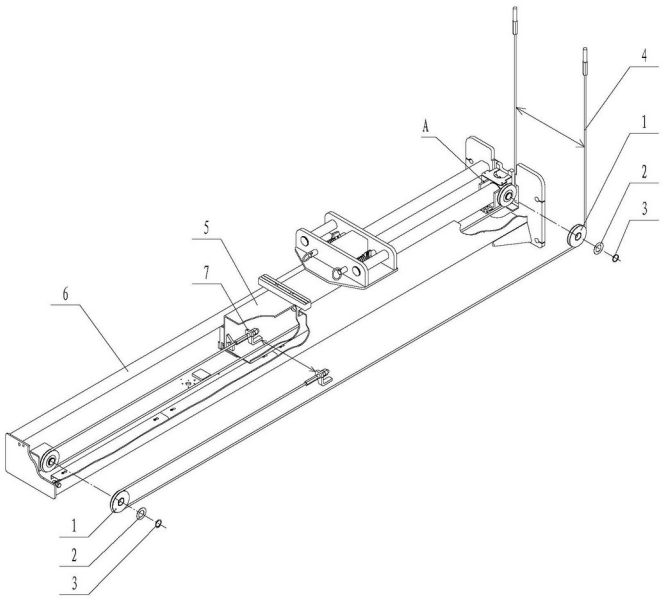
Step 6: Remove the rope wheel at the bottom of the main and vice columns with circlip pliers, as shown in the figure below:





1. column top plate 2. cable wheel 3. oil-free bushing 4. cable wheel gasket

5. external circlip 30 6. retainer plate 7. M6*10 hex socket screw



Step 7: As shown in the figure below, install the steel cable in the top and bottom sheaves of the main and auxiliary columns, and install the sheave gasket and external circlip 30

1. steel cable 2. cable wheel gasket 3. external circlip 30 4. steel cable 5. carriage parts 6. main and auxiliary columns 7. cable ring

Attention: Don't install the cable wheel gasket and external circlip 30 in steel cable A.

Step 8: Determine the installation position of the column, erect the main and auxiliary columns, the width between the main and auxiliary columns is 3300MM;

1. Determine the positions of the main and auxiliary columns for installing the power unit. (Main column with motor board)

2. According to the outline dimension drawing (accessory 2) and the foundation installation drawing (accessory 3), mark the shape and installation position of the bottom plate with chalk.

3. Before proceeding to the next step, please make sure that the bottom plate of the column is aligned with the line drawn in chalk again.

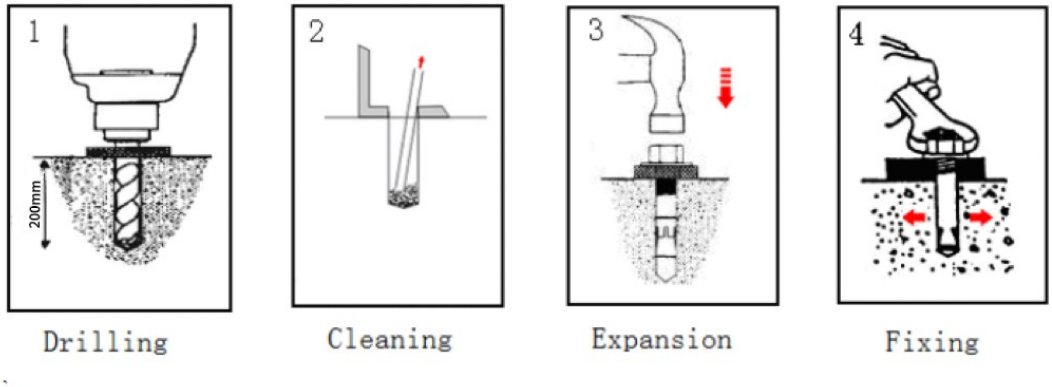
Step 9: Install the column, first install the main column, then install the auxiliary column.

1. Use an electric hammer to drill the expansion bolt installation holes and apply vertical force so that the drill bit cannot be deflected.

2. After drilling the hole, sweep away the dust and make sure that the bottom plate of the column is aligned with the line drawn during the drilling process.

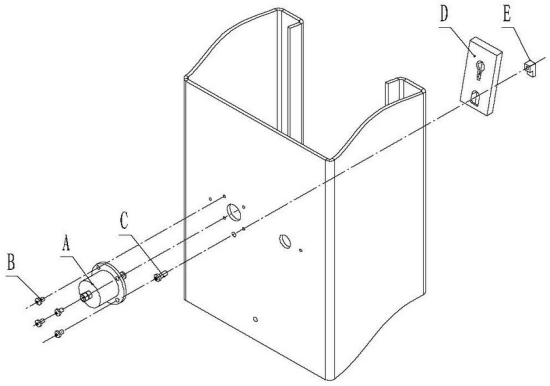
3. If necessary, insert suitable steel shims beneath the base plate to level it. Check that the column remains vertical when tightening the anchor bolts.

4. Follow the chalk line to position the main column. Follow the steps 1, 2, and 3 to install the auxiliary column.



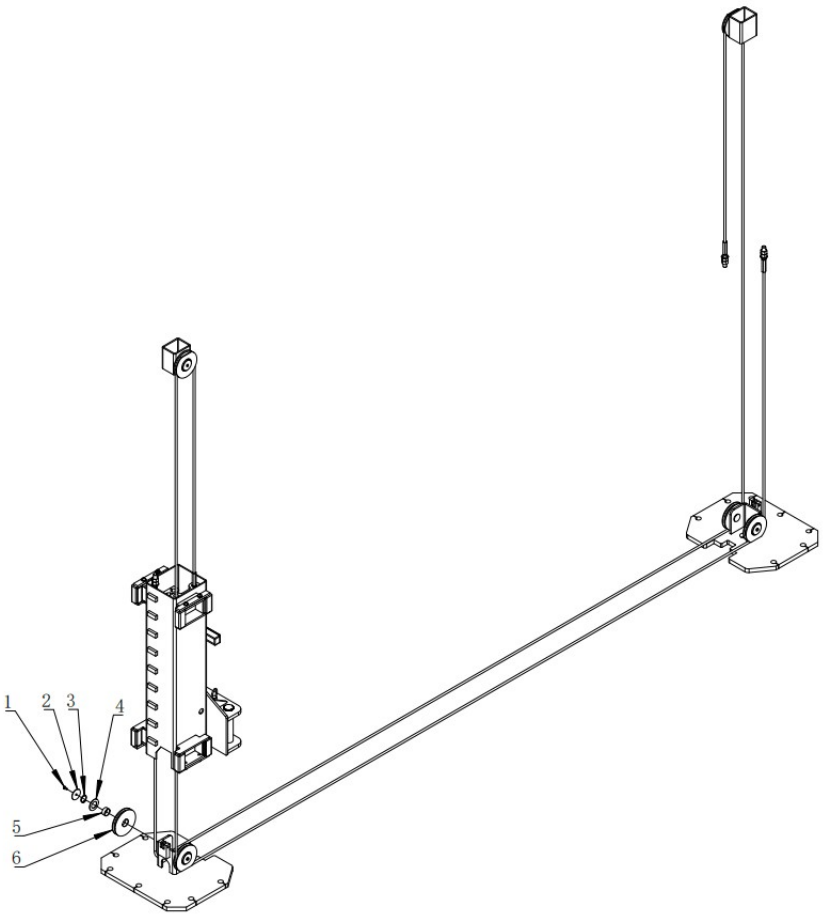
Drilling the hole sweep away the dust knock the expansion bolt tighten by wrench

Step 10: Install the electromagnet: (A: Electromagnet B: M5*8 Phillips pan head screw C: M6*16 Phillips pan head screw D: Safety locking plate E: Safety locking plate fixing piece)



Step 11: Install the steel cable

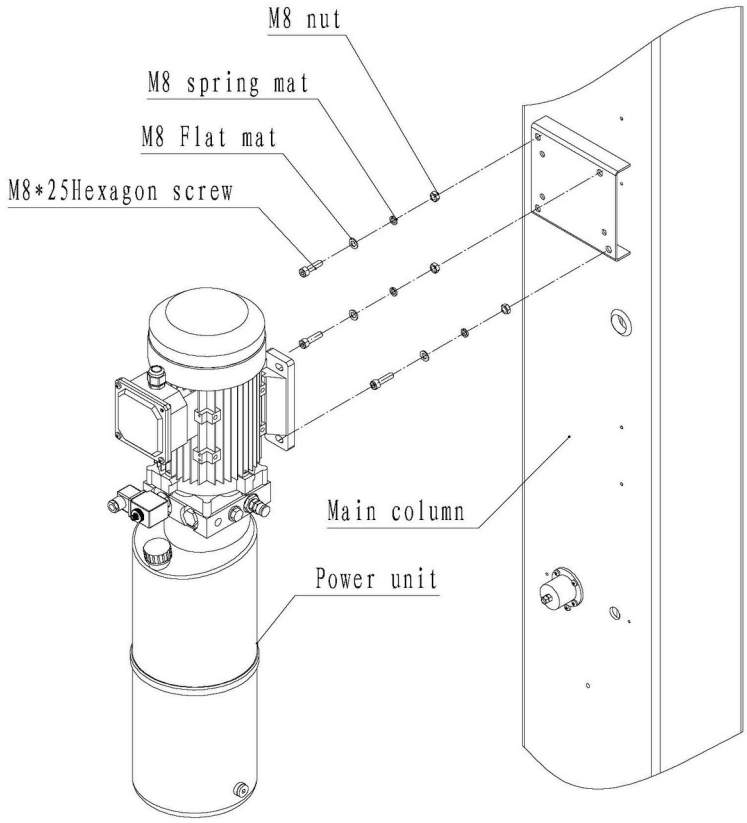
1. Raise both carriages to approximately 800 mm above the floor, then lower them onto their mechanical safety locks. Both carriages must be securely supported.
2. Before installing the wire ropes, verify that both carriages are securely engaged on their mechanical safety locks.
3. Both carriages must be at exactly the same height before fitting the wire ropes.
4. Start the installation according to the steel cable connection diagram.
5. After laying the wire ropes, adjust the connectors until the tightness of the wire ropes on both sides is the same. You can judge it by the sound of the safety locks on both sides when it rises; if it is not certain at present, you can adjust it during the trial operation of the machine.
6. Lubricate the wire ropes with grease during installation.

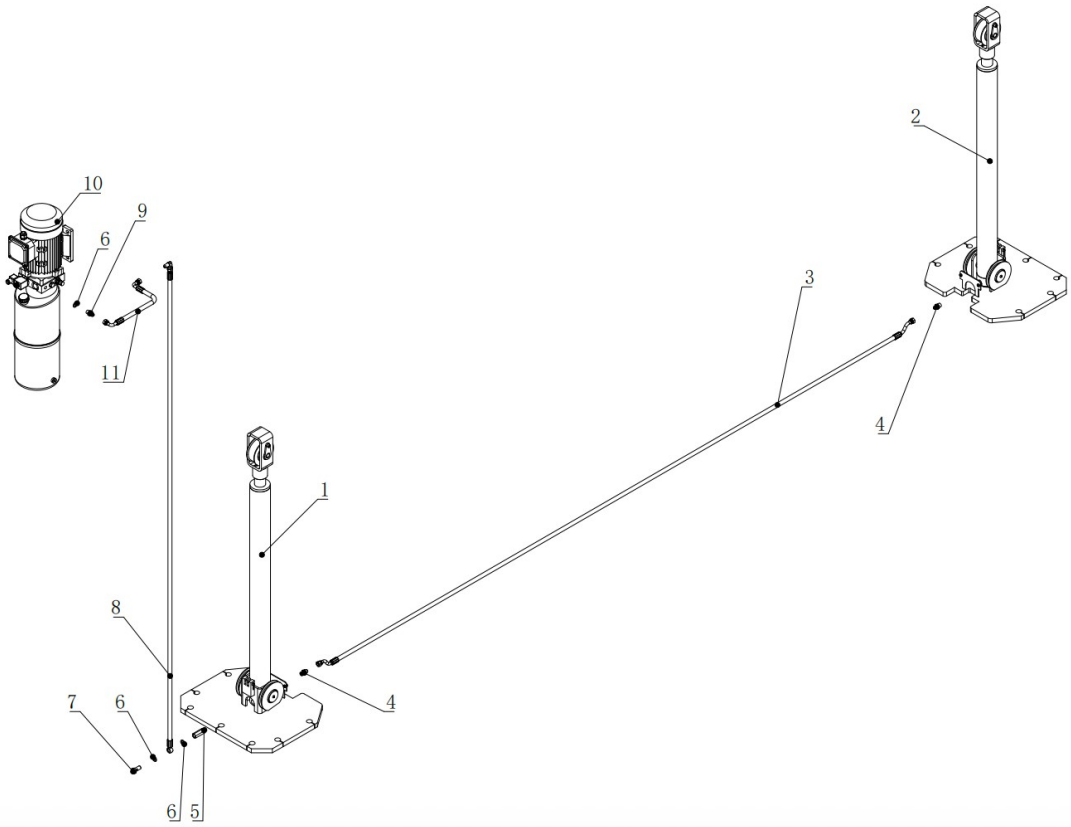


Wire rope connection diagram : 1. External circlip 30, 2. Rope wheel gasket

3. Installation of the lower rope wheel

Step 12: install the power





Step 13: install the oil hose and connectors

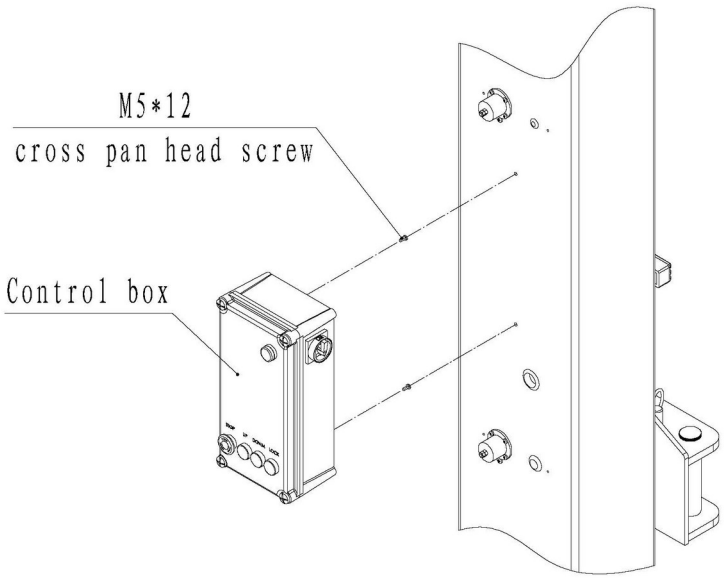
1. Connect the hose according to the hose connection diagram.
2. Make sure the hose connectors are clean during connecting.

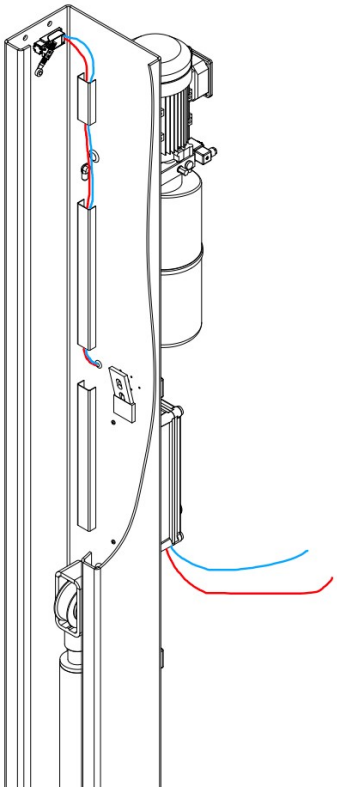
1. main cylinder 2. vice cylinder 3. oil hose 3380mm 4. cylinder joint 5. two post lift direct joint 6. M14 gasket set

7. two post lift oil hose joint 8. oil hose 2365mm 9. three way ball valve connector 10. power unit 11. oil hose 320mm

Step 14: Install power unit and control box

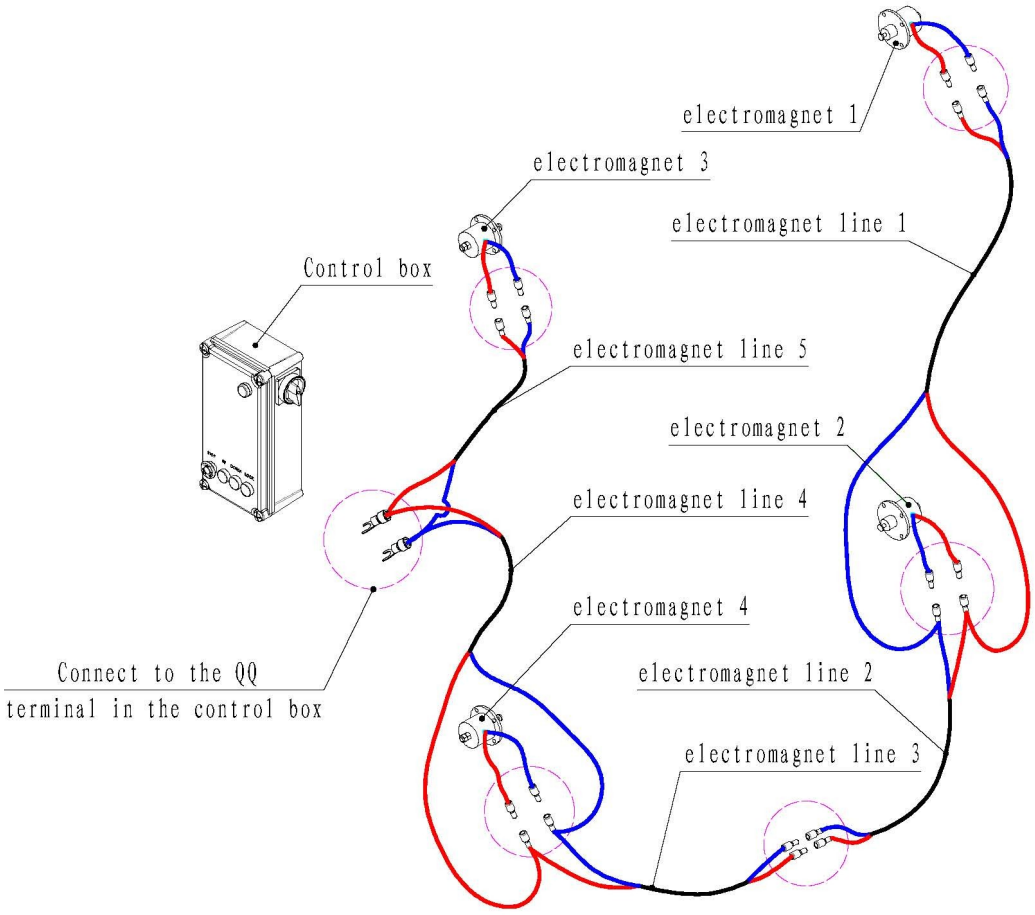
1. Install the control box onto the column



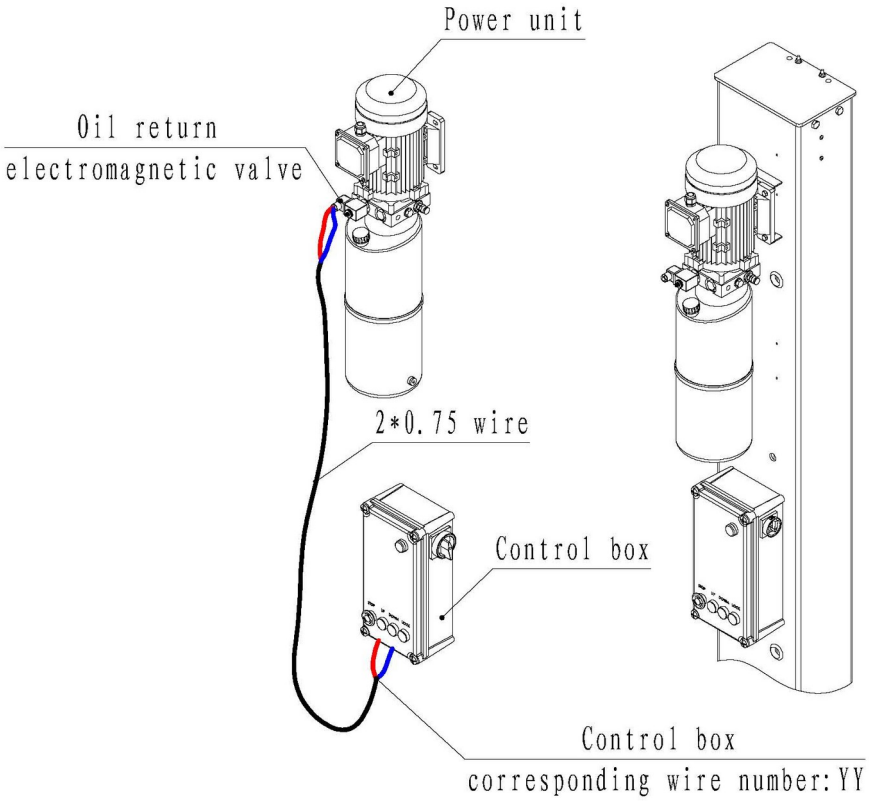
2.  Install the limit switch. Connect its two wires to terminals AV and AV in the control cabinet.

Limit switch

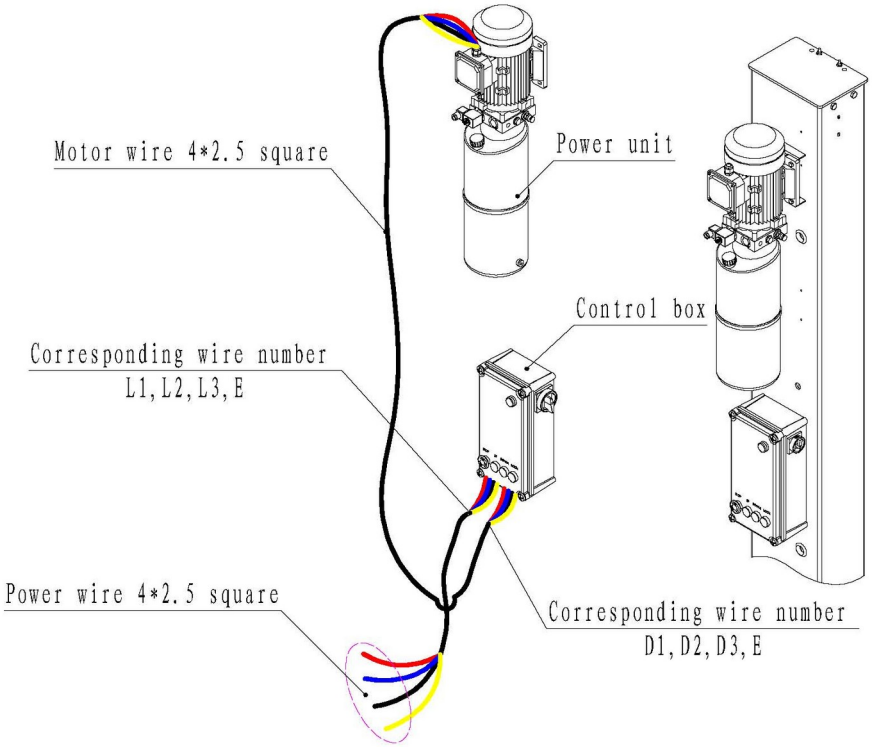
3. Connect the electromagnet line



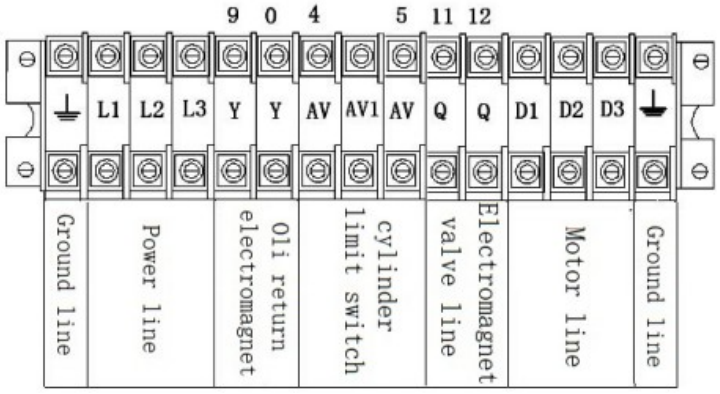
4. Connect the oil return solenoid valve line



5. Connect the power line and motor line

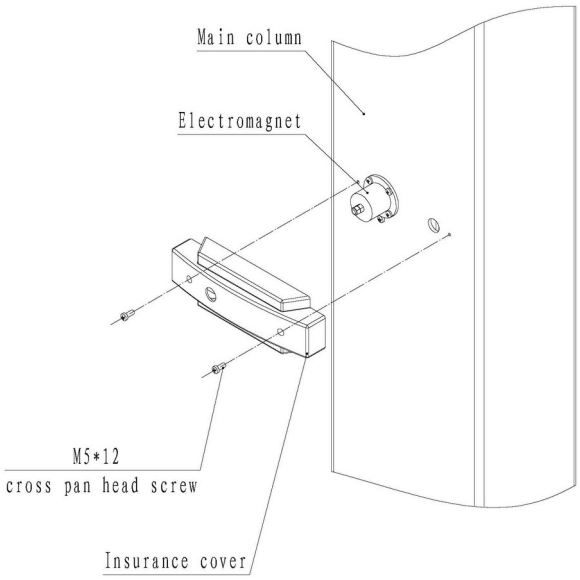


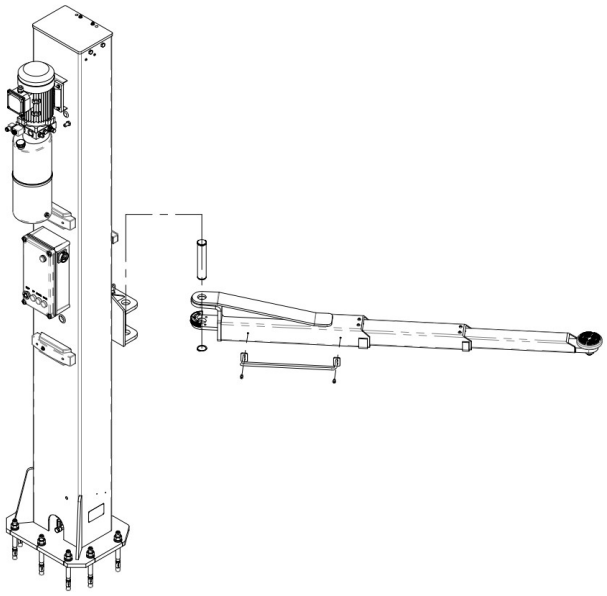
The wire number and code of each wire corresponding to the control box are shown as below



400 V three-phase – terminal connections (source drawing labelled 380 V).

Step 15: Install the magnetic cover





Step 16: Install the lifting arm, guard rail, and tray

1.Install the arm

1> Remove the circlip from carriage shaft pin with spring pliers.

2> Install the arms with the carriage by the shaft pin.

3> Swing the arms back and forth and check that the arm-lock teeth engage correctly.

4> Install the removed circlip on the pin

2. Install the foot guard

1>Using a 6mm Allen wrench to remove the M8*12 Allen screws of the arm

2>Install the foot guard and fix it with the M8*12 hexagon socket screw.

3. Install the pad

Install the pad on the arms and fix it with 50 circlip

Step 17: Fill up with hydraulic oil

The hydraulic reservoir has a capacity of 10 L. The normal fill level is approximately 80% (about 8 L), not the full tank volume.

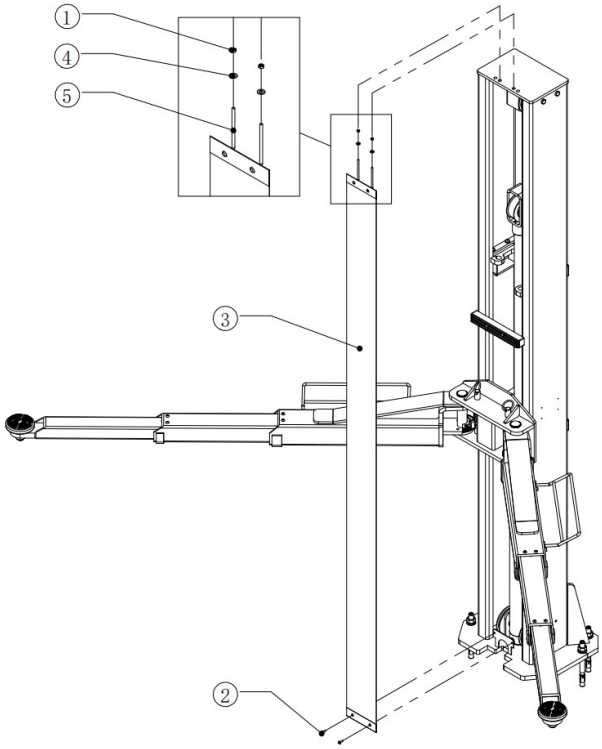
Step 18: Test run

1. Connect to the corresponding power supply according to the power description on the machine nameplate.

2. Check mechanical safety lock status. The safety locking system must be flexible and reliable

3. No vehicles should be placed during the test run.

4. Ensure all connections are in good condition.



Step 19 Install the column curtain

1.M6 nut 2.M6*12 Phillips pan head screws 3.column cover 4.hook 5.M8 flat mat

Step 20: Install the base plate

Attention

1.The above steps are all installation steps of the base plate two post lift.

2. The supplier is committed to continuously improving product quality and updating technical specifications without prior notice.

3.Check notes after installation.

1 Whether the column is perpendicular to the ground 2 Whether the main and sub columns are parallel

3 Whether the hoses are well connected 4 Whether the steel cable are well connected

5 Whether the lifting arms are installed in place 6 Whether the electrical connections are correct

7 Whether the other parts are fastening well 8 Whether the necessary lubricating parts are well lubricated

Operation

4.1 Instructions for operation notes

4.1.1 Check all connections with the tubing and the machine can only be used if there is no oil leak.

4.1.2 If the safety device of lifting machine fails, it must not be put into use.

4.1.3 Position the vehicle's centre of gravity within the centre of the lifting area. Do not operate the lift with an incorrectly positioned load.

4.1.4 During the up and down of the lift,the operator and other staff must be in the safe area.

4.1.5 When the lifting arm rises to the desired height, the power must be turned off to avoid the incorrect operation of the non-operator.

4.1.6 Before working beneath the vehicle, press the LOCK button to lower the lift onto the mechanical safety locks. Keep everyone clear of the area beneath the vehicle while the lift is moving.

4.2 Control box operation instruction



4.3 Operation flow chart

Position	Name	Function
QF	Power switch	Control the main power
HL	Power light	Show whether the power is on
SB1	Emergency stop switch	Cut off the power once emergency happens
SB2	Up button	Control the lift up
SB4	Lock button	Keep the lift in the safe position while working
SB3	Down button	Control the lift down

Raising	Lowering
Clear the area and position the vehicle correctly.	Completely clear the area beneath the lift.
Switch on and hold UP.	Switch on.
Check stability and raise to the required height.	Hold DOWN: the lift rises briefly, releases the locks electrically and then lowers.
Press LOCK to lower onto the mechanical safety locks, then	Lower fully before driving the vehicle away.

switch off.	

4.4 Operation instructions

Up

1. Read and understand the operating instructions before using the lift.

2. Park the car in the middle of the two columns;

3. Swing the lifting arms beneath the approved vehicle lifting points. Position the vehicle’s centre of gravity centrally between the four arms.

4. Switch on the power. Carefully press UP until the lifting pads contact the approved vehicle lifting points.

5. Keep going up, get the car off the ground, and then check the car's position again

6. Raise to the required height and check that the vehicle is secure. Press LOCK to lower the carriages onto the mechanical safety locks before working beneath the vehicle.

Down

1. 1. Check that the area beneath the lift is clear. Unlock the emergency-stop switch.

2. Hold the DOWN button on the control box. The lift first rises approximately 50 mm to release the load on the safety locks. The electromagnets then release the locks and the lift lowers.

3. When the lifting arm falls completely, place the lift arm at a position of 180 ° Remove all surrounding obstacles;

4. Drive the vehicle away.

Problem diagnosis and solution

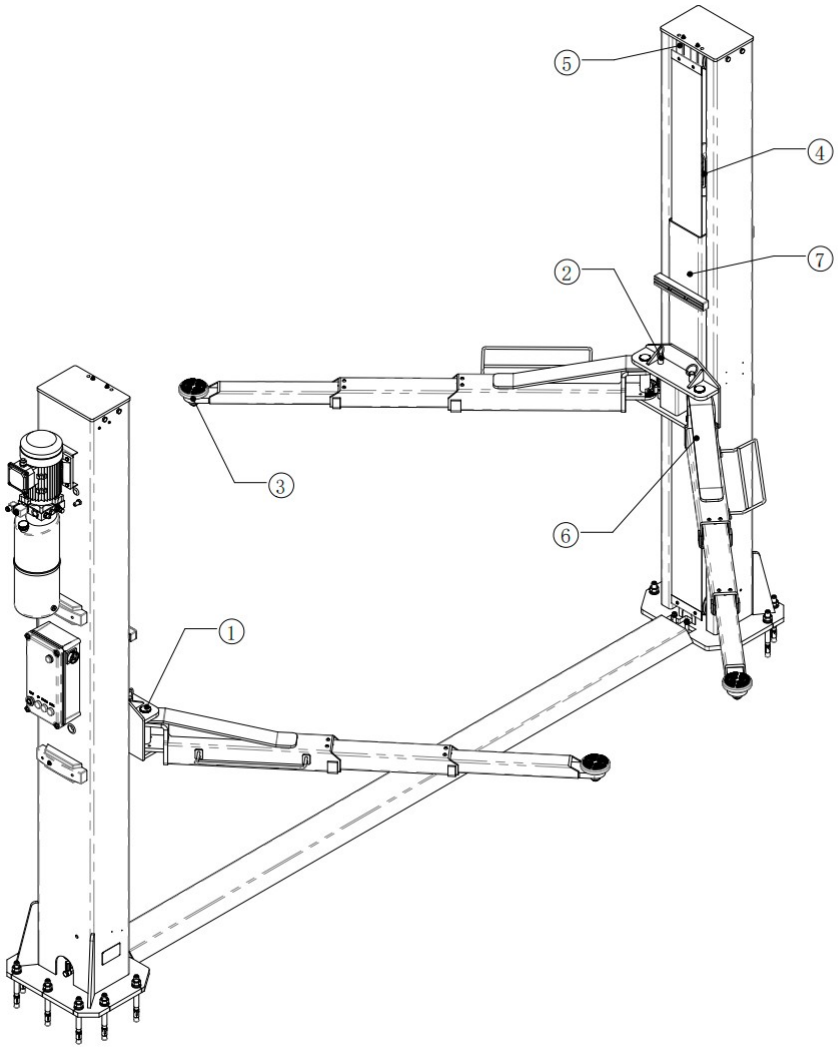
Attention If you can't solve the problem, please contact the manufacturer for help.
Provide a description and photographs of the fault so that Hammer Tools can assist with diagnosis.

Fault phenomenon	cause	solutions
Abnormal noise	Friction or scoring inside the column	Add lubricating oil to the inner column
	Obstructions inside the column	Clean up internal obstacles
The motor does not turn and not rise	Motor winding damaged	Replace the motor
	Bad wire contact	Check and connect the lines
	Limit-switch wiring disconnected or switch malfunction	Connect the line. Adjust or replace the limit switch
The motor turns but does not rise	Incorrect motor rotation direction	Correct wire connection
	Pressure-relief valve loose or obstructed	Adjust or clean the pressure-relief valve
	The gear pump is damaged	Replace the gear pump
	Hydraulic oil insufficiency	Replenishing hydraulic oil
	Suction pipe loose	Tightening suction pipe
	Cushioning valve loose or obstructed	Tighten or clean the buffer valve
Lift slowly sinks after raising	Cylinder seal leaking	Replacement of seals
	Check valve leaking or defective	Dismantle and clean the component; replace it if necessary.
	Pressure-relief valve defective	Dismantle and clean the component; replace it if necessary.
	Manual lowering valve or solenoid lowering valve defective	Dismantle and clean the component; replace it if necessary.
	Wire ropes loose or incorrectly adjusted	Check wire-rope tension and level adjustment
Lifting too slowly	The oil filter is blocked	Dismantle and clean the component; replace it if necessary.
	Air in the hydraulic oil	Replenishing hydraulic oil
	Incorrect pressure-relief valve adjustment	adjust
	Hydraulic oil hotter than 45 °C	Replace the hydraulic oil
	Wear of oil cylinder seals	Replacement of seals piece
	Cylinder lubrication is not good	Replace the lubricating oil within the cylinder
Lowering too slowly	Flow-control valve stuck or obstructed	Dismantle and clean the component; replace it if necessary.
	The hydraulic oil is dirty	Replace the hydraulic oil
	Hose-rupture valve obstructed	Replace the hose-rupture valve
	Oil tube obstruction	Oil tube obstruction

Wire rope frayed	No grease lubrication during installation	Replace the steel cable

Maintenance instruction

The routine maintenance of simple and low cost can ensure the normal operation and safety of the machine. The following are the routine maintenance requirements.



The following recommended routine maintenance time can be based on the use environment and frequency of the lift.

The parts that need lubrication are shown below:

1.arm pin 2.unlock axis 3.pad 4.chain wheel 5.up/down rope wheel 6.chain 7.slider (nylon block□

6.1 Check the following items before daily operation

Before each use, inspect the lift. Check the safety locks every day. A faulty safety lock can cause serious injury or death. Do not operate a lift with defective safety equipment.

During operation, listen for the engagement of all mechanical safety locks.

▲ Check the connection and leakage of the hydraulic pipe.

▲Check the connection of the chain, the connection of the steel cable, the electrical part

▲ Check the fastening of anchor bolts.

Check that the teeth of each arm lock engage correctly.

6.2 Weekly check content

▲Check the flexibility of the moving parts.

▲Check the status of security components.

▲ Check the volume of hydraulic oil. Press the ascending key to make the platform rise to the highest level. If you can't reach the highest altitude, the hydraulic oil in the tank is not enough.

▲Check the tightening of expansion bolts.

6.3 Contents of monthly routine inspection

▲Fastening of bolts

▲The sealing of hydraulic system, if oil leak detection, tighten the joint position.

Check the pins, rollers, carriages, lifting arms and related moving parts for wear and correct lubrication. Replace damaged parts promptly.

▲ Check the lubrication and wear of the steel cable.

6.4 Content of annual routine inspection

▲Empty the tank to check the hydraulic oil condition.

▲Clean the filter in the tank.

Use lithium-based grease to lubricate the lift.

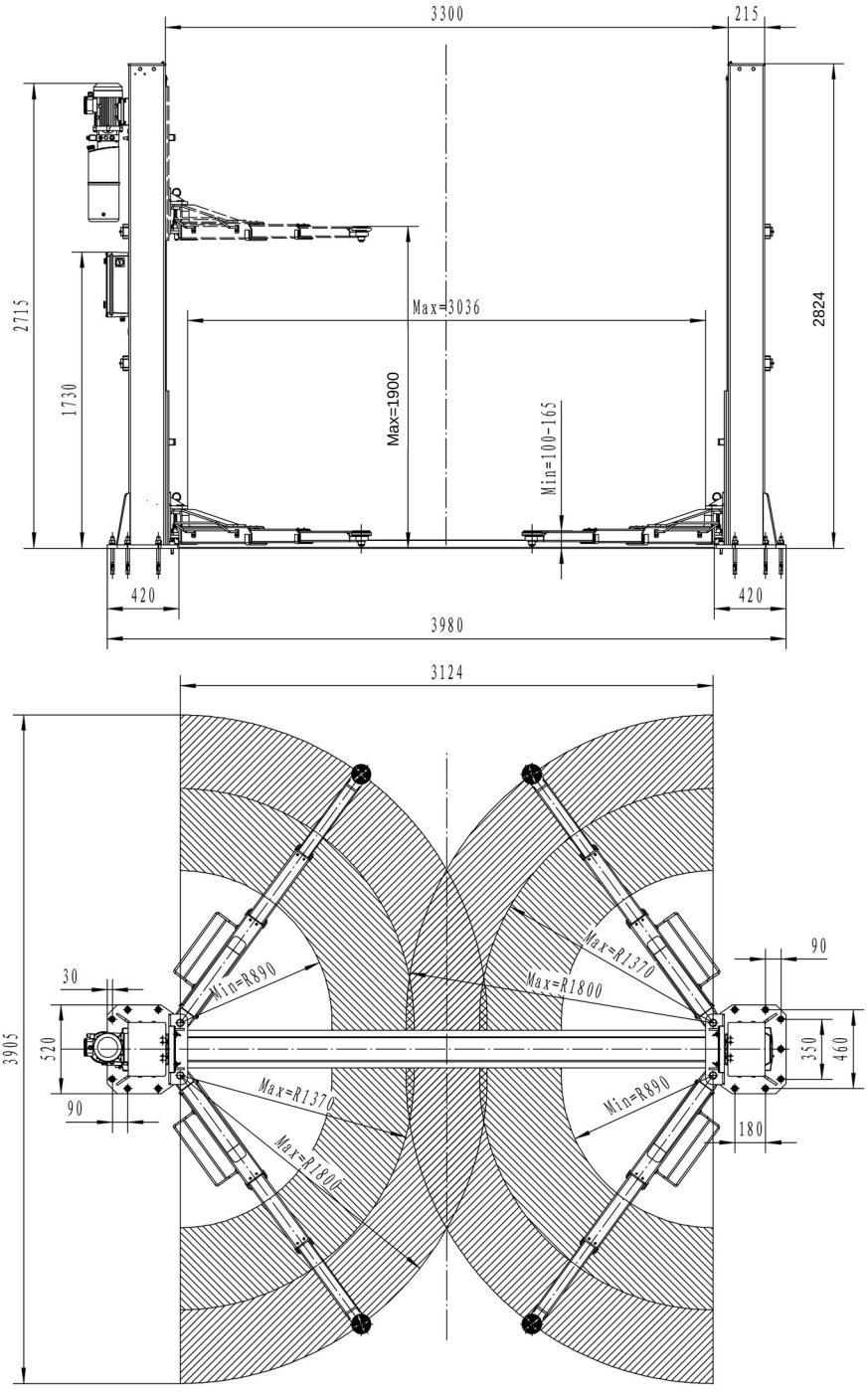
Warning: If the machine is maintained in strict accordance with the above requirements, the machine will always be in a normal working state.

At the same time, it can largely avoid accidents.

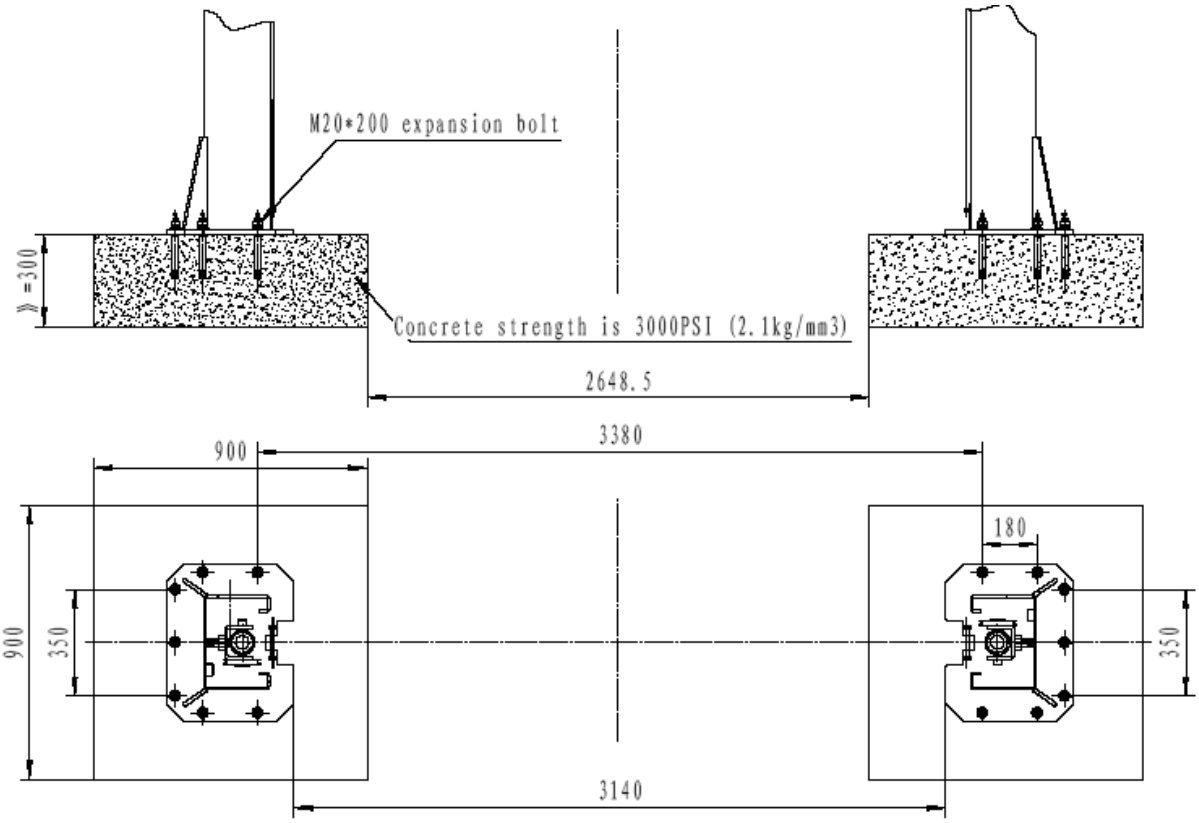
Enclosure 1: Accessories box

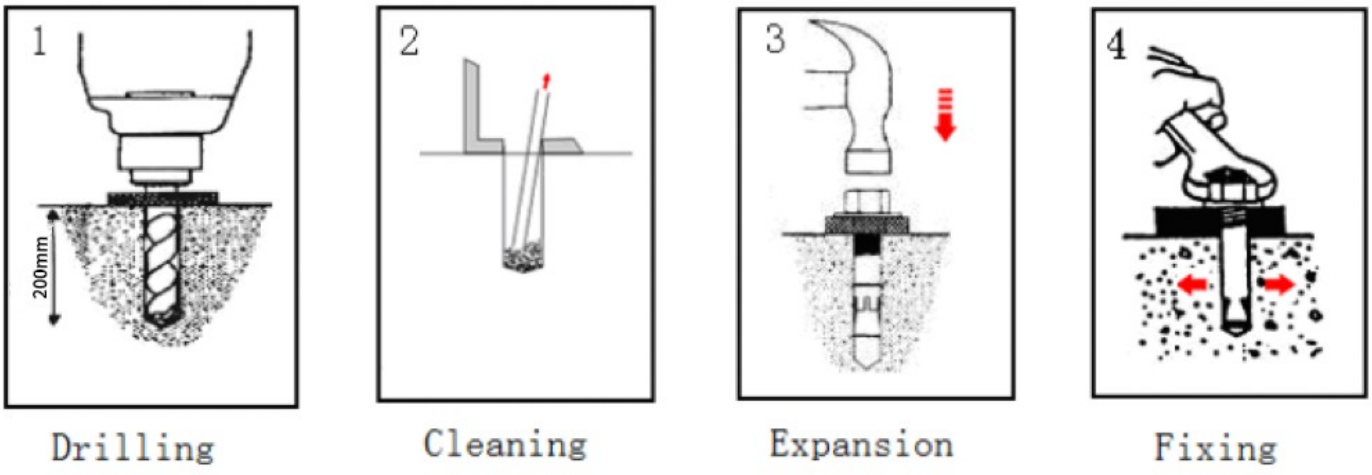
No.	Description	Qty.	Dimensions / version
1	Column curtain	2	170 × 2700
2	Curtain hook	4	M6 × 102
3	Nut	4	M6; grade 4.8, galvanized
4	Flat washer	4	M8; grade 4.8, galvanized
5	Cross pan-head screw	4	M6 × 16; grade 4.8, galvanized
6	Hexagon screw	4	M8 × 25; grade 4.8, galvanized
7	Flat washer	4	M8; grade 4.8, galvanized
8	Spring washer	4	M8; grade 4.8, galvanized
9	Nut	4	M8; grade 4.8, galvanized
10	Anchor bolt	14	M20 × 200; galvanized
11	Release electromagnet	4	Ø 60 × 77
12	Round-head cross screw	16	M5 × 8; grade 4.8, galvanized
13	Safety block	4	94 × 50 × 10
14	Safety-block fixing plate	4	10 × 10 × 20
15	Cross pan-head screw	4	M6 × 16; grade 4.8, galvanized
16	Safety cover	4	250 × 85 × 46; plastic
17	Cross pan-head screw	8	M5 × 12; grade 4.8, galvanized
18	Upper limit switch with cable	1	—
19	Cross pan-head screw	2	M5 × 12; grade 4.8, galvanized
20	Three-stage adjustable pad	4	Ø 107 × 90
21	External circlip	4	Ø 50; black
22	Expansion anchor	4	M10 × 90; galvanized
23	Hydraulic hose	1	2-M14 × 1.5; L=3380
24	Hydraulic hose	1	2-M14 × 1.5; L=320
25	Cross pan-head screw	2	M5 × 12; grade 4.8, galvanized

Appendix 2: Dimensions

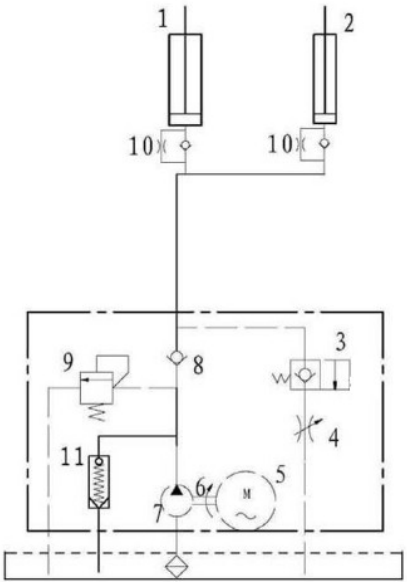


Enclosure 3 Foundation installation drawing





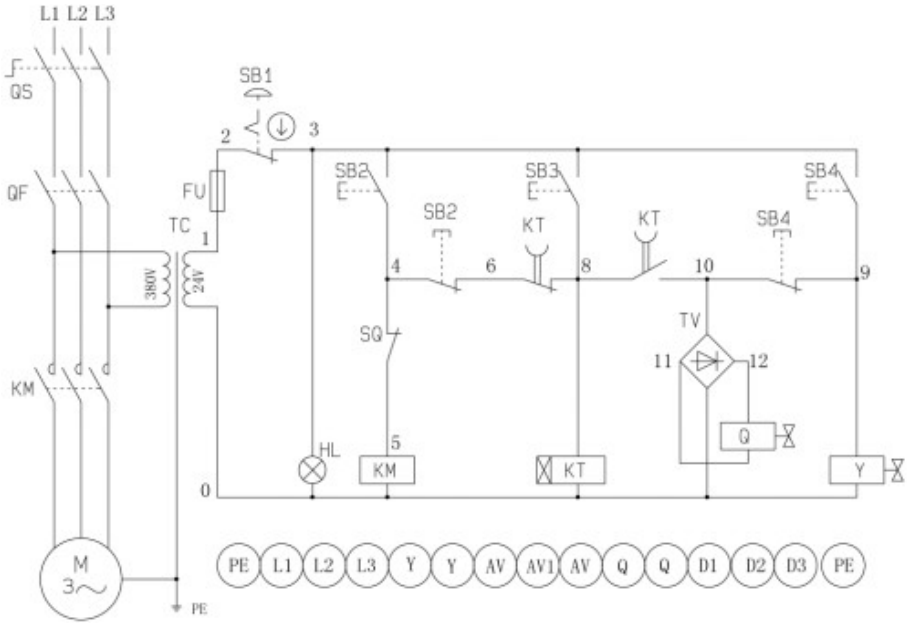
Enclosure 4 Hydraulic schematic diagram



1. Main cylinder
2. Sub cylinder
3. Manual lowering valve
4. Flow control valve
5. Motor
6. Gear pump
7. Tank
8. Check valve
9. Pressure-relief valve
10. Hose-rupture valve
11. Cushioning valve

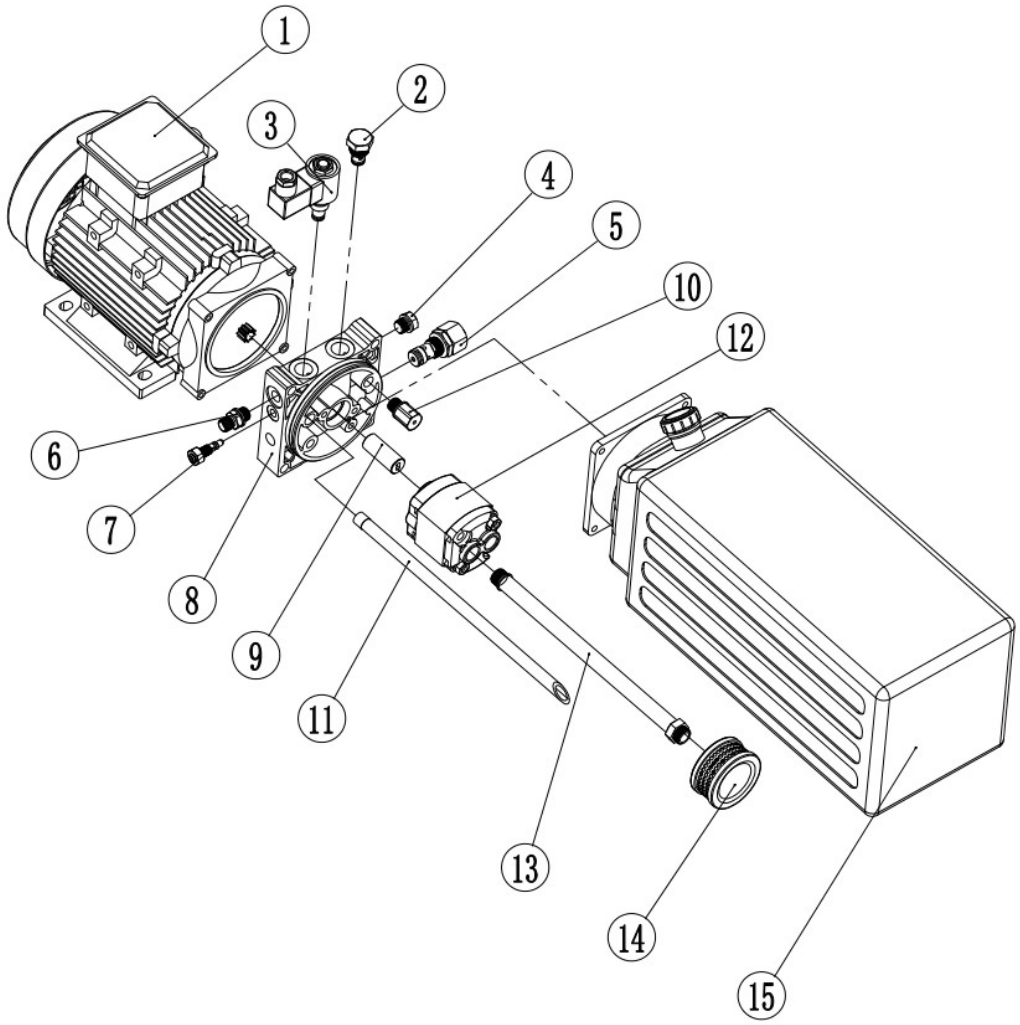
Enclosure 5 Electrical schematic diagram

400 V three-phase – electrical schematic (source circuit labelled 380 V). Match the actual motor and control components to the nameplate before connection.



QS	Power Switch	QF	Breaker	KM	AC contactor	TC	Transformer
FU	Fuse	SB1	Emergency stop switch	HL	Indicator light	SB2	UP button
SQ	Limit switch	KT	Time Relay	SB3	Down button	TV	Rectifier bridge
Q	Safety-release electromagnet	SB4	Lock button	Y	Electromagnetic Valve	M	Motor

Enclosure 6: Part drawing and list of power unit


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No.	Mark code	Name	Specification	Qty.	Remarks
1		Motor	400 V / 50 Hz / 2.2 kW / three-phase	1	
2	—	Check valve	DF	1	
3	—	AC24C solenoid valve	DF	1	
4	—	Restrictor plug	M14*1.5	1	
5	—	Pressure-relief valve	DF	1	
6	—	Three way ball valve joint	2-M14*1.5-L=35.5	1	
7	—	Oil flow control valve	DF	1	
8	—	Valve plate	DF	1	
9	—	Coupling	DF	1	
10	—	Cushioning valve	DF	1	
11	—	Oil return pipe	10L	1	
12	— —	Gear pump	CBK -F 2.1F CBK -F 2.5F	1	
13	—	Suction tubing	10L	1	
14	—	Oil filter	DF	1	
15	—	Plastic tank	10L	1	

Illustration terminology

In source illustrations, “insurance” refers to mechanical safety locks, “power unit” to the hydraulic power unit and “parachute valve” to the hose-rupture valve. The wiring labels and terminal identifiers must be matched to the actual components by a qualified electrician.