

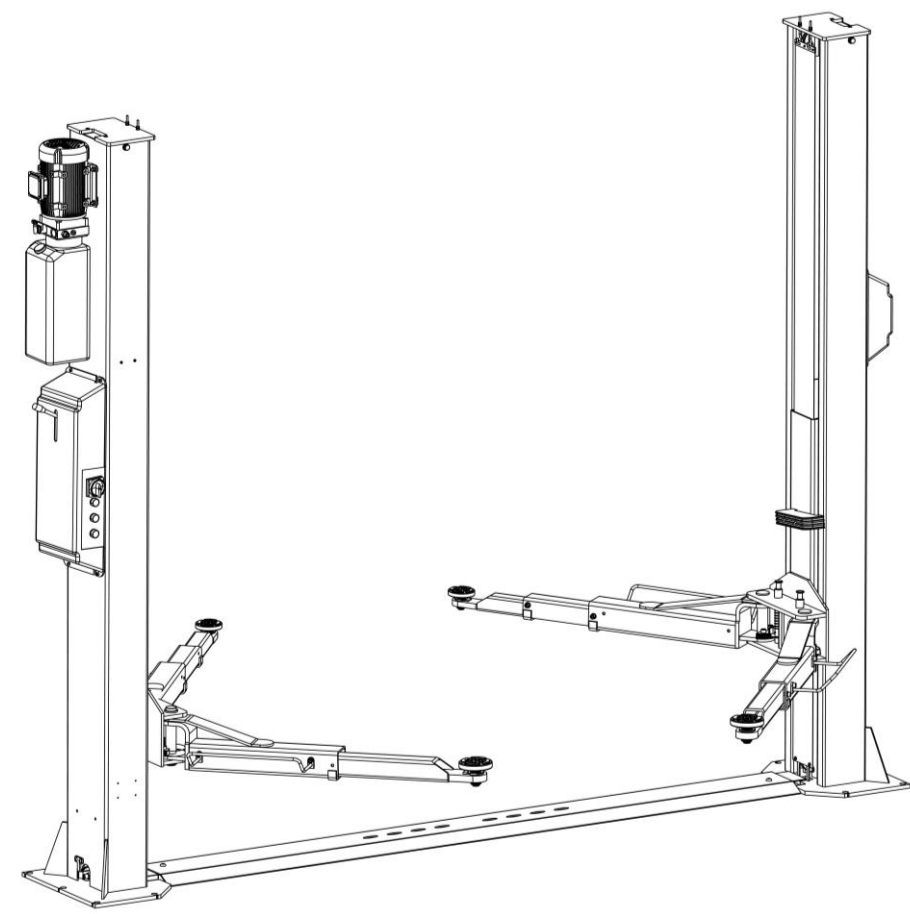
Model No. EE-F10M

Two Post Lift,
Manual Release
Lifting Capacity 4200kg

Installation, Operation and Parts Manual



EAE



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Please read this entire manual carefully and completely before installation or operation of the lift.

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www.eae-ae.com

IMPORTANT NOTES

Before start up, connecting and operating EAE products, it is absolutely essential that the operating instructions/owner's manual, and in particular the safety instructions are studied carefully. By doing so you can eliminate any uncertainties in handling EAE products and thus associated safety risks up front; something which is in the interest of you own safety and will ultimately help avoid damage to the device, When an EAE product is handed over to another person, not only the operating instructions but also the safety instructions and information on its designated use must be handed over to the person.

By using the product you agree the following conditions:

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The use of non-approved hardware will result in a modification of our products and thus to the exclusion of any liability or warranty, even if such hardware has been removed again in the interim.

It is not permissible to make any changes to our products and these are not only to be used together with genuine accessories and genuine replacement parts. Otherwise any warranty claims will be invalid.

Liability

The liability of EAE is limit to the amount that the customer has actually paid for this product. This exclusion of liability does not apply to damages caused through willful misconduct or gross negligence on the part of EAE.

All information in this manual is believed to be correct at time of publication.

EAE reserves the right to amend and alter technical data and composition without prior notice.

Please confirm at time of ordering.

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SAFETY NOTES

1.1 Operation of lifting platforms

This lift is specially designed for lifting motor vehicles. Users are not allowed to use it for any other purposes. The applicable national regulations, laws and directives must be observed.

Only users aged 18 or above who have been instructed on how to operate the lifting platform and have proven their ability to do so to the owner are to be entrusted with unsupervised operation of lifting platforms. The task of operating the lifting platforms must be granted in writing.

Before loading a vehicle onto the lift, users should study the original operation instructions and familiarize themselves with the operating procedures in several trial runs.

Lift vehicle within the rated load. Don't attempt to raise vehicles with excessive weight.

1.2 Checking of the lifting platforms

Checks are to be based on the following directives and regulations:

- Basic principles for testing lifting platforms
- The basic health and safety requirement
- The applicable accident prevention regulations

The checks are to be organized by the user of the lifting platform. The user is responsible for appointing an expert or qualified person to perform checking. It must be ensure that the person chosen satisfies the requirements.

The user bears special responsibility if employees of the company are appointed as experts or qualified persons.

1.2.1 Scope of checking

Regular checking essentially involves performing a visual inspection and a functional test. This includes checking the condition of the components and equipment, checking that the safety systems are complete and functioning properly and that the inspection log book is completely filled in. The scope of exceptional checking depends on the nature and extent of any structural modification or repair work.

1.2.2 Regular checking

After initial commissioning, lifting platforms are to be checked by a qualified person at intervals of not longer than one year.

A qualified person is somebody with the training and experience required to possess sufficient knowledge of lifting platforms and who is sufficiently familiar with the pertinent national regulations, accident prevention regulations and generally acknowledged rules of engineering to be able to assess the safe operating condition of lifting platforms.

1.2.3 Exceptional checking

Lifting platforms with a lift height of more than 2 meters and lifting platforms intended for use with people standing under the load bearing elements of the load are to be checked by an expert prior or reuse following structural modifications and major repairs to load bearing components.

An expert is somebody with the training and experience required to possess specialist knowledge of lifting platforms and who is sufficiently familiar with the pertinent national work safety regulations, accident prevention regulations and generally acknowledged rules of engineering to be able to check and give an expert option on lifting platforms.

1.3 Important safety notices

- 1.3.1 The lift is designed for indoor installation only. Do not expose the lift to rain, snow or excessive moisture. Do not use the lift near explosives or open areas containing inflammable liquids.
- 1.3.2 Only use this lift on a surface that is stable and capable of sustaining the load. Do not install the lift on any asphalt surface.
- 1.3.3 Read and understand all safety warnings before operating the lift.
- 1.3.4 Do not leave the controls while the lift is still in motion.
- 1.3.5 Keep hands and feet away from any moving parts. Keep feet clear of the lift when lowering.
- 1.3.6 Only these properly trained personnel can operate the lift.
- 1.3.7 Do not wear unfit clothes such as large clothes with flounces, tires, etc., which could be caught by moving parts of the lift.
- 1.3.8 To prevent evitable incidents, surrounding areas of the lift must be tidy and with nothing unconcerned.
- 1.3.9 The lift is simply designed to lift the entire body of vehicles, with its maximum weight within the lifting capacity.
- 1.3.10 Always insure the safety locks are engaged before any attempt to work near or under the vehicle. Never remove safety related components from the lift. Do not use if safety related components are damaged or missing.
- 1.3.11 Do not rock the vehicle while on the lift or remove any heavy component from vehicle that may cause excessive weight shift.
- 1.3.12 Check at any time the parts of the lift to ensure the agility of moving parts and the performance of synchronization. Ensure regular maintenance and if anything abnormal occurs, stop using the lift immediately and contact our dealers for help.
- 1.3.13 Lower the lift to its lowest position and do remember to cut off the power source when service finishes.
- 1.3.14 Do not modify any parts of the lift without manufacturer's advice.
- 1.3.15 If the lift is going to be left unused for a long time, users are required to:
- a. Disconnect the power;
 - b. Empty the oil tank;
 - c. Lubricate the moving parts with hydraulic oil.




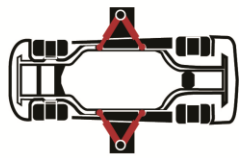
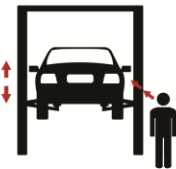


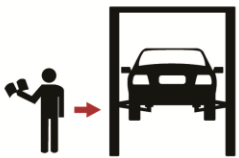
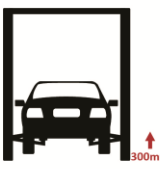
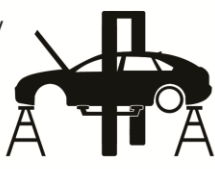




WARNING: The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

1.4 Warning labels

All safety warning labels are clearly depicted on the lift to ensure that the operator is aware of and avoid the dangers of using the lift in an incorrect manner. The labels must be kept clean and they have to be recommended by the vehicle manufacturer. Please read carefully the meaning of each label and remember them for future operation.

SAFETY ADVICE

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CAUTION	
 <p>ONLY trained and authorized persons are permitted to operate the lift .</p>	<p>Read the complete instructions for operating and trouble shooting.</p> 
 <p>Always keep the lift area free of obstructions before raising or lowering.</p>	<p>Position pads under pick-up points recommended by the vehicle manufacturer.</p> 
 <p>Observe the load throughout the motion of the lift .</p>	<p>Engage the locking mechanism before working under the vehicle.</p> 
 <p>Wear proper Personal Protection Equipment before working under lifted vehicles.</p>	<p>Carry out maintenance regularly as required in the manual.</p> 
WARNING	
 <p>Check support for secure contact with vehicle and check the engagement of arm locks after a short rise less than 300mm.</p>	<p>Always use safety stands when heavy vehicle components are removed or installed.</p> 
 <p>Do not climb or travel on the raised arms or vehicles.</p>	<p>Avoid excessive rocking of vehicle on lift .</p> 
DANGER	
 <p>Do not stand under the load during lifting and lowering movement.</p>	<p>Do not interrupt or modify safety and protective device.</p> 

The instructions , cautions and warnings written above as well as in the in Manual cannot cover all possible conditions and situations that may occur. The Common sense for safety must be always in the mind of the operator. For damages caused through willful misconduct or gross negligence, the manufacturer or distributors are excluded of liability.

1.5 Potential safety risks

1.5.1 Mains voltage



Insulation damage and other faults may result in accessible components being live.

Safety measures:

- Only ever use the power cord provided or a tested power cord.
- Replace wires with damaged insulation.
- Do not open the operating unit.

1.5.2 Risk of injury, danger of crushing

In the event of excessive vehicle weight, incorrect mounting of the vehicle or on removing heavy object, there is a risk of the vehicle falling off or tipping up.

Safety measures:

- The lift is only ever to be employed for the intended purpose.
- Carefully study and heed all the information given in section 1.4.
- Observe the warning notices for operation.

1.6 Noise level

Noise emitted during operating the lift should be less than 70dB (A). For your health consideration, it is suggested to place a noise detector in your working area.

PACKING, STORAGE AND TRANSPORTATION

Packing, lifting, handling, transporting operations must be performed only by experienced personnel with appropriate knowledge of the lift and after reading this manual.

2.1 The lift was dismantled into the following 2 parts for transportation

Description	Packed by	Quantity
Lift	Steel brackets	1
Power unit	Carton	1

2.2 Storage

The packs must be kept in a covered and protected area in a temperature range of -10°C to +40°C. They must not be exposed to direct sunlight, rain or water.

Stacking the packs

We advise against stacking because the packs are not designed for this type of storage. The narrow base, heavy weight and large size of the packs make stacking difficult and potentially dangerous.

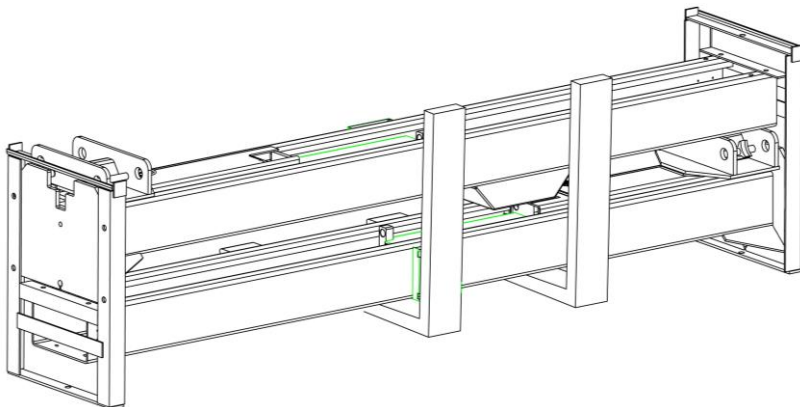
If stacking is unavoidable, use all appropriate precautions:

- Never stack to more than 2 meters in height.
- Never make stacks of single pack. Always stack pairs of packs in a cross pattern so that the base is bigger and the resulting stack is more stable. Once the stack is complete, restrain it using straps, ropes or other suitable methods.

A maximum of two packs can be stacked on lorries, in containers, and in railway wagons, on condition that the packs are strapped together and restrained to stop them falling.

2.3 Opening the packs

The packs can be lifted and transported only by using lift trucks. Never attempt to hoist or transport the unit using lifting slings.



When the lift is delivered make sure that it has not been damaged during transportation and that all the parts specified on the packing list are present.

Packs must be opened adopting all the precautions required to avoid injury to persons (Keep at a safe distance when cutting the straps) or damage to parts of the machine (Be careful that no parts are dropped while you are opening the packing).

Take special care with the hydraulic power unit and the cylinder.

PRODUCTS DESCRIPTIONS

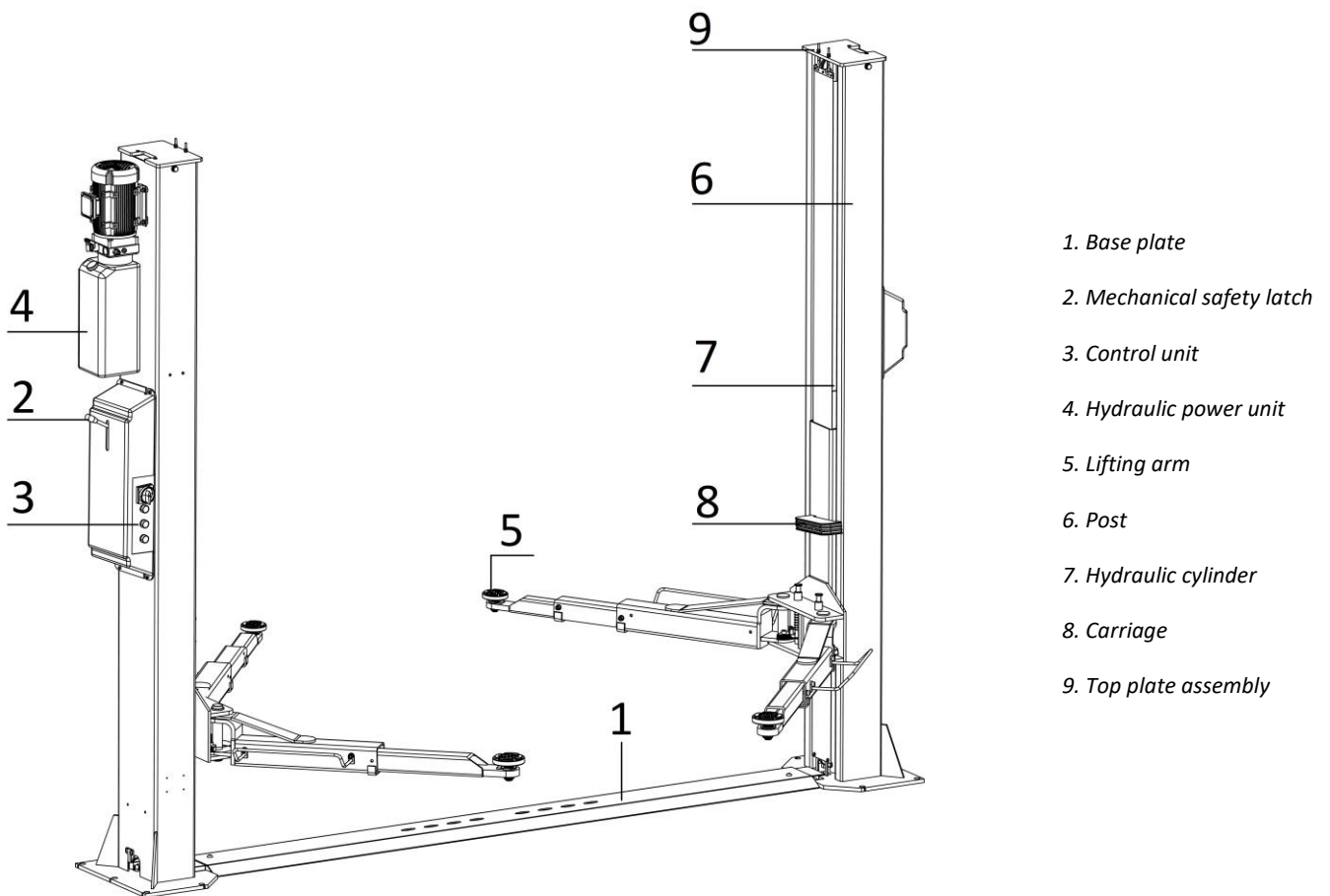
3.1 General descriptions

This is chassis supporting vehicle lift for road vehicles.

It is mainly composed by two posts, two carriages, four swing arms and a power and control unit.

It is driven by an electro-hydraulic system. The gear pump delivers hydraulic oil to oil cylinders and pushes upwards its piston. The cylinder piston drives to raise the carriage and swing arms. It is equipped with mechanical safety locking unit which ensures no risks of slipping off in case of hydraulic failure.

3.2 Construction of the lift

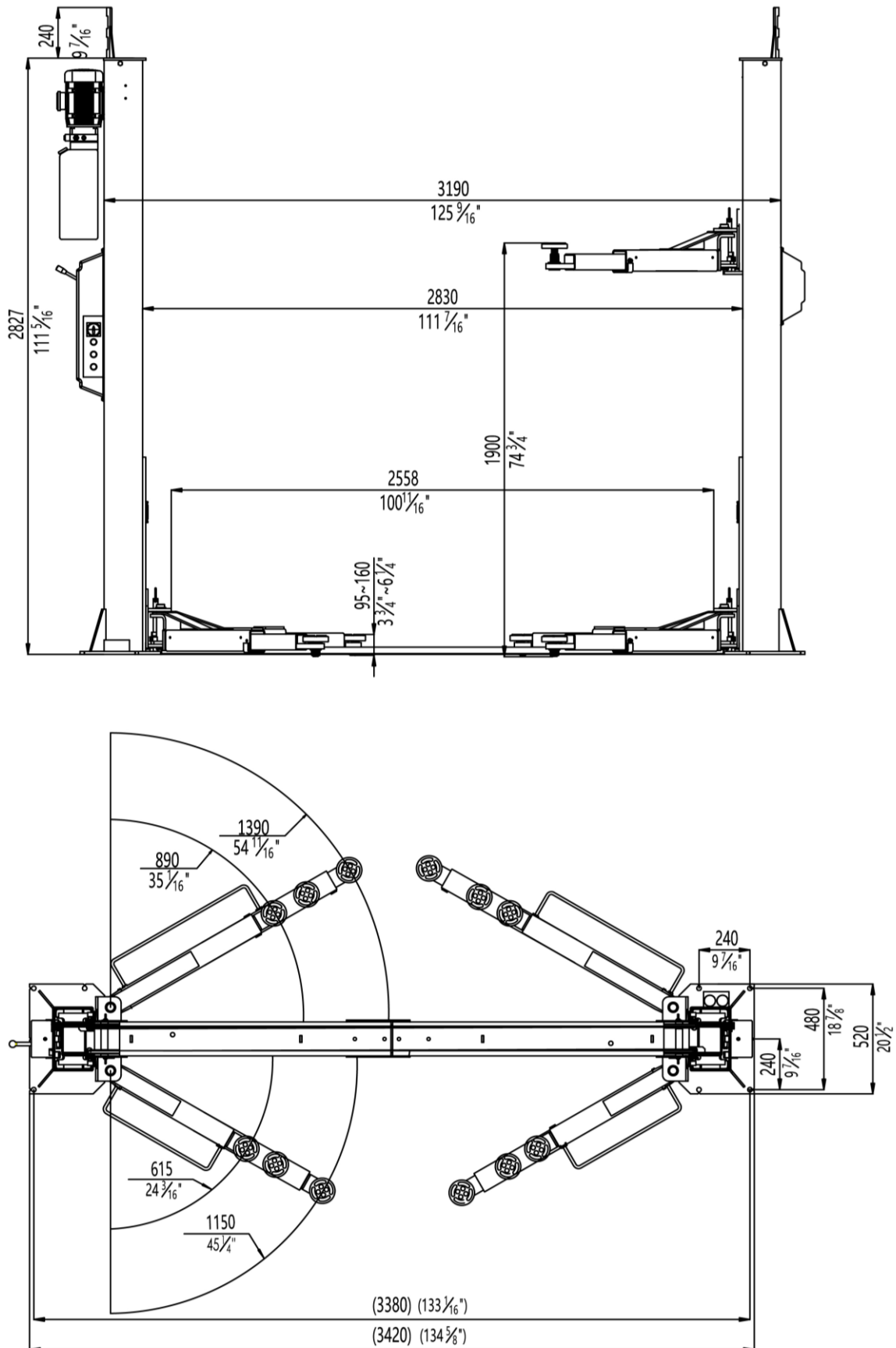


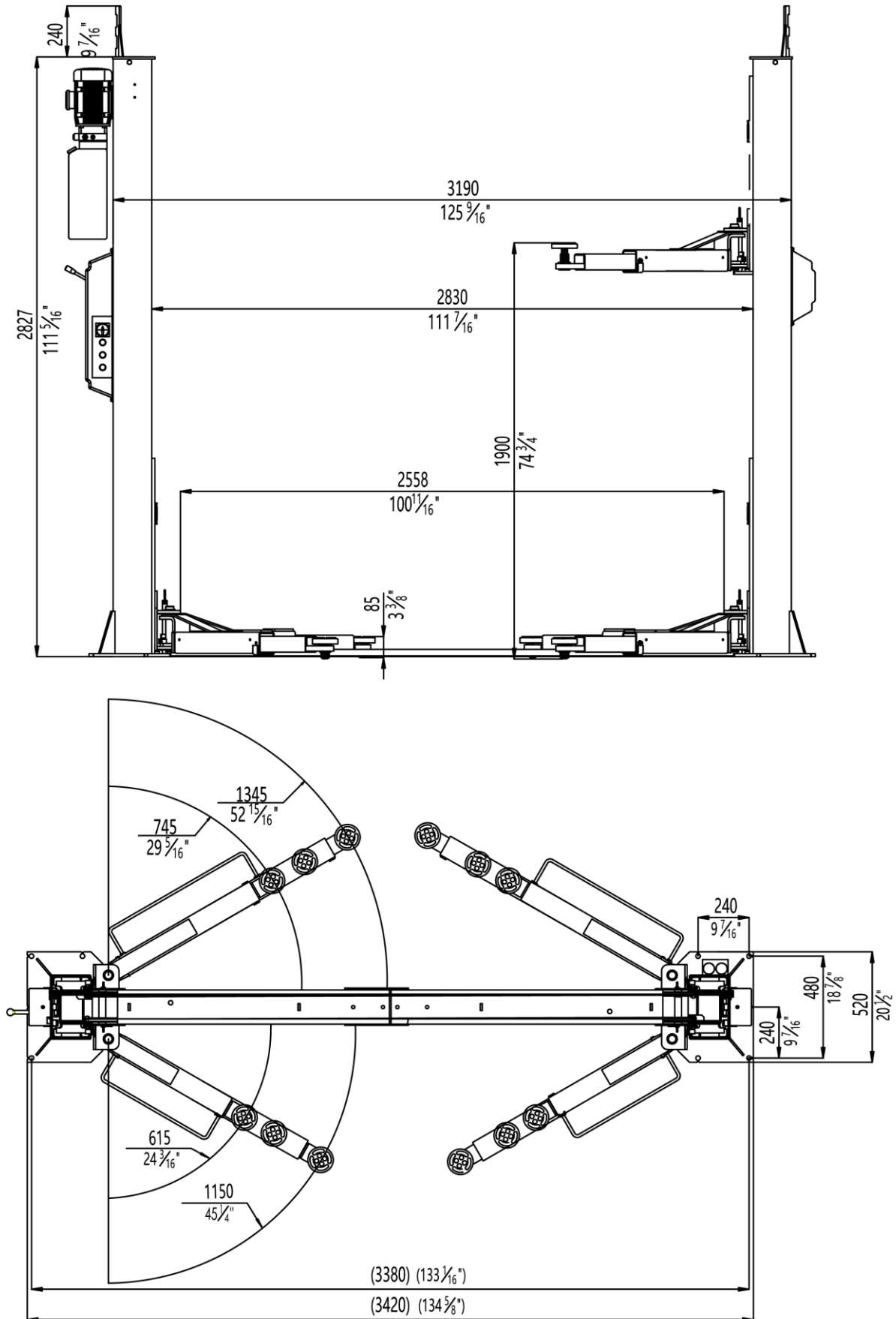
3.3 Technical data

Lifting capacity	4200kg
Max. height of pick-up adapter	1900mm(locking device disengaged)
Min. height of pick-up adapter(standard arm)	95mm
Full rise time(with rated load)	50~60s (2.2kW)
Oil tank volume	10L

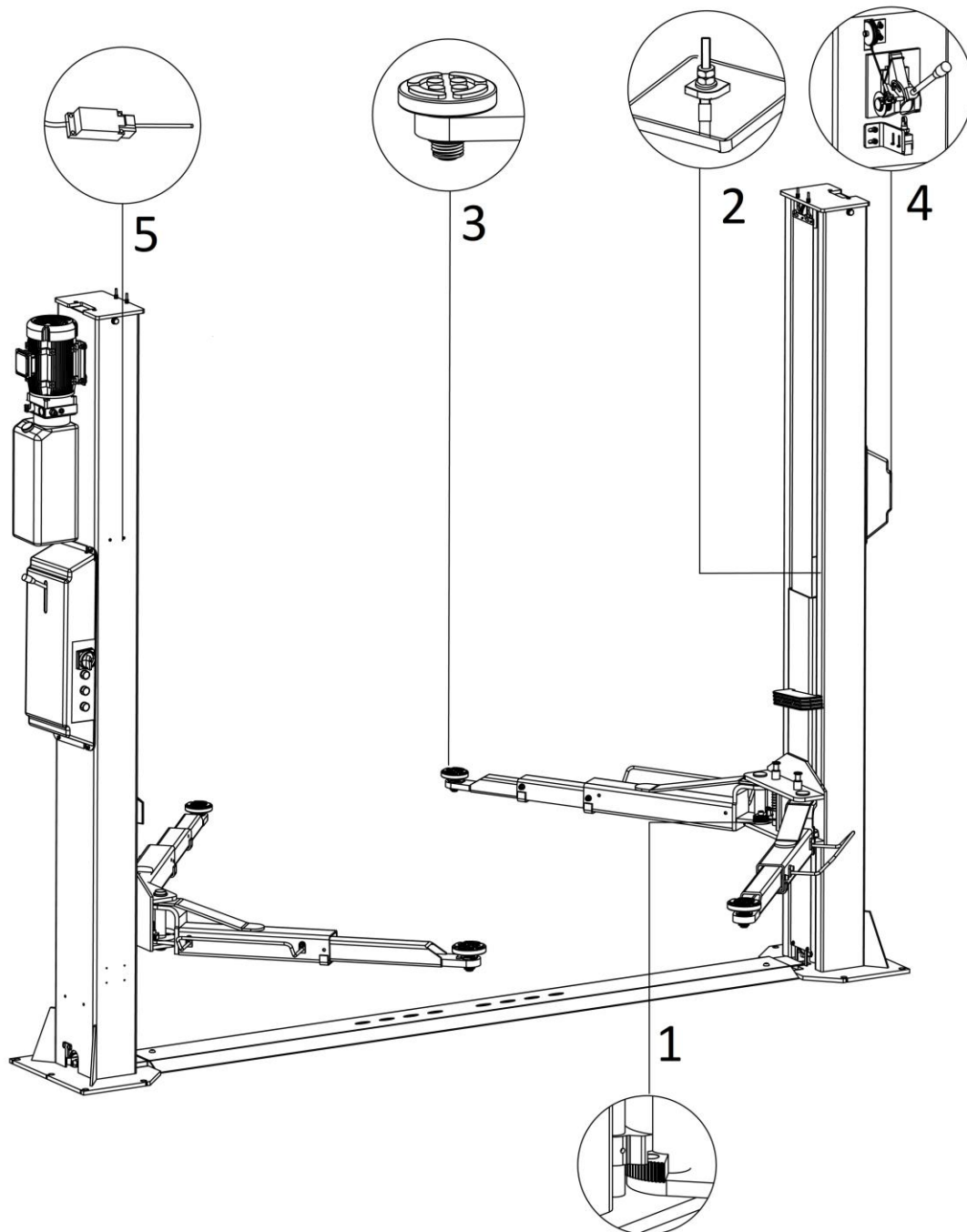
3.4 Dimensions

Dimension scheme with two 3-stage arms and two 2-stage arms (standard arms)



Dimension scheme with four 3-stage low-profile arms (optional arms)


3.5 Safety devices descriptions



Pos.	Safety layout	Function
1	Arm lock	Ensure the supporting arms are locked and avoid swinging during lifting process.
2	Steel rope	Ensure the synchronization for both carriages.
3	Rubber pad	Safe contact with the wheelbase.
4	Mechanical safety locking unit	Catch the carriages in case of hydraulic failure.
5	Max height limit switch	Stop rising at max height.

INSTALLATION INSTRUCTIONS

4.1 Preparations before installation

4.1.1 Space requirements

The lift is designed for indoor installation only. Do not expose the lift to rain, snow or excessive moisture. Do not use the lift near explosives or open areas containing inflammable liquids.

Refer to 3.4 for the dimensions of the lift. There must be sufficient space for driving and lifting vehicles and enough safety distance shall be reserved according to the regulations of the local authorities. It is advised to reserve a clearance of at least 1 meter between the lift and fixed elements (e.g. wall) in all lifting positions.

4.1.2 Foundations and connections

The user must have the following work performed before erecting the lift.

Construction of the foundation following consultation with the manufacturer's customer service or an authorized service agent. Routing of the wiring to the installation location. **The user must provide fuse protection for the connection. Electrical system connection must be done by licensed technicians.** Requirements for power supply cable of the installation site: at least 2.5mm² wire core for 3Ph power and 4.0mm² wire core for 1Ph power.

Refer also to the corresponding information on the name plate and in the operation instructions.

Before doing electrical connection, make sure the lift is electrically adapt to the local power supply.

4.1.3 Foundations preparations

Refer to Annex 1 for footing.

To ensure stability and safety under load, the lift shall be installed with the base frame being in direct and firm contact with the concrete foundation. Don't attempt to fix the base frame directly onto floor with ceramic and other decorated surfaces otherwise you put the lift into a very dangerous situation.

C25 concrete foundation with a minimum thickness of 200mm (7 7/8") (Continuous footing).

Surface under the base of the post: Horizontal and even (Gradients max. 0.5 %)

Newly built concrete ground must be older than 20days.

4.1.4 Tools and equipment needed for installation

Tool name	Specification	Quantity
Electrical drill	D18 drill bit	1
Open spanner	D17-19	2
Adjustable spanner	Bigger than D30	1
Cross socket screw driver	PH2	1
Quick spanner handle adapter/ Ratchet	REB-310	1
Socket spanner	D24	1
Levelling device	Accuracy: 1mm(1/16")	1
Hammer	10 pounds	1
Truck lift	Capacity, 1000kg (2200 lbs.)	1
Lifting strap	Capacity, 1000kg (2200 lbs.)	2
Torque spanner	MD400	1

4.2 Installation attentions

- 4.2.1 Tighten all hydraulic and electrical connections.
- 4.2.2 Tighten all screws, nuts and bolts.
- 4.2.3 Do not place any vehicle on the lift in the case of trial running.

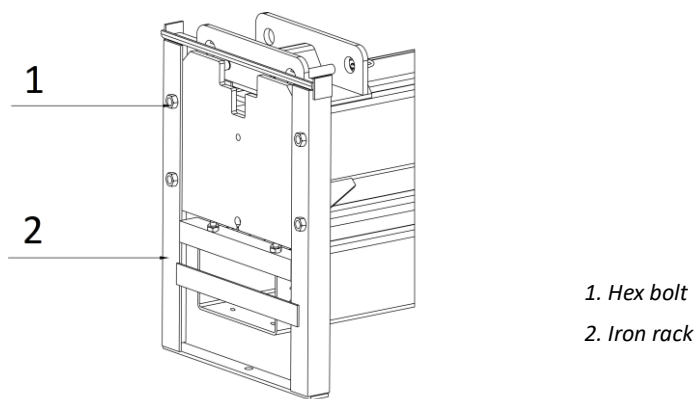
4.3 General installation steps

ONLY TRAINED AND QUALIFIED INSTALLERS CAN PERFORM LIFT INSTALLATION DUTIES.

Step 1: Remove the packaging and take out the accessories attached.

Attention : The packs must be opened adopting all the precautions required to avoid injury to persons (Keep at a safe distance when cutting the straps) or damage to parts of the machine (Be careful that no parts are dropped while you are opening the packaging).

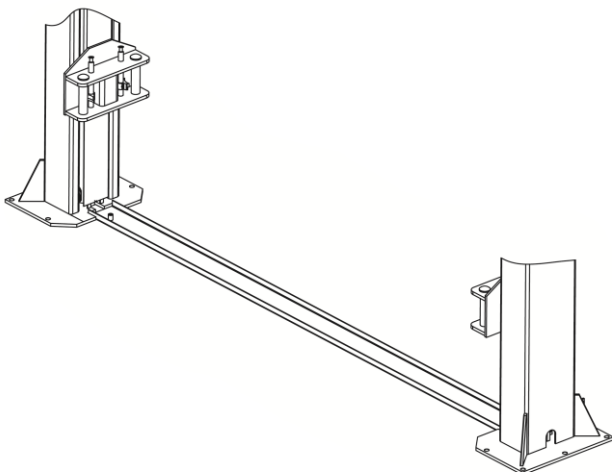
Use proper means (Put something supporting under the post or suspend the post by a crane) to suspend the post, unscrew and remove the bolts fixed on the iron rack.



Attention : Please pay special attention not to let the post fall down for it may cause casualty or bring damages to the accessories fixed in the post.

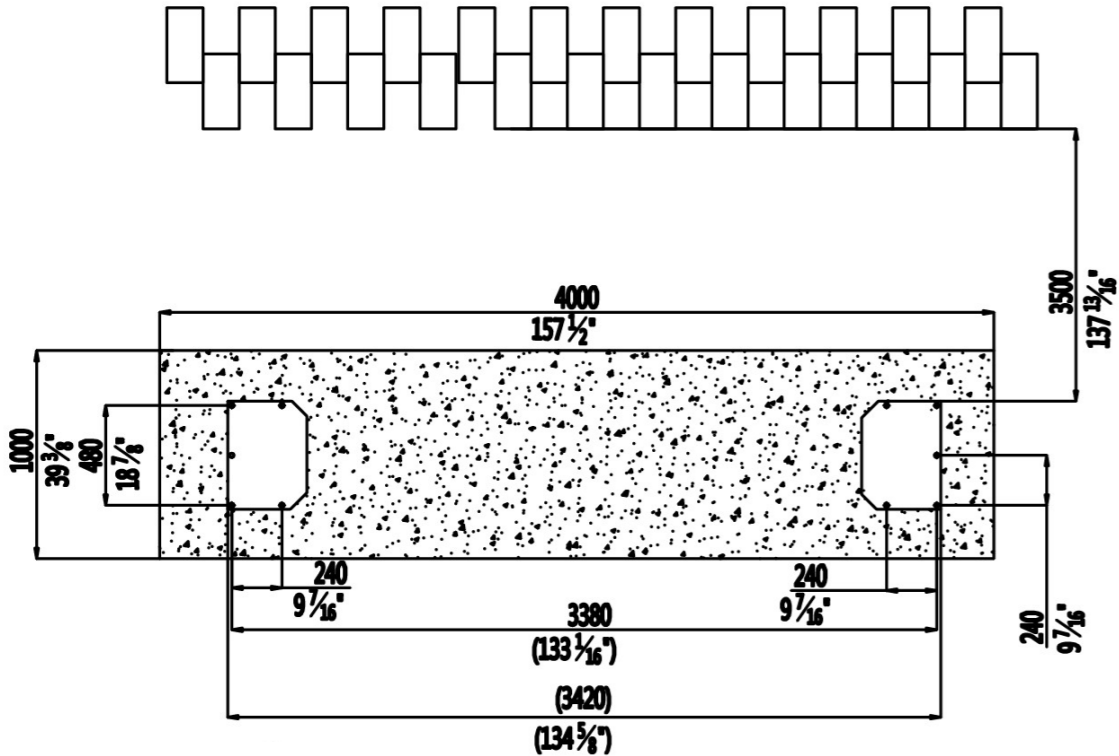
Step 2: Ascertain the mounting position and erect the posts. (See Annex 1, Floor plan)

1. Identify on which post the power unit will be mounted.
2. Draw an outline of the base plate on the installation ground with chalk and ascertain the position for the two posts.
3. Make the posts face to each other and the distance between the posts equals to the length of the base plate. Use proper means to erect the post. Use suitable means to raise the lifting carriage to the first locking position and then place the slot base plate between two base plates of the post.



Step 3: Secure the post with the floor using anchoring bolts.

1. Check and align the position of the two base plates again.



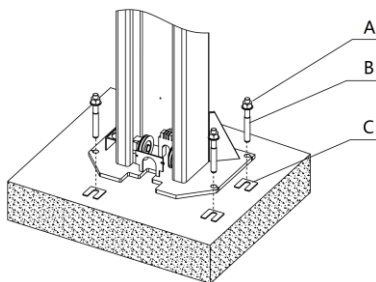
2. Use suitable means to raise the lifting carriage to the first latching position. All the mounting holes on the base plate are then accessible. Make sure the locking pawl is engaged.

3. Drill the mounting holes. Remove the drilling dust from the hole.

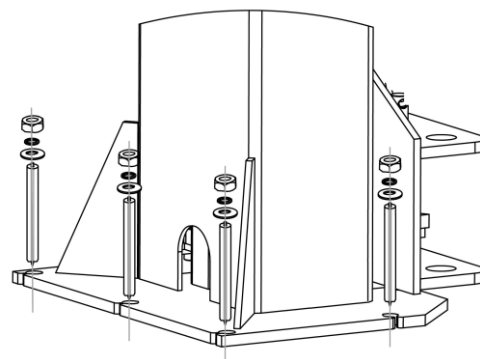
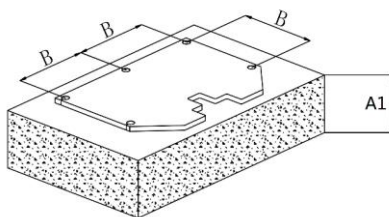
4. Use a spirit level to check the vertical alignment of the posts. Place equalizing plates under the base plates when it necessary to assure the verticality of the post.

Caution: Don't add more than 1 equalizing plate under one anchor position of the base plate, otherwise there could be risks of slanting due to uneven load transfer to the foundation.

5. Tighten the nuts. **Torque: 80-100Nm.**



- A. Nut
- B. Expansion anchoring bolt
- C. Equalizing plate



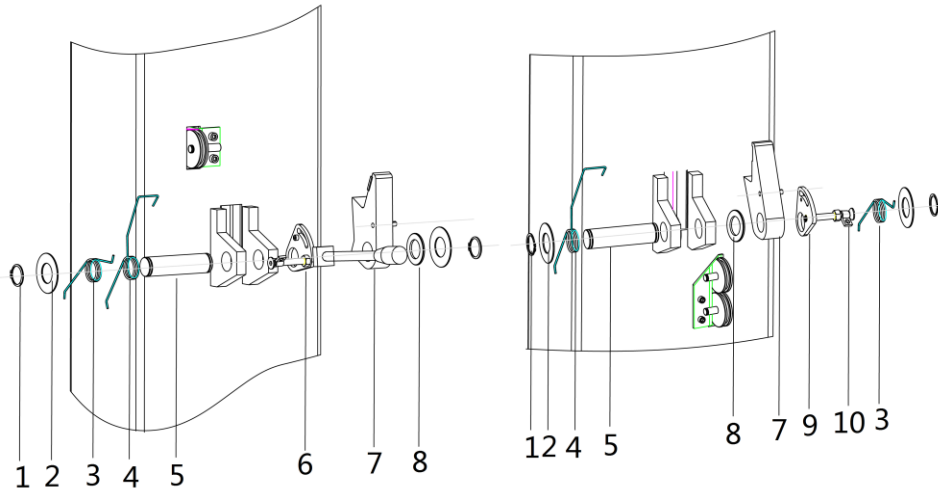
Anchoring bolt	A1 (Foundation thickness)	A2 (Drilling depth)	A3 (Anchoring depth)	B	C
M18x160	≥200mm	130mm	105mm	240mm	≤55mm

Step 5: Install the mechanical lock device.

1. Assemble the mechanical locking unit.

locking device on power side post

locking device on the secondary post



- 1.circlip
- 2.washer
- 3.spring 1
- 4.spring 2
- 5.shaft
- 6.release handle
- 7.hook
- 8.nylon spacer
- 9.release plate
- 10.rope installation fitting

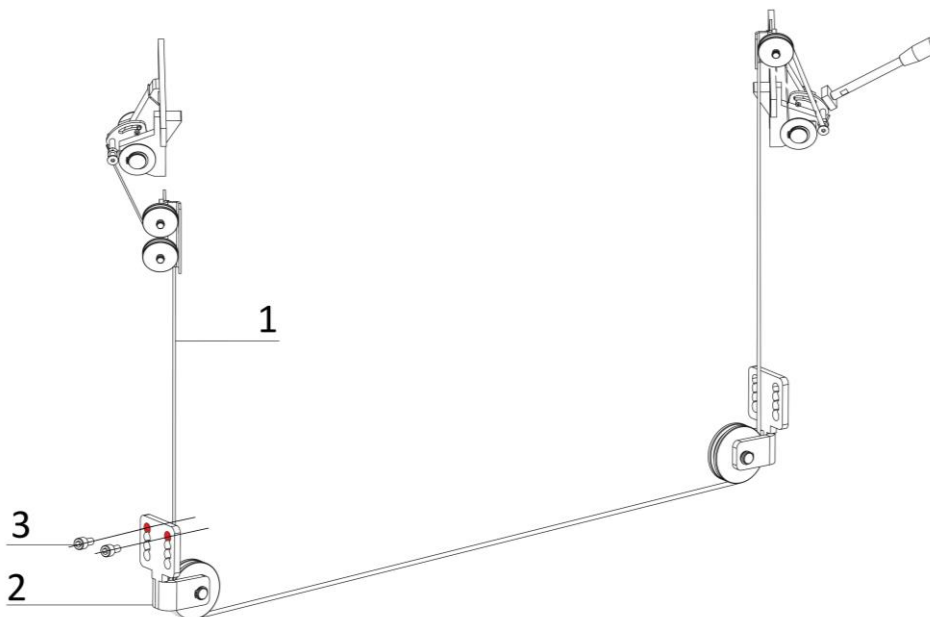
2. Route and fix the release rope for mechanical safety locking assembly.

There are 4 pairs of holes reserved on the holder (Pos.2).

For initial installation, it is advised to fix holder using the top pair of holes on the pulley holder.

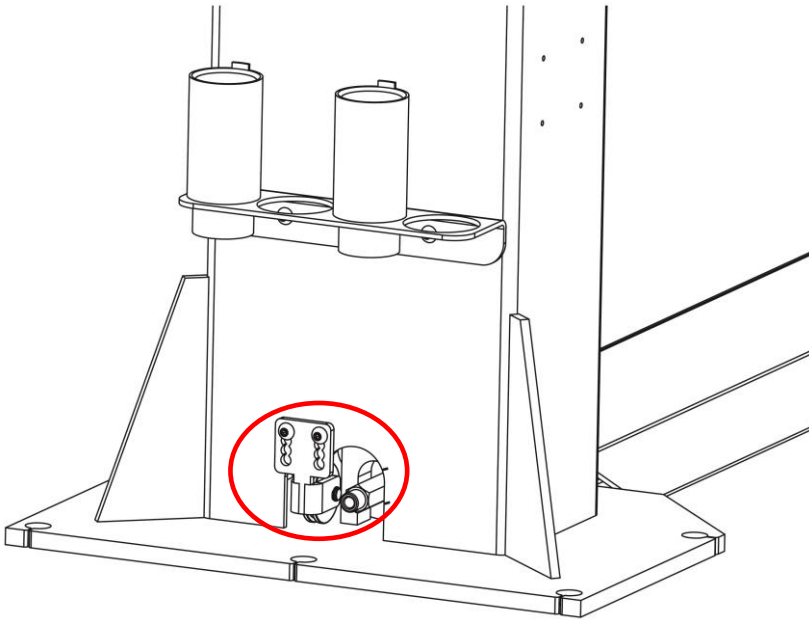
The rest holes on the holders are available for adjusting the tension of the rope which is very crucial to let the lock device function properly.

The vertical distance between the centers of the two consecutive holes on the holder is 8mm. (5/16")



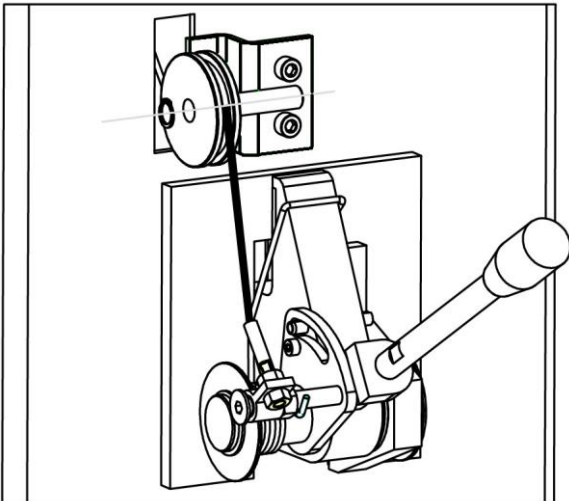
- 1. Release rope
- 2. Holder for guiding pulley
- 3. Hex socket button head screw M8x12

Caution! It is noted that the holder for the bottom pulley assembly shall be fixed outside the column.



3. Fix the release rope

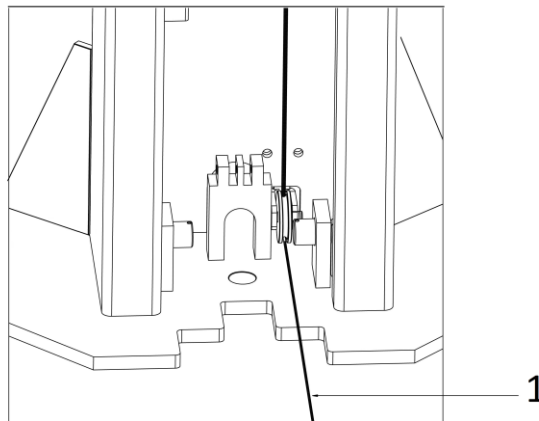
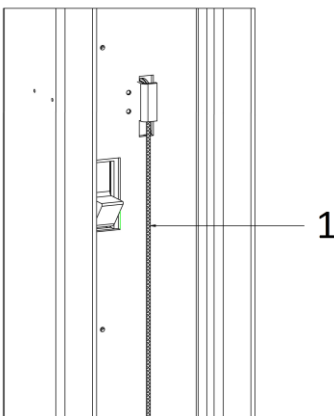
Release rope fixed at the operative side.



The release rope goes through pulleys at the bottom of the column.

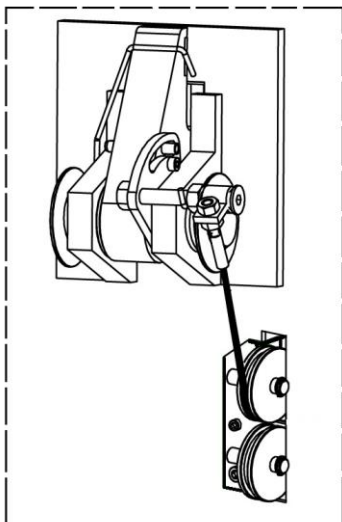
inside column

at the bottom of the column



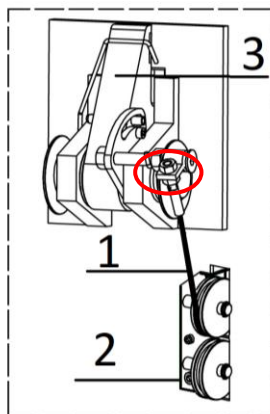
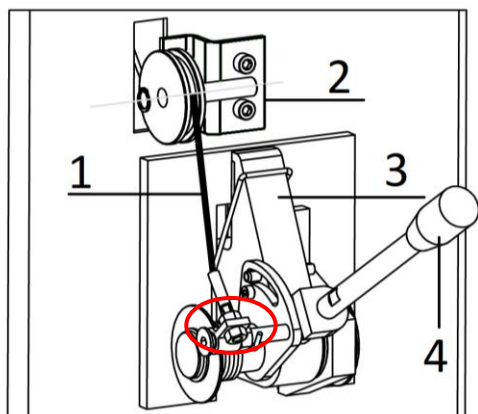
1. Release rope

Fix the other end of the rope to the locking unit at the other post.



Caution ! The holder of the pulley has to be dismantled from the column before making the release rope go through the pulley nearby the locking unit.

Caution ! Tighten the nuts showing in the below scheme

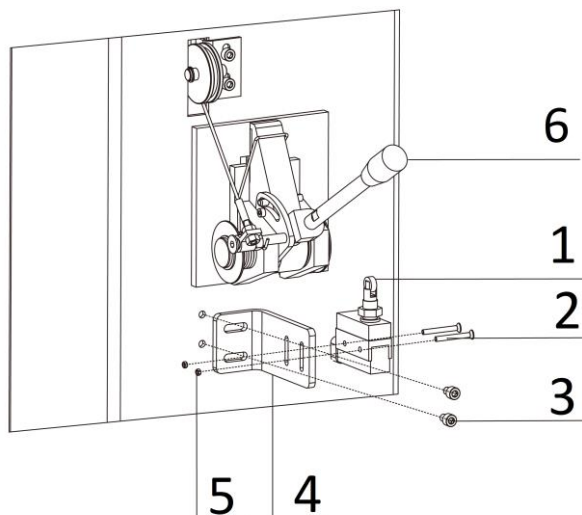


- 1. Release rope
- 2. Holder for pulley
- 3. Safety hook
- 4. Release handle

4. Install the switch.

Install the holder (Pos.4) onto the post and fix the switch (Pos.1).

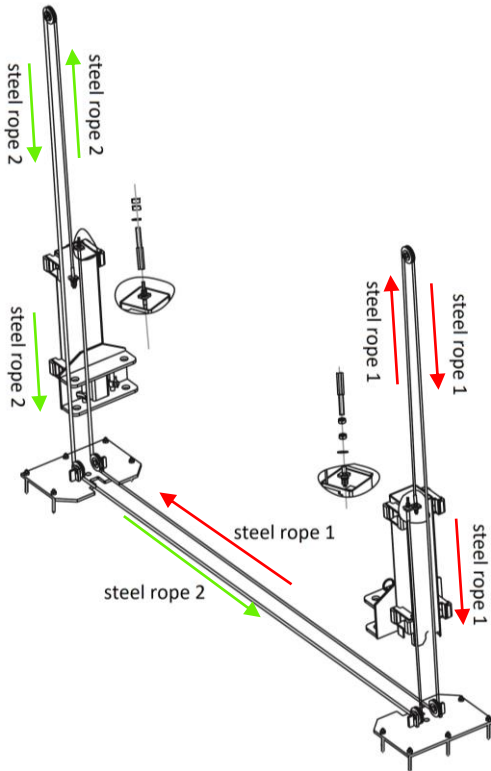
Adjust the position of the switch, making it can be activated when the release handle has been pushed down maximally.



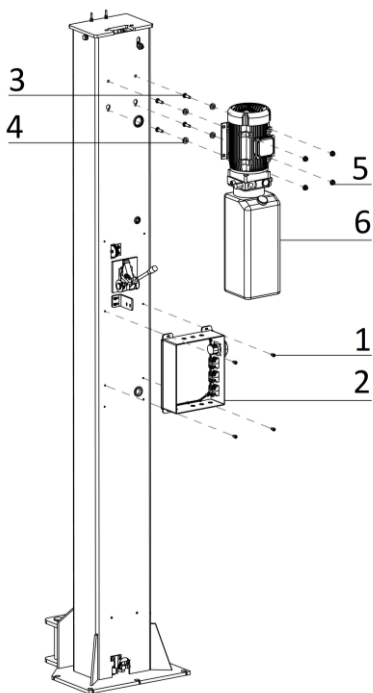
- 1. Switch
- 2. Hex socket cylinder head screw M4x35
- 3. Hex socket cylinder head screw M6x10
- 4. Holder for the switch
- 5. Self-locking nut M4
- 6. Release handle

Step 5: Connect the synchronization steel ropes.

1. Route and fix according to the following scheme.
2. Before attempting to route the ropes, raise the lifting carriage at both sides to the first latching position making sure that the mechanical safety locking units in each post are fully engaged.
3. Adjust and make the ropes at both sides be under the same tension which could be judged by the sound emitted during lifting process.
4. Grease the rope after being fixed. (It is a must.)



Step 6: Install the power and control unit.



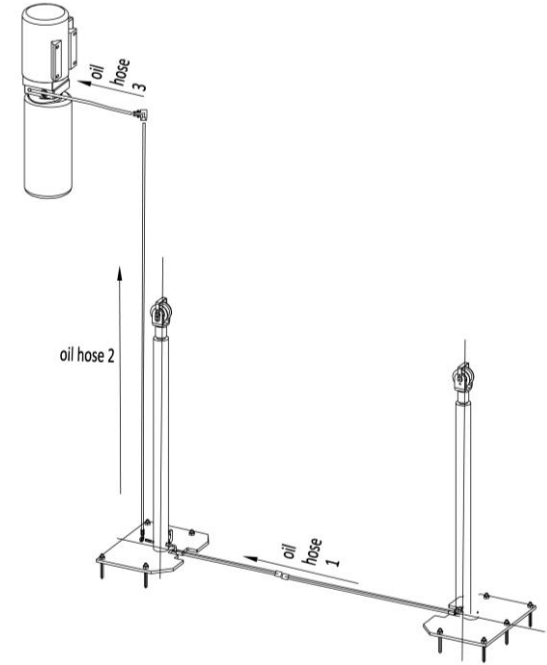
1. Cross socket cap head screw M5x8
2. Control box
3. Hex head flange screw M8x30
4. Anti-vibration pad
5. Hex flange nut M8
6. Hydraulic power unit

Step 7: Connect the hydraulic hoses

Connect oil hoses according to the following diagram.

Don't let any solid substance go into the hydraulic line. Ensure the connectors are screwed tight against leakage.

Torque: 25-30Nm.



Step 8: Make the electrical connection.

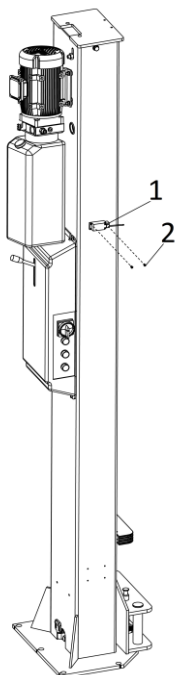
ONLY qualified electricians are permitted doing the electrical connection.

Read the name plate and check that the supply voltage is adapted to the voltage of the lift.

Caution: All electrical wires shall be properly secured against interference with the wire ropes.

Read the electrical scheme in Annex 2 for reference and connect wires to the corresponding terminals in the control box.

Fix max height limit switch onto the power side post and connect its wire to the terminals reserved in the control box.



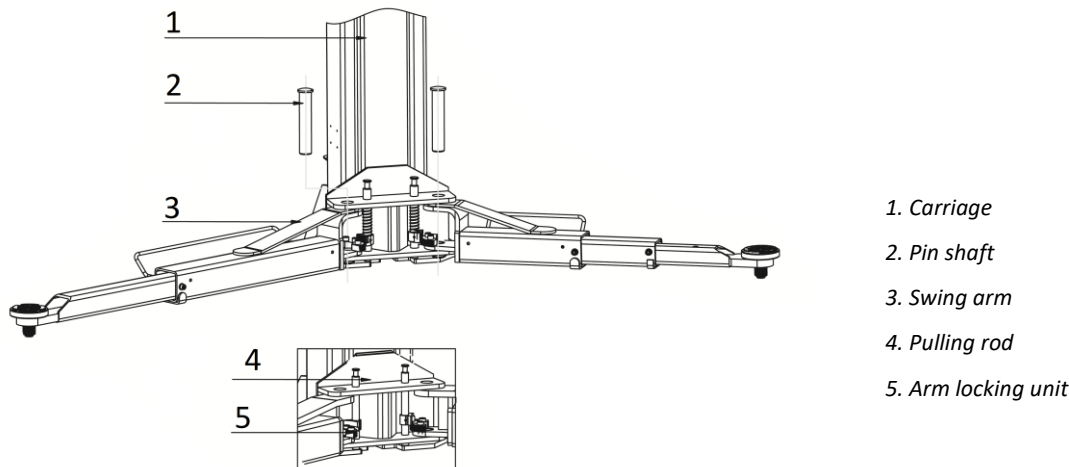
1. Limit switch

2. Cross socket flat head screw M5x10

Step 9: Install the lifting arms.

Install the lifting arms onto the carriages and ensure the arm locking units can engage and release effectively.

Attention: Install lifting arms ONLY after the complete assembly has been erected and anchored.


Step 10: Fill with hydraulic oil.

ONLY CLEAN AND FRESH OIL ONLY

Lift must be fully lowered before changing or adding hydraulic oil.

Prepare 10 liters anti-abrasive hydraulic oil.

First, fill about 8 liters into the oil tank.

Run the lift up and down for several complete cycles after the electrical system is connected and add more oil until the lift can rise to the maximum height.

Note: It is suggested to use HM NO.46 hydraulic oil. It is advised to use HM NO.32 hydraulic oil when temperature is below 10 degree Celsius. Change the oil 6 months after initial use and once per year thereafter.

Step 11: Trial running.

The purpose for trial commissioning is to check whether the lift is ready for safe use.

The user shall get familiar with lift controls through raising and lowering the lift a few cycles before using it to lifting vehicles.

Check the mechanical safety locking system.

Check if mechanical locks can be well engaged and released in the lifting and lowering process.

Adjust the tension of the release rope when necessary.

Check the synchronization of lifting carriages.

Adjust the nuts that fix the ropes at both sides, making them be under the same tension.

This could be judged by the sound emitted by the safety locking unit during lifting process.

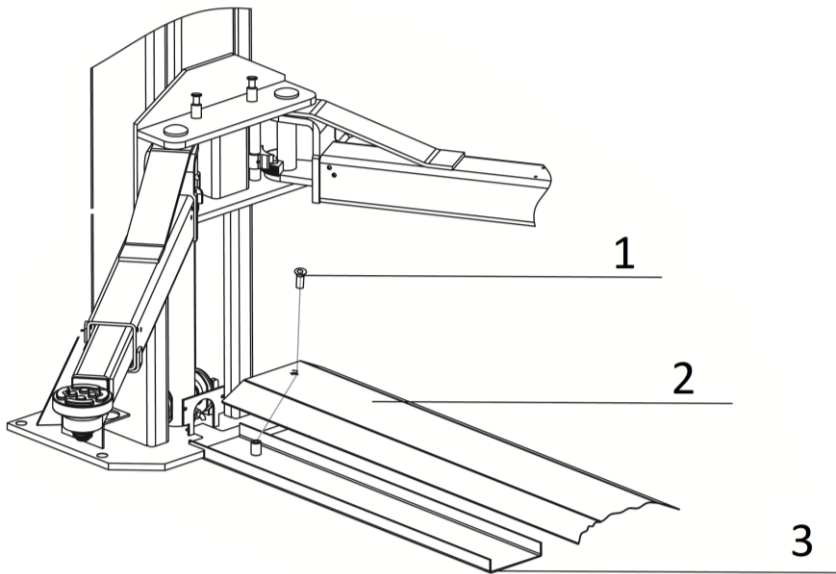
Check the hydraulic lines.

Raise and lower for several complete cycles and inspect if the hose connectors, cylinders and valves are well tightened without leakage.

Check the speed for rising and lowering, ensuring that the maximum permitted speeds are not exceeded.

If the lift doesn't raise, the motor may turn in the wrong direction. In such event, interchange wires U, V in the connection box.

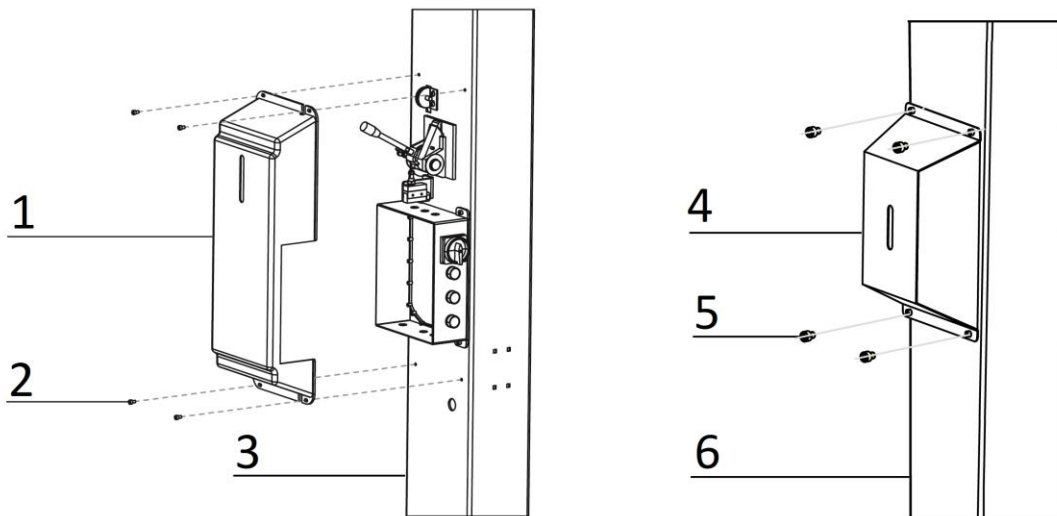
Step 12: Install the base cover plate.



- 1.Hex socket flat head screw M12x20
- 2.Base cover plate
- 3.Slot base plate

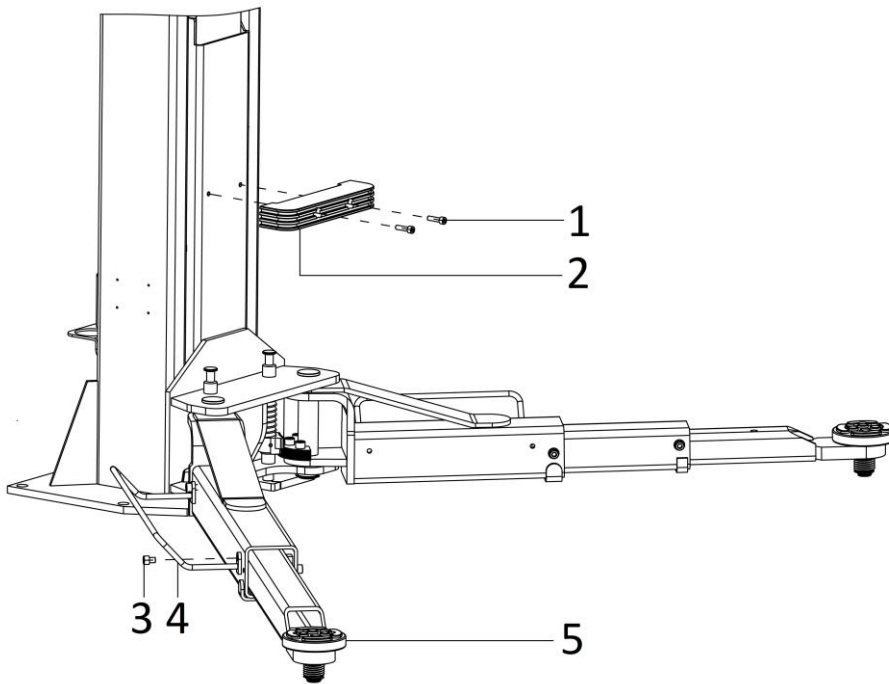
Step 13: Fix two protective covers.

Fix the covers (Pos.1, Pos.4) onto the posts.



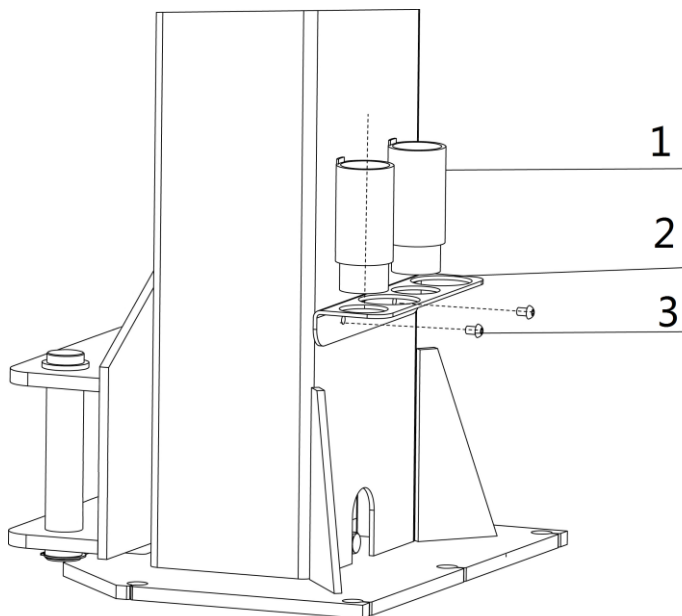
- 1. Cover 1
- 2. Hex socket cylinder head screw M6x8
- 3. Main post
- 4. Cover 2
- 5. Hex socket cylinder head screw M6X10
- 6. Secondary post

Step 14: Fix door-opening protection pads, fenders and pick-up pads.



1. Hex socket cylinder head screw M8*30
2. Door protection pad
3. Hex socket cylinder head screw M8x 12
4. Fender
5. Pick-up pad

Step 15: Install the height-extension adapter holder. (Optional)



1. Height-extension adapter
2. Holder
3. Hex socket button head screw M8x12

4.4 Items to be checked after installation

S/N	Check items	YES	NO
1	Screw torque of expansion bolts : 80-100Nm;	√	
2	Rising speed ≥ 20 mm/s;	√	
3	Noise with load ≤ 75 dB(A);	√	
4	Grounding resistance: not bigger than 4Ω ;	√	
5	Height difference of the two carriages ≤ 5 mm;	√	
6	Mechanical catch unit is robust and synchronized when running with rated load ;	√	
7	All control buttons works as “hold to run”.	√	
8	The limit switches work well.	√	
9	The grounding wire is connected.	√	
10	The carriage rises and lowers smoothly.	√	
11	There is no abnormal noise when run with load.	√	
12	There is no oil leakage when run with load.	√	
13	The expansion bolts, nuts or circlips are well secured or tightened.	√	
14	The max lifting height can be reached.	√	
15	All safety advices, name plate and logos are clear.	√	

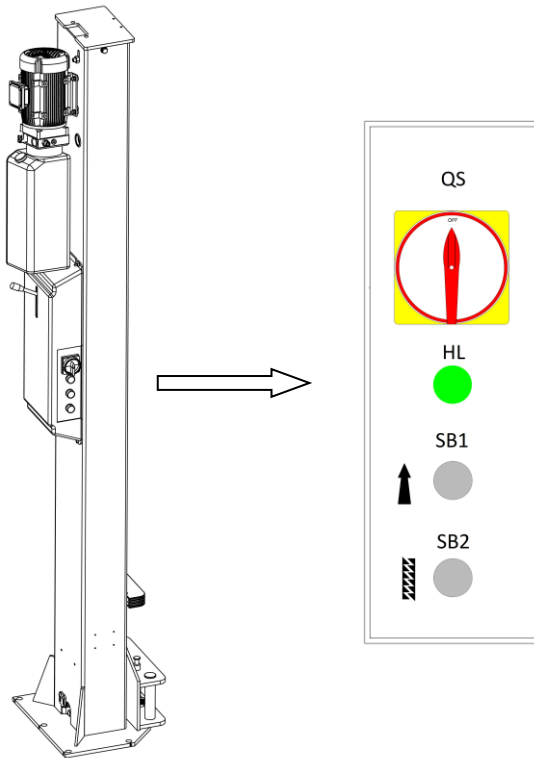
OPERATION INSTRUCTIONS

5.1 Precautions

- ONLY authorized persons are permitted in the lift area.
- Do not try to raise the vehicle with excessive length or width. Otherwise there is risk of vehicle falling from lift.
- Inspect the space above and below the load and the loading carrying devices. It shall be free of obstructions before operating.
- Before raising operation, run the lift without load for a complete cycle to ensure it is in good condition.
- Before lifting the vehicle and during all operations on the vehicle, make sure that it is properly stopped by the hand brake.
- Check the vehicle after raising a short distance to ensure that it is correctly and safely positioned.
- It is forbidden for people to stand in the field of motion during raising or lowering movement.
- The load carrying device shall be observed by the operator throughout the motion of the lift.
- Engage the safety locking mechanism before entering under the raised vehicle.
- Avoid excessive rocking of vehicle while on the lift.
- Do not climb onto the load or load carrying device when they are raised.

5.2 Operation instructions

To avoid personal injury and property damage, permit only trained and qualified personnel to operate the lift. After reviewing these instructions, get familiar with lift controls by running the lift through a few cycles before loading vehicle on lift. Always lift the vehicle using all four adapters. Never raise just one end, one corner or one side of vehicle adapters.



Pos.	Description	Function
1	Handle	Release the mechanical locking unit and control the descending movement
QS	Power switch	Turn on or off the power supply
HL	Indicating light	Indicate if power is on
SB1	UP button	Control the rising movement
SB2	Safety lock button	Engage the mechanical safety lock

Only one operator is allowed to work around the vehicle lift.

Always engage the safety locking mechanism before any operation on the lifted vehicle.

Do not make any operation on the lifted vehicle at a height under the first latching position (less than 500mm).

Never attempt to lower the lifted vehicle to the bottom when any of its wheel is removed unless you are assured that no damage will occur.

Raise

Make sure vehicle is neither front nor rear heavy and center of balance should be midway between adapters and centered over the lift.

1. Park the vehicle between two posts.
2. Adjust the lifting arms until lifting adapters are under the pick-up positions of the vehicle and make sure the gravity of vehicle located over the center of four lifting arms.
3. Push the "UP" button until lifting adapters have touched the pick-up positions of vehicle.
4. Keep on raising the vehicle making its wheels have a bit clearance off the ground, stop raising and check again for secure contact.
5. Raise the vehicle to the expected height, push the "Safety lock button" to engage the mechanical safety locking unit. Check again the stability before doing maintenance or repair work underneath.

Lower

Pay careful attention that all personnel and objects are kept clear before lowering.

1. Push the "UP" button to disengage the mechanical locking unit.
2. Push down the handle (pos.1) to release mechanical locking unit completely, meanwhile the lifting device starts descending.
3. When the lift is fully lowered, position the lift arms and adapters to provide an unobstructed exit before removing vehicle from lift area.
4. Drive the vehicle away.

TROUBLE SHOOTING

ATTENTION: If the trouble could not be fixed by yourself, please do not hesitate to contact us for help. We will offer our service at the earliest time we can. Troubles could be judged and solved much faster when more details or pictures could be provided.

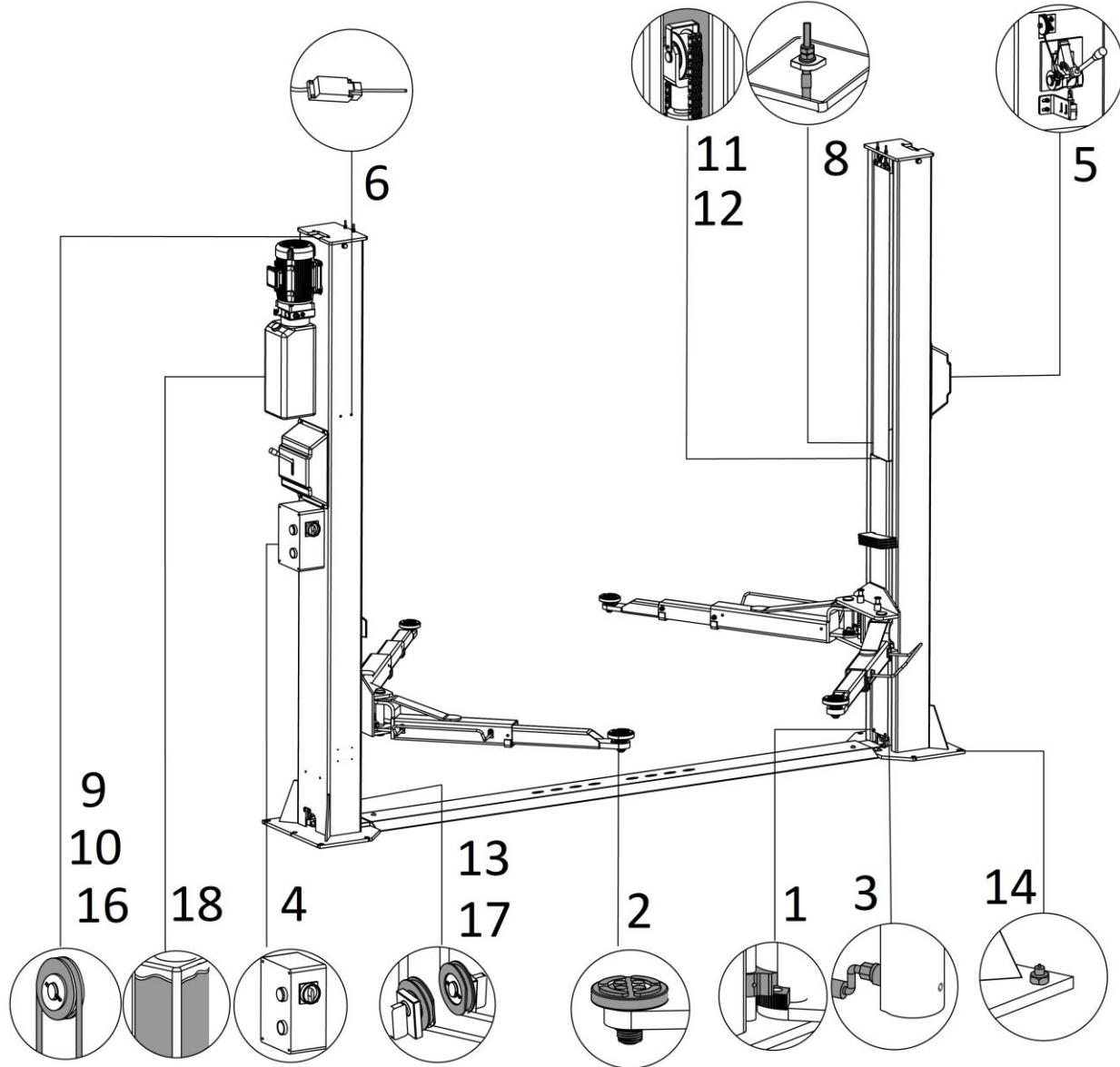
TROUBLES	POSSIBLE CAUSES	SOLUTIONS
Abnormal noise	Abrasion exists on insides surface of the posts.	Grease the inside of the post.
	Trash in the post.	Clear the trash
Motor does not run and will not rise	Loose wire connection	Check and make a good connection.
	Burnt motor.	Replace it.
	Damaged limit switch or its wire connection is loose.	Adjust or replace the limit switch.
Motor runs but will not raise	The motor run reversely.	Check the wire connection.
	Relief valve is not well screwed up or jammed.	Clean or make adjustment
	Damaged gear pump.	Replace it.
	Too low oil level.	Add oil.
	The hose connection is loose.	Tighten it.
	The cushion valve is not well screwed up or jammed.	Clean or make adjustment
Carriages go down slowly after being raised	The oil hose leaks.	Check or replace it.
	Untightened oil cylinder.	Replace the seal.
	The single way valve leaks.	Clean or replace it.
	Unloading valve fails to work well.	Clean or replace it.
	Slack steel rope	Check and adjust the tension.
Raising too slow	Jammed oil filter	Clean or replace it.
	Too low oil level.	Add oil.
	The relief valve is not adjusted to the right position.	Make proper adjustment.
	Too hot hydraulic oil (above 45°) .	Change the oil.
	Abraded seal of the cylinder	Replace the seal.
	Inside surface of the posts is not well greased.	Add grease.
Lowering too slow	Jammed throttle valve	Clean or replace it.
	Dirty hydraulic oil	Change the oil.
	Jammed anti-surge valve	Clean it.
	Jammed oil hose	Replace it.
The steel rope is abraded	No grease at installation or out of lifetime	Replace it.
Push down the release handle, but the carriage will not lower.	Damaged switch (SQ3) or poor wire connection.	Replace it or tighten the wire.
	Damaged unloading valve (YV) or poor wire connection.	Replace it or tighten the wire.

INSPECTION AND MAINTENANCE

Easy and low cost routine inspection and maintenance can ensure the lift work normally and safely.

Follow the below routine inspection and maintenance schedule with reference to the actual working condition and frequency of your lift.

Lubricate moving parts with NO.1 lithium based grease.



Pos.	Components	Methods	Period
1	Swing arm locking units	Push the UP button to raise the lifting arms and check if four swing arms are locked into position. Add grease in case necessary.	Every day
2	Lifting adapter	Check if it can screw UP and DOWN smoothly. Add grease onto the swivel when necessary. Inspect the rubber pads and clean off any objects that may cause sliding or damage.	Every day
3	Cylinder and oil hose connector	Inspect to ensure no leakage before using the lift.	Every day

Pos.	Components	Methods	Period
4	Button	Check if the button work as "hold- to -run “.	Every day
5	Mechanical safety locking unit and descending movement	(1)Check if mechanical locking hooks can engage or disengage simultaneously.	Every day
		(2) Push maximally down the lowering handle, check if the carriages descend correspondingly.	
6	Max lifting height limit switch	Use proper means to activate the switch and push UP button to check if the carriage stop rising.	Every 30 days
8	Steel ropes	Check the synchronization of both carriages and adjust the tension of the rope if desynchronization is unacceptable.	Every day
9	Bushing of the upside pulley and circlip of the shaft	Lubricate the bushing with NO.1 lithium based grease. Check if the circlip is in its original position.	Every 3 months
10	Steel ropes	Lubricate the ropes with NO.1 lithium based grease. It is advised to change with new steel ropes every 3 years. (Not obligatory if the parts are in good condition) Stop using the lift and replace the rope immediately on condition that there are ten or more broken wires on a rope.	Every 3 months
11	Running track inside the post for carriages	Lubricate path with NO.1 lithium based grease. No obstruction on the path.	Every 3 months
12	Chain and its pins	Lubricate the chain with NO.1 lithium based grease. It is advised to change the chains every 3 years or if any cracks occurred to the pin of the chain.	Every 3 months
13	Bushing of the downside pulley and circlip of the shaft	Lubricate the bushing with NO.1 lithium based grease. Check if the circlip is in its original position.	Every 3 months
14	Expansion bolts	Check with torque spanner. 80-100Nm.	Every 3 months
16	Bushing of the upside pulley and circlip of the shaft	Slacken the steel rope and dismantle the pulley. Measure the abrasive clearance and change the bushing if the clearance is bigger than 0.5mm.	Every year
17	Bushing of the downside pulley and circlip of the shaft	Slacken the steel rope and dismantle the pulley. Measure the abrasive clearance and change the bushing if the clearance is bigger than 0.5mm.	Every year
18	Hydraulic oil	Change the oil 6 months after initial use and once per year thereafter. Inspect the hydraulic oil and change the oil if the oil becomes black or there is dirt in the oil tank.	Every year

If users stick to the above maintenance requirements, the lift will always keep a good working condition and its service life could be extended.

Annex 1, Floor plan

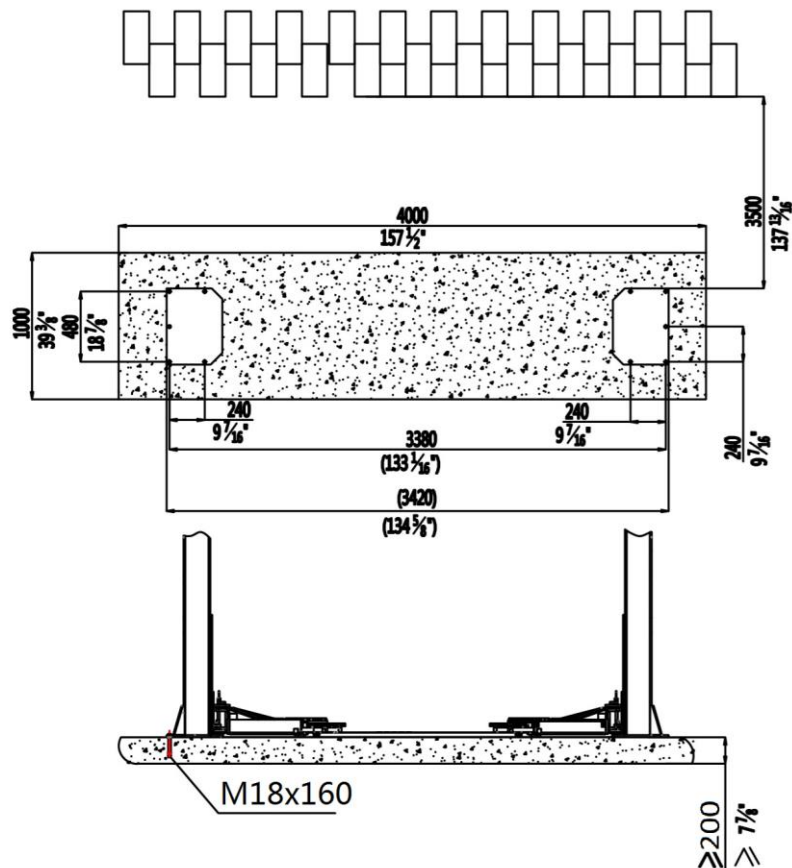
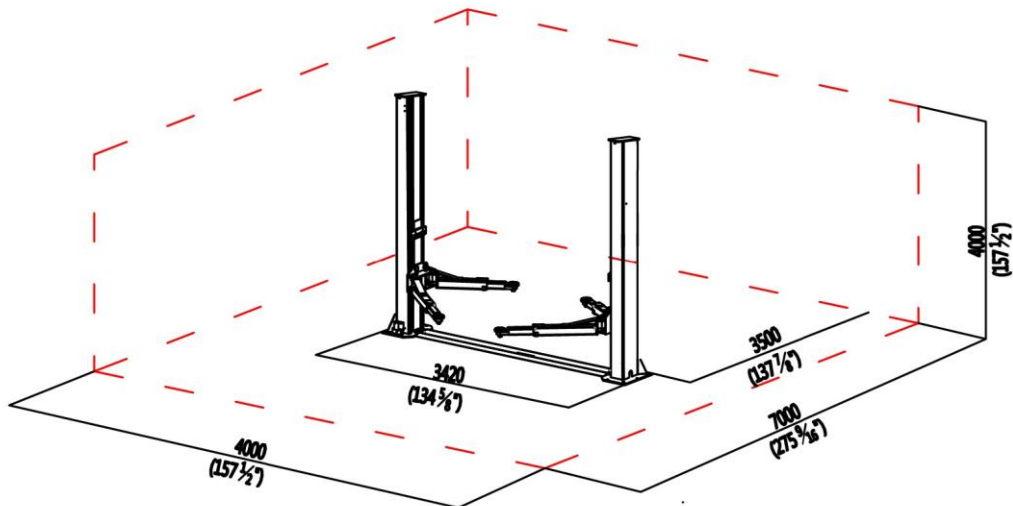
Indoor installation only. There must also be a clearance of at least 1 meter between the lifting platform and fixed elements (e.g. wall) in all lifting positions. There must be sufficient space for driving vehicles on and off.

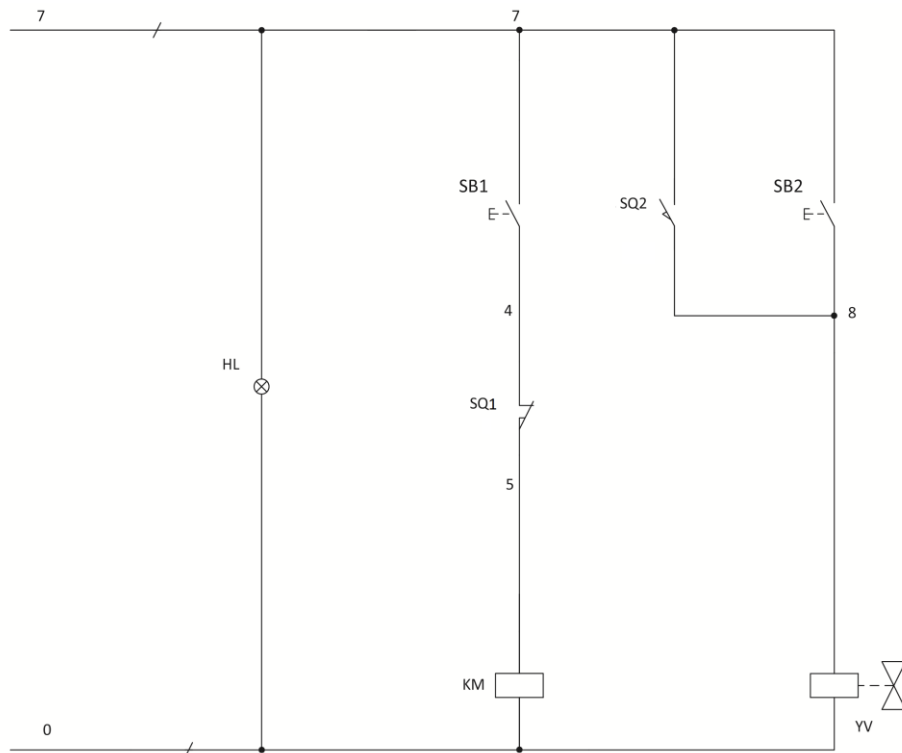
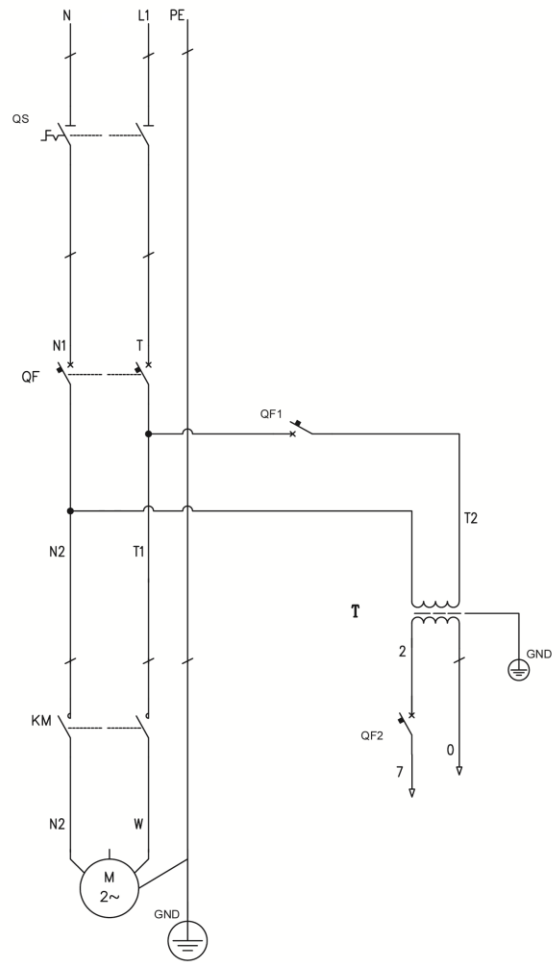
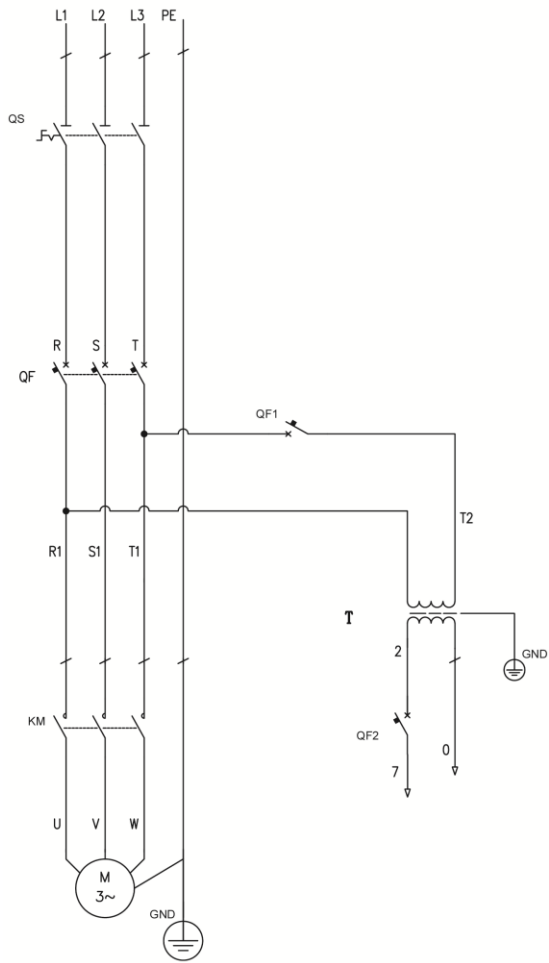
C25 concrete foundation with a minimum thickness of 200mm (7 7/8").

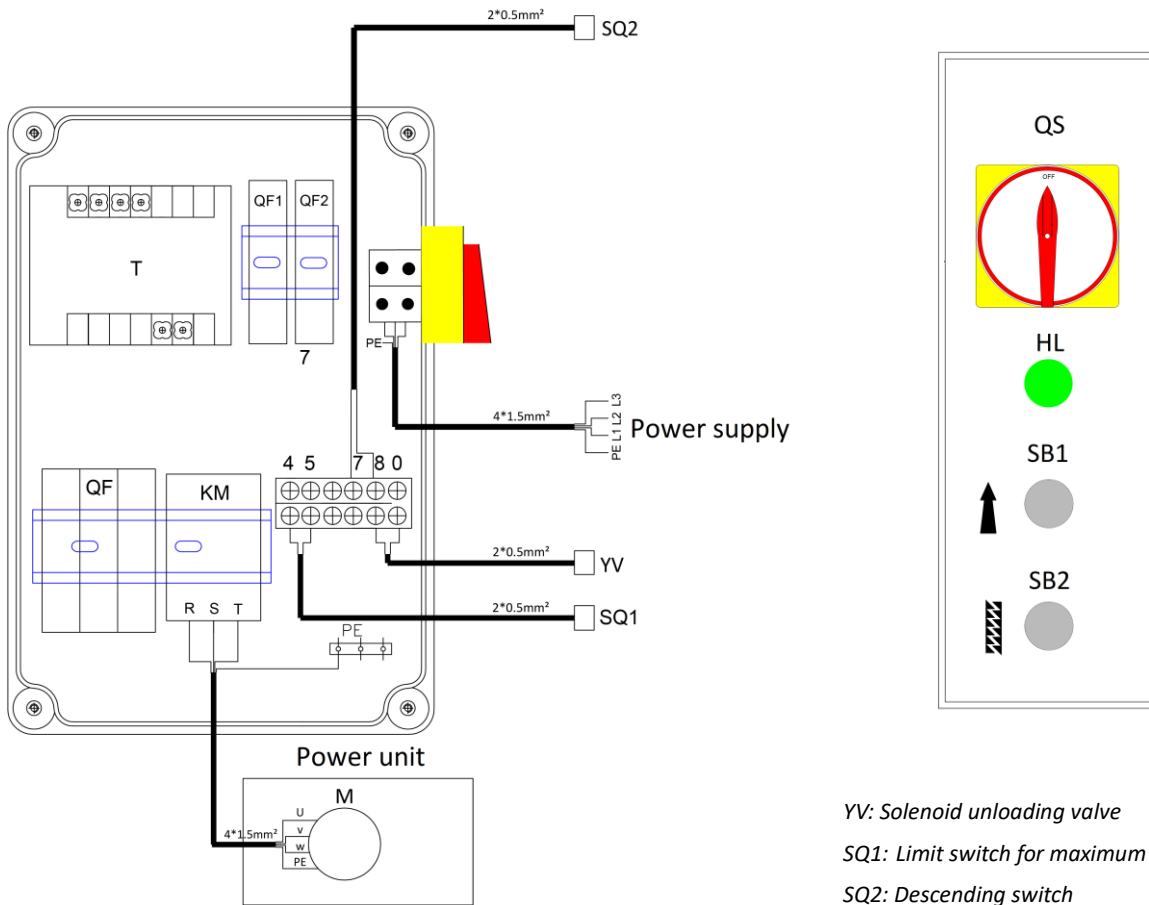
Surface (under the base plate): Horizontal and even (Gradients max. 0.5 %)

Newly built concrete ground must be older than 20days.

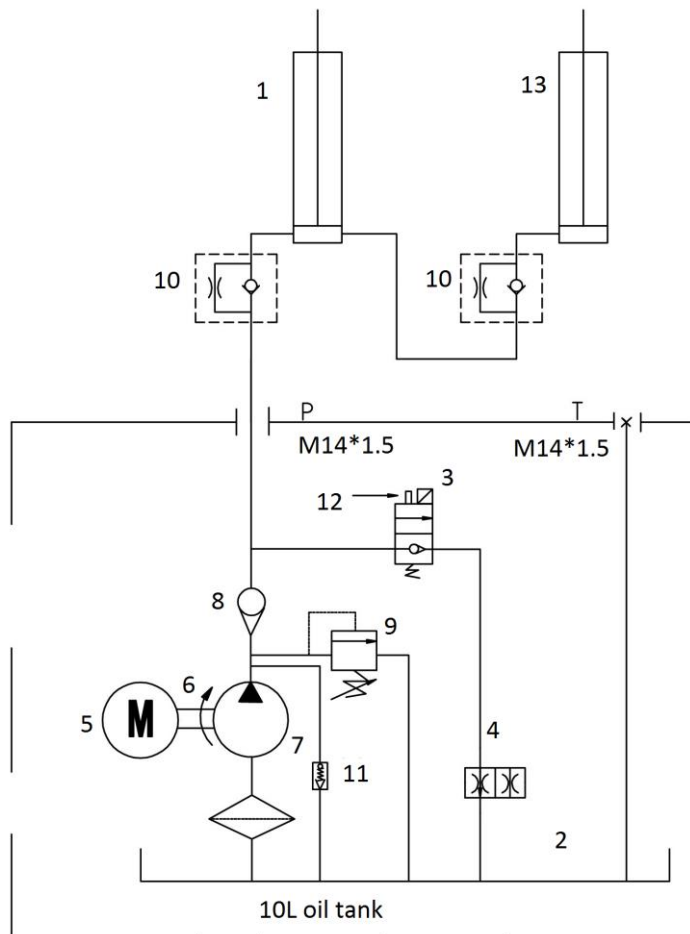
All dimensions are in millimeters unless specified otherwise.



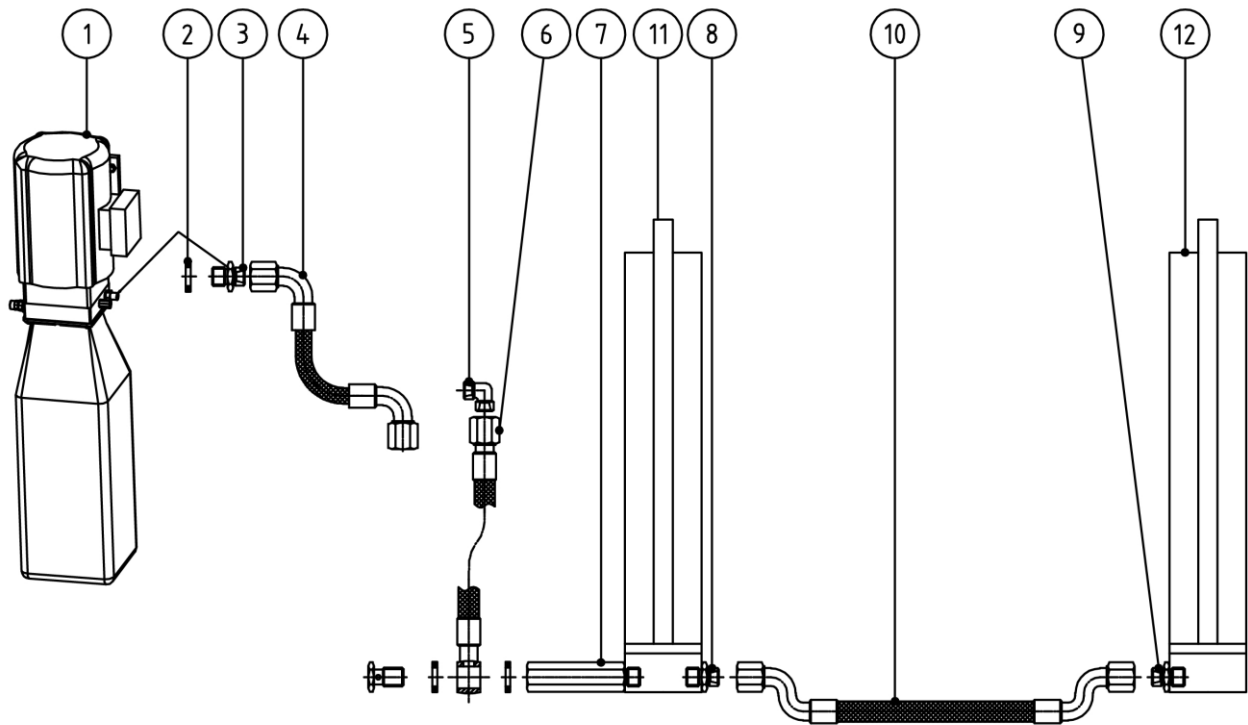
Annex 2, Electrical schemes and parts list




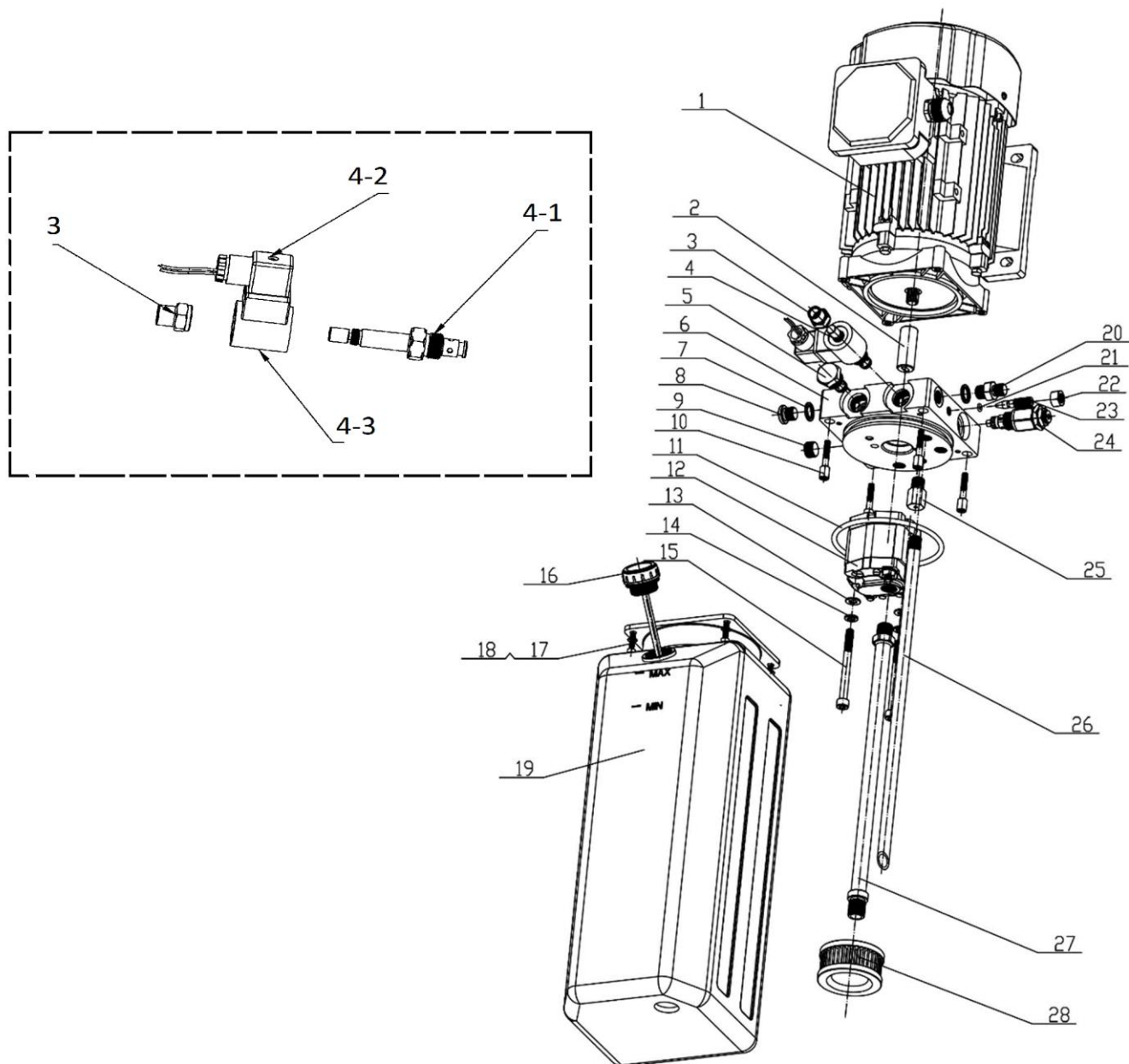
Pos.	Code	Descriptions	Specification	Qty
T	320104002	Transformer	JBK5-40VA 380V400V415V-24V	1
T	320104001	Transformer	JBK5-40VA 220V230V240V-24V	1
QF	320802001	Circuit breaker(1PH)	CDB6iC32/2P (CB-60A C32)	1
QF	320801001	Circuit breaker(3PH)	CDB6iC16/3P (CB-60A C16)	1
QF1	320803001	Circuit breaker	CDB6iC1/1P (CB-60A C1)	1
QF2	320803003	Circuit breaker	CDB6iC3/1P	1
KM	320901001	AC contactor	CJX2-1210/AC24V(CDC6i-1210/AC24V)	1
QS	320304001	Main switch	LW26GS-20-04	1
SQ1	320301029	Limit switch	TZ-8168	1
SQ2	320301003	Descending switch	D4MC-5020(CZ-7311)	1
	320503002	Wire terminals		1
SB1 SB2	320401042	Button	NP2-EA11 (CDLA6H-EA11)	2
HL	321201001	Power indicator	ND16-22DS-2,Green	1
	320505021	Wire terminal	TB-1506	1

Annex 3, Hydraulic schemes and parts list


- 1. main oil cylinder
- 2. oil tank
- 3. solenoid unloading valve
- 4. lowering throttle valve
- 5. motor
- 6. coupling
- 7. gear pump
- 8. single way valve
- 9. over-flow valve
- 10. hose leakage protective valve
- 11. cushion valve
- 12. emergency unloading valve
- 13. secondary cylinder



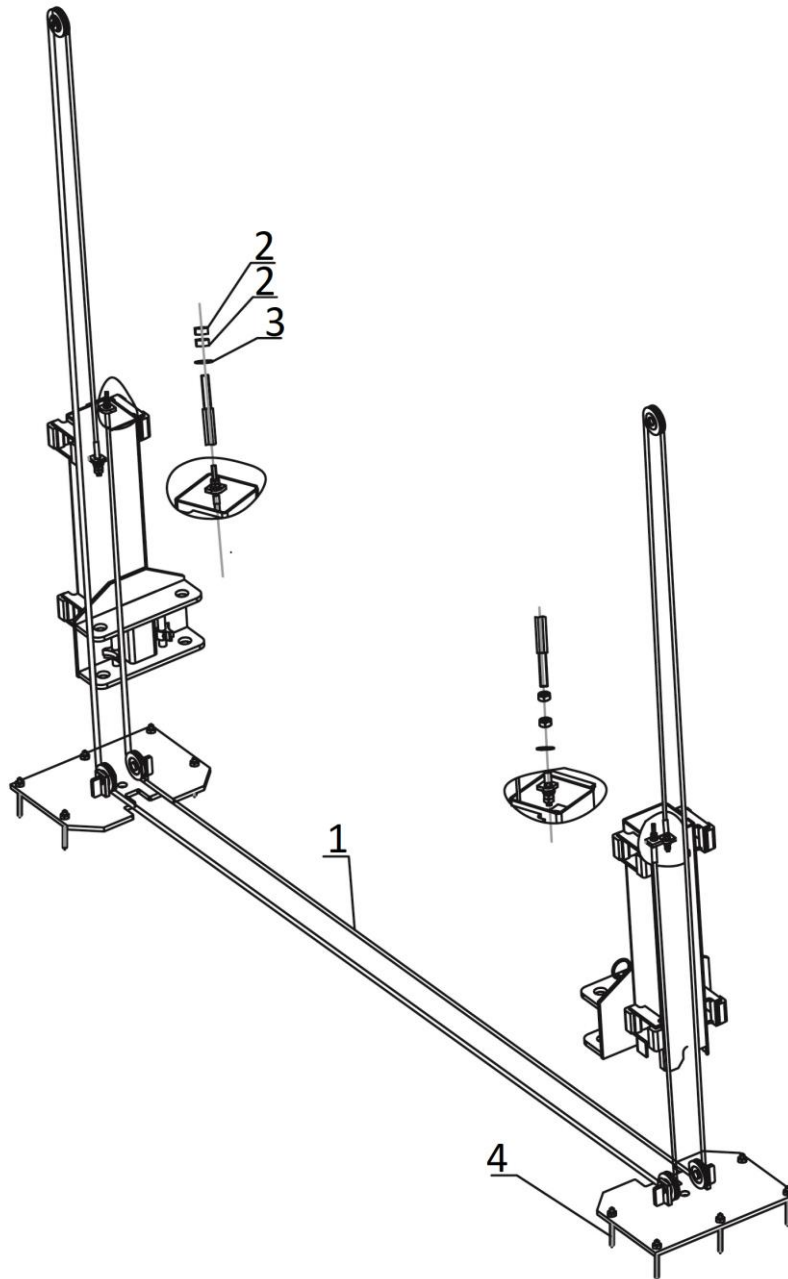
Pos.	Code	Description	Specification	Qty
1		Power unit	2.2KW	1
2	207103025	Composite washer	13.7*20*1.5	1
3	310101008	Shift connector	M14*1.5-G1/4 inside cone	1
4	624008222	Rubber oil hose	L=650	1
5	615022014	Right angle connection	612E-A8	1
6	624001823	Rubber oil hose	L=2730mm	1
7	615006004	Composite connector	6254E-A4-B8	1
8	615001009	Connector	6254E-A4-B11	1
9	615001008	Short connector	6254E-A4-B10	1
10	624001025	Rubber oil hose	L=2880	1
11	615001007	Main oil cylinder	6254E-A4-B6	1
12	615001006	Secondary oil cylinder	6254E-A4-B5	1



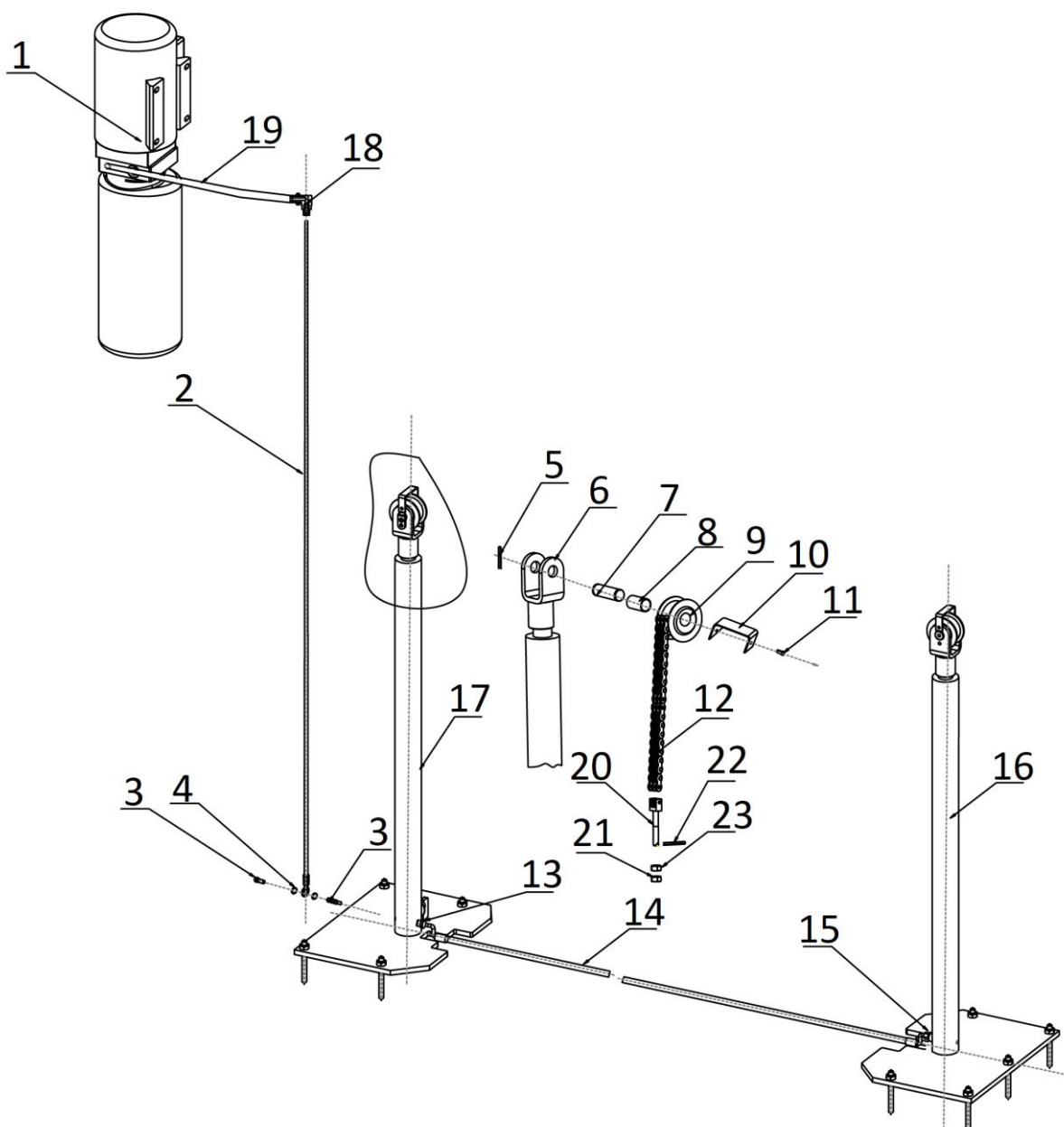
Pos.	Code	Descriptions	Specification	Qty
1	320201002	AC motor	230V-2.2KW -1PH-50HZ-2P	1
1	320201004	AC motor	380V-2.2KW-3PH-50HZ-2P	1
1	320201005	AC motor	400V-2.2KW -3PH-50HZ-2P	1
1	320201006	AC motor	415V-2.2KW -3PH-50HZ-2P	1
1	320204016	AC motor	380V-3.0KW-3PH-50HZ-2P	1
2	330404007	Coupling	46mm (LBZ-T202BK-1)	1
3	203204102	Locking nut	FHLM-1/2-20UNF	1
4	791150005	Solenoid valve assembly (include part No.3, 4-1,4-2 and 4-3)	DC24V	1

Pos.	Code	Descriptions	Specification	Qty
4-1	330311005	Valve spool	24DC(Keta) (LSV-08-2NCP-M-2H)	1
4-2	330308032	Solenoid plug	DIN43650-DC	1
4-3	330308031	Solenoid	LC2-0-C-2H,24VDC-	1
5	330302008	Non-return valve	YBZ-E2D311/1-03	1
6	330101113	Hydraulic block	LBZ-T2BK-8	1
7	207103025	Composite washer	13.7*20*1.5	2
8	310101008	Transition connector	M14*1.5-G1/4 inside cone	1
9	210101014	Plug	Z3/8	1
10	201101100	Bolt	M6*50 (NLJLD)	4
11	207101098	O-ring	109*5.3	1
12	330201006	Gear pump (for 2.2kW motor)	CBK-F225/CBK-2.5F	1
12	330201007	Gear pump (for 3.0kW motor)	CBK-F233	1
13	204101005	Washer	M8	4
14	204201013	Spring washer	M8	2
15	202109072	Hex socket cylinder head screw (with spring washer)	M8*85	2
16	330502013	Lid of oil tank (breather)	YBZ-BT-M30*2-B	1
17	202109144	Bolt	M5*18	4
18	204101003	Flat washer	M5	4
19	330405051	Plastic oil tank	10L	1
20	210101013	Plug	M14*1.5	1
21	207101099	O-ring	5*1.8	4
22	203102003	Hex nut (thin, 6mm)	M10*1	1
23	330305015	Flow-restrictive valve	YBZ-E2D311/1-11A	2
24	330304007	Relief valve	YF08-40	1
25	330301003	Buffer valve	HCF-Z1/4	1
26	330402006	Oil-returning pipe	YBZ-E2D311/1-09	1
27	330401013	Oil-sucking pipe	YBZ-SJYG350	1
28	330403007	Oil-sucking filter	YBZ-E2D311/1-10	1

**NOTE: The motor is different for different voltage or capacity.
Please check with our customers service people when order spare parts.**

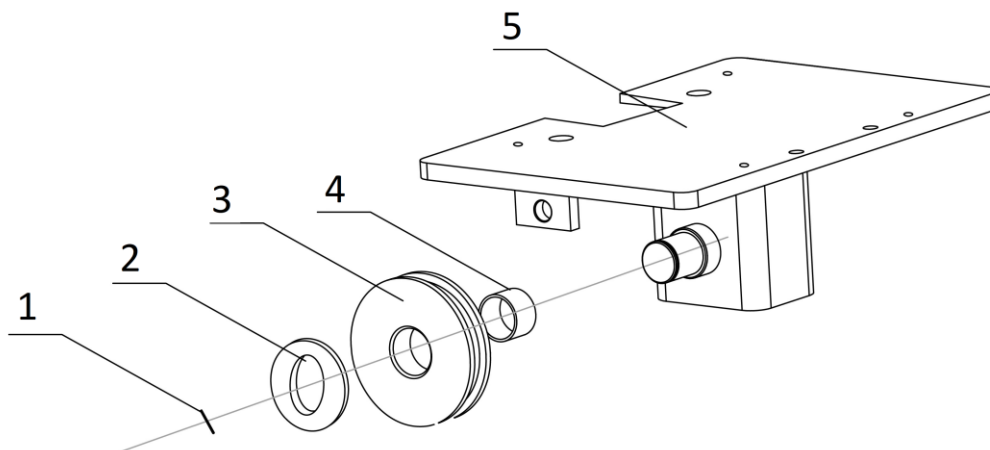
Annex 4, Mechanical exploded drawings and parts list


Pos.	Code	Description	Specification	Qty
1	615001010B	Steel rope	6254E-A6(Φ 9.3 L=8785)	2
2	203101009	Hex nut	M16	8
3	204101009	Flat washer	ϕ 16	4
4	201201007	Expansion bolt	M18x160	10

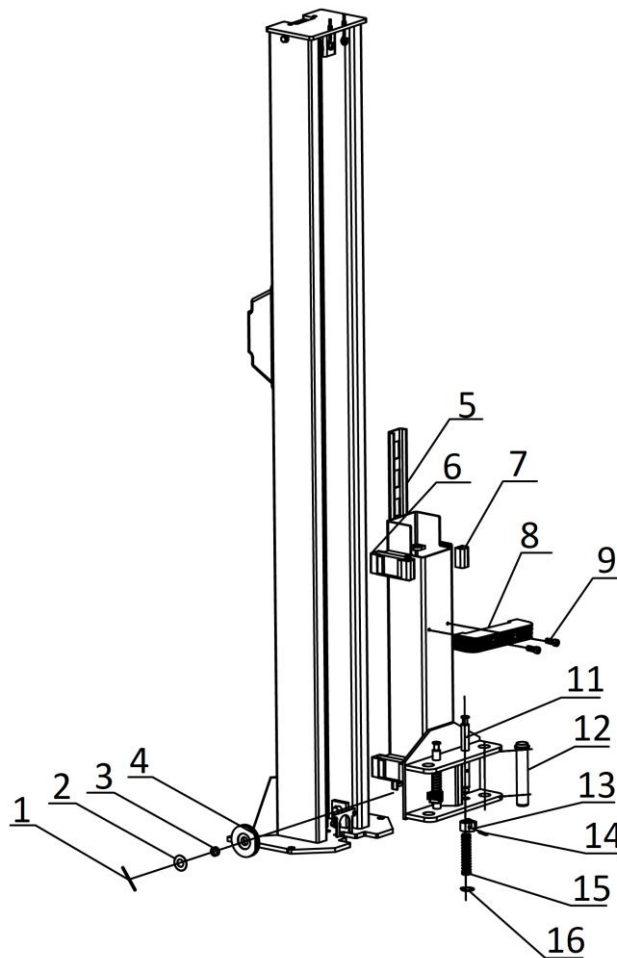


Pos.	Code	Description	Specification	Qty
1		Power unit	2.2KW	1
2	624001823	Rubber oil hose	L=2730mm	1
3	615006004	Composite fitting	6254E-A4-B8	1
4	207103025	Composite washer	13.7*20.00*1.50(BS224)	2
5	206201011	Cotter pin	M4*50	2
6	612001001	Chain wheel holder	6254E-A4-B2	2
7	410011221	Shaft for the chain wheel	6254E-A4-B3	2
8	205101013	Bushing	2548	2
9	410130071	Chain wheel	6255E-A7-B5	2
10	410011233	Retaining plate	6255E-A7-B6	2
11	202109017	Hex socket cylinder head screw	M6*8	4

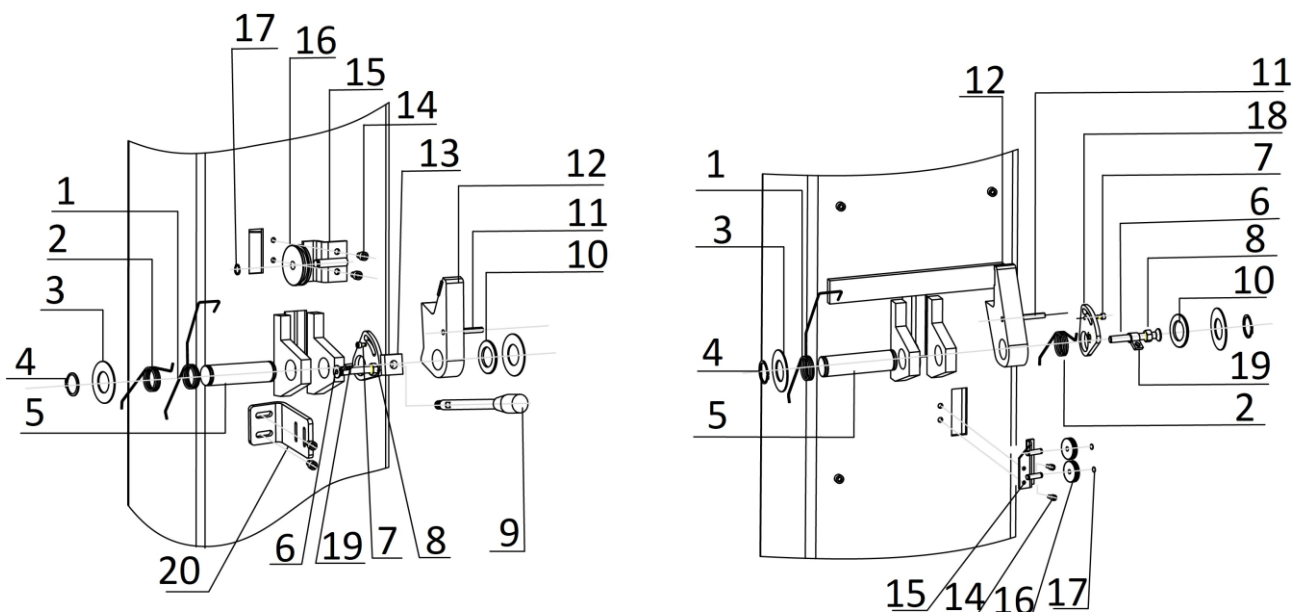
Pos.	Code	Description	Specification	Qty
12	208108003	Chain	LH1244	2
13	615001009	Main fitting	6254E-A4-B11	1
14	624001025	Rubber oil hose	L=2880	1
15	615001008	Short fitting	6254E-A4-B10	1
16	615001006	Slave cylinder	6254E-A4-B5	1
17	615001007	Master cylinder	6254E-A4-B6	1
18	615022014	90°Right angle fitting	612E-A8	1
19	624008222	Rubber oil hose	L=650	1
20	410047360B	Chain holder	62B-A3-B4-42T	2
21	203204001	Hex open slot nut	M16 GB/T6178	2
22	206201008	Cotter pin	M4*30	2
23	203101009	Hex nut	M16	2



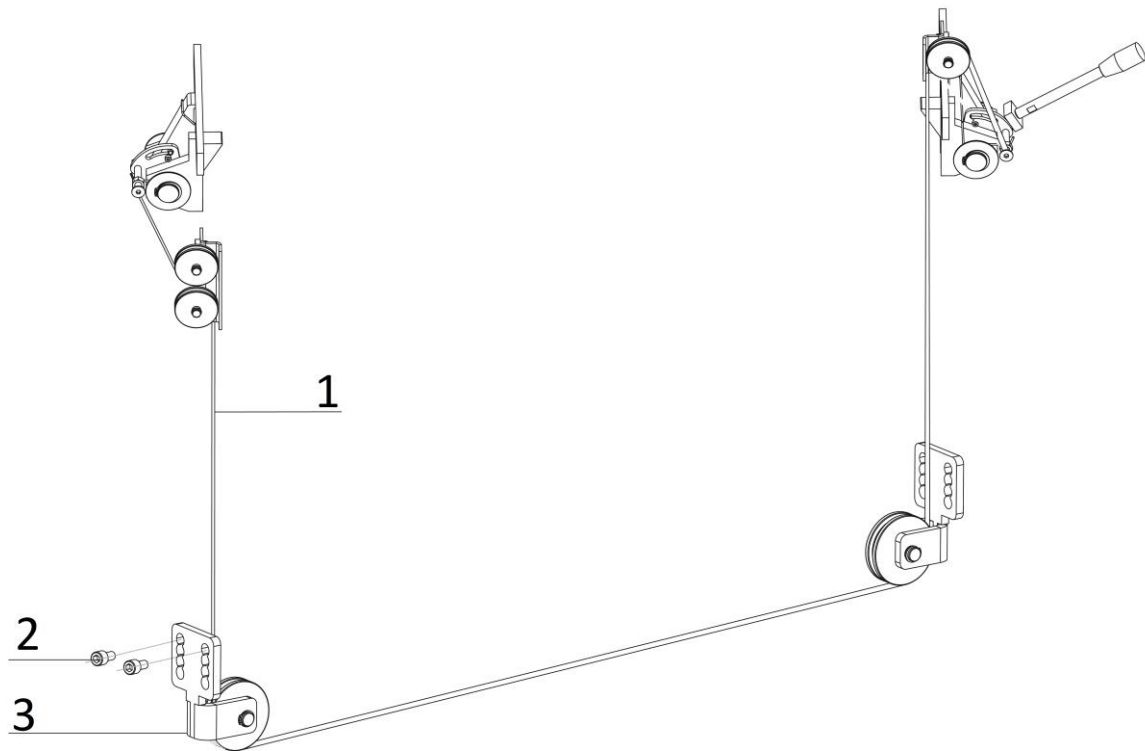
Pos.	Code	Description	Specification	Qty
1	206201004	Cotter pin	M3x45	2
2	410010031	Washer	6254E-A1-B3(6254A-A1-B2 62*62*1.5)	4
3	410010061	Upside pulley	6254E-A5-B1(6254A-A3-B1 Φ 88 L=19)	2
4	205101008	Bushing	2518	2
5	614901474	Top plate assembly	F9MV2-A4-B1	2



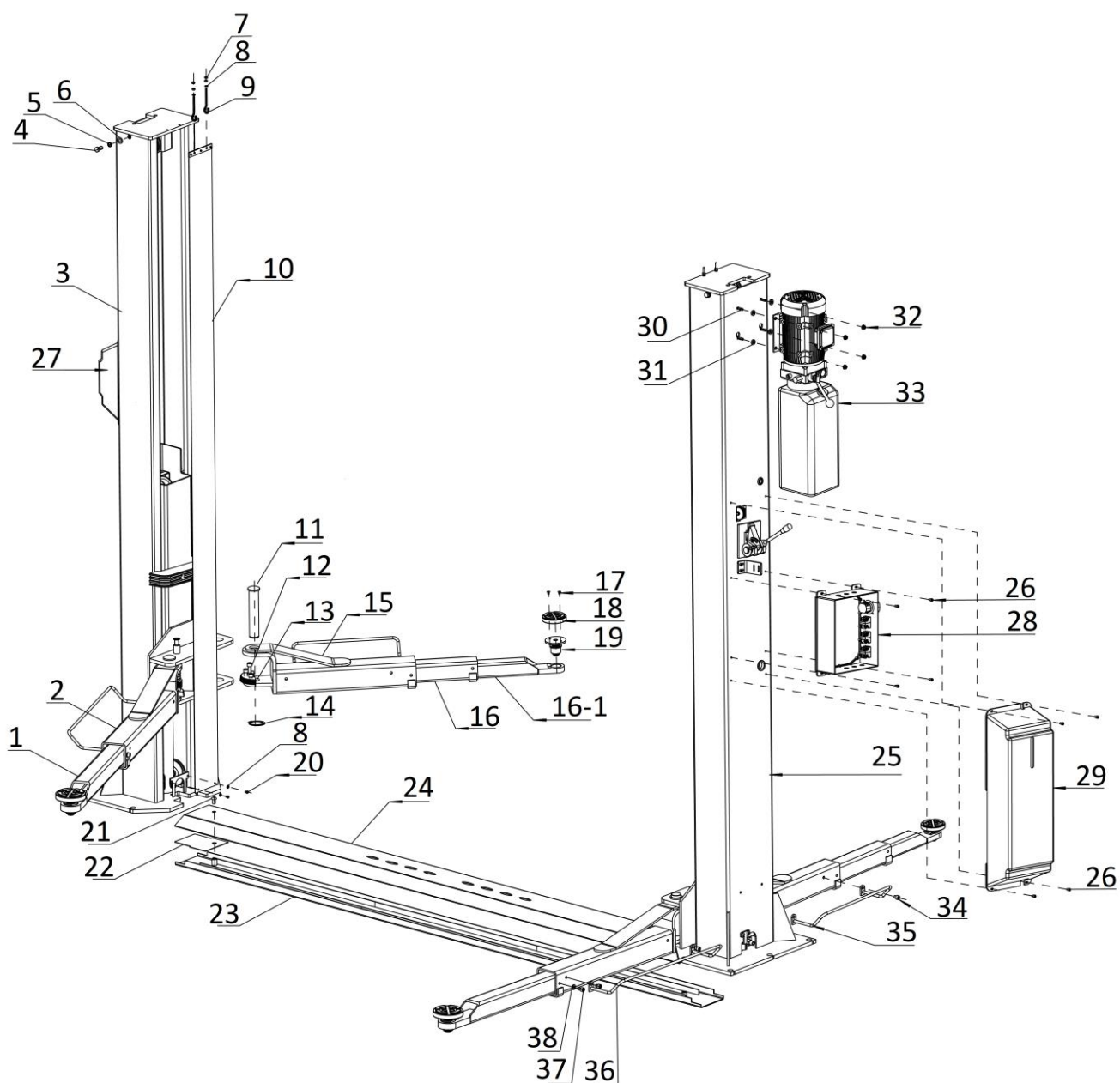
Pos.	Code	Description	Specification	Qty
1	206201004	Cotter pin	M3*45	4
2	410010031	Washer	6254E-A1-B3	4
3	205101007	Bushing	2512	4
4	410044260	Pulley	62B-A1-B2	4
5	614901473	Carriage	F9MV2-A3-B1	2
6	420680083	Sliding block	C9Z-A3-B5	4
7	420680099B	Sliding block	F9MV2-A3-B3	4
8	420680124	Rubber protective pad	62B-A3-B11	2
9	202109031	Hex socket cylinder head screw	M8X30	4
11	410902001B	Pull rod	6254E-A2-B1-C1-1	4
12	410049031B	Pin shaft	6254E-A12	4
13	410901075	Teeth block	6254E-A2-B9	4
14	206102013	Elastic post pin	D6X40-GB879	4
15	410150121	Pressure spring	6254E-A2-B4	4
16	204301009	Circlip	M25	4



Pos.	Code	Description	Specification	Qty
1	410902013	Spring	C9Z-A1-B10	2
2	410902014	Spring	C9Z-A1-B11	2
3	410010031	Washer	6254E-A1-B3	4
4	204301009	Circlip	D25-GB894_2	4
5	410902031	Shaft	C9Z-A1-B6	2
6	202111033	Hex socket flat head screw	M8x65-GB70_3	2
7	202109152	Hex cylinder head screw	M4X5-GB70_1	2
8	203101005	Hex nut	M8-GB6170	4
9	615068400	Handle	C9Z-A1-B12	1
10	420680066	Nylon spacer	25X41X25	2
11	206102013	Elastic post pin	D6X40-GB879	2
12	410902012	Hook	C9Z-A1-B4-C1	2
13	612901742	Release bracket	C9Z-A1-B5-V1	1
14	202109017	Hex socket cylinder head screw	M6X8-GB70_1	8
15	614006012B	Guiding bracket for lock release device	6214DS-A9	1
16	420080030	Pulley II	6214DS-A7	3
17	204301001	Circlip	D10-GB894_1	2
18	410540530	Release plate	C12-A1-B5-C1	1
19	410902484	Rope installation fitting	C9ZV2-A1-B13	2
20	410911492	Holder for the switch	C9ZV3-A1-B18	1



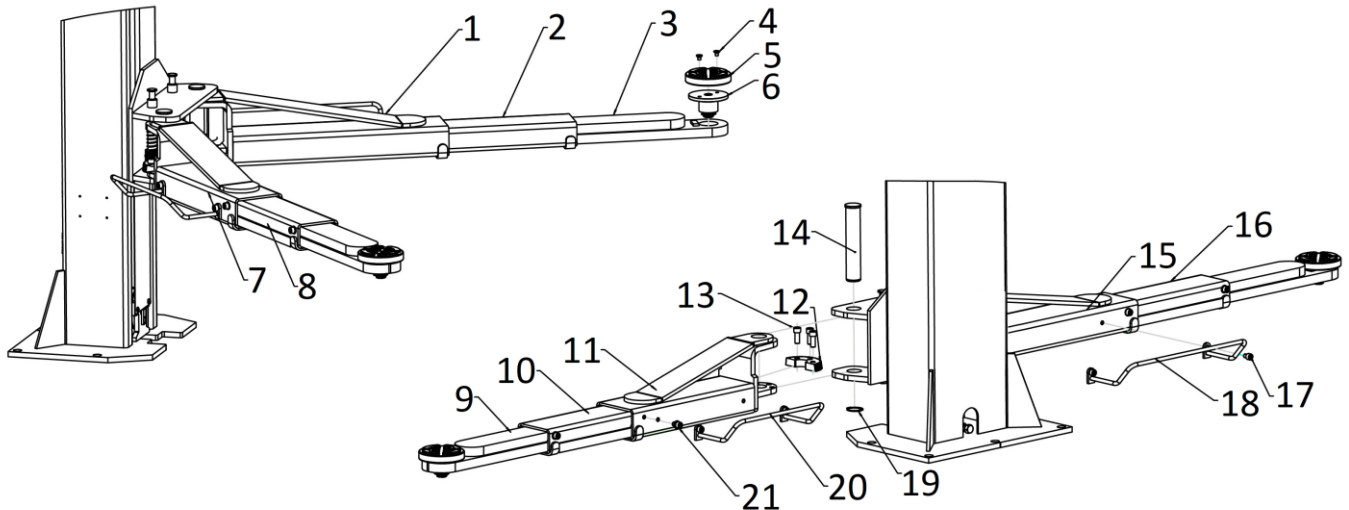
Pos.	Code	Description	Specification	Qty
1	410902491	Release steel rope	L=6955mm	1
2	202110004	Hex socket button head screw	M8x12	4
3	615068210B	Support bracket for the upside pulley	6214DS-A10-2	2



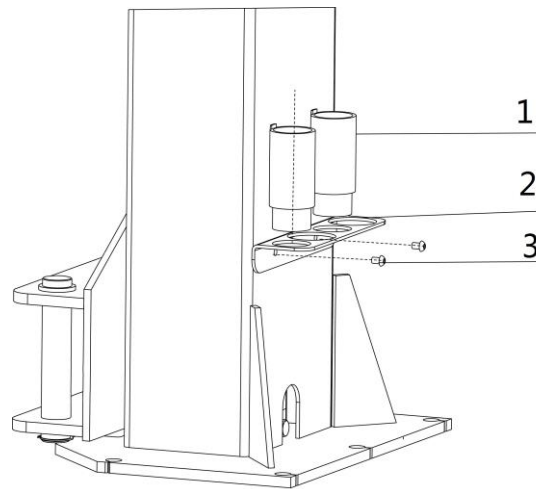
Pos.	Code	Description	Specification	Qty
1	614004005B	Long support arm	6254E-A7-B1	2
2	614901362	Retractable arm	6254E-A7-B3	2
3	614901484	The secondary post	F10MV2-A2-B1	1
4	201102026	Hex head full swivel bolt	M12*25	4
5	204201006	Spring washer	M12	4
6	204101007	Flat washer	M12	4
7	203101004	Hex nut	M6	8
8	204101004	Flat washer	M6	8
9	410010051	Hook for the covering cloth	6254E-A1-B5(6254A-A1-B6)	4
10	615001002	Curtain	6254E-A1-B4 2700*140	2

Pos.	Code	Description	Specification	Qty
11	410049031B	Pin shaft	6254E-A12	4
12	202109085	Hex socket cylinder head screw	M12*30	12
13	410901074	Teeth block	6254E-A7-B8	4
14	204301013	Circlip	M38	4
15	614004007C	First stage of the short triple arm	6254E-A27-B1	2
16	614004009C	Mid stage of the short triple arm	6254E-A27-B2	2
16-1	614004011C	Retractable arm	6254E-A27-B3	2
17	202111004	Hex socket flat head screw	M8*12	8
18	420040250	Round rubber pad	6254E-A7-B4-C4	4
19	615004003D	Lifting tray (no rubber pad)	6254E-A7-B4	4
20	202101027	Cross socket cap head screw	M6*8	4
21	202110016	Hex socket button head screw	M12*20	2
22	410011163B	Dust-proof plate	6254E-A10-B1	2
23	614004017B	Slot base plate	6254E-A9	1
24	410040013B	Base covering plate	6254E-A10	1
25	614901956	Power side post	F10MV3-A1-B1-V1	1
26	202109018	Hex socket cylinder head screw	M6X10-GB70_1	8
27	420680096	Protective cover on the secondary post	C9Z-A1-B9-1	1
28	420680176	Control box frame	C9Z-A19-B2	1
29	420680175	Protective cover on the power side post	C9Z-A19-B1	1
30	201101103	Bolt	M8X30-GB12	4
31	420040010	Anti-shock ring	6254E-A23	4
32	203204103	Flange nut	M8-GB6177	4
33		Hydraulic power unit	2.2kW	1
34	202110018	Hex socket cylinder head screw	M10X12-GB70_1	8
35	614004012B	Fender for the short triple arm	6254E-A27-B4	2
36	614004014B	Long fender (for two stage arm)	6254E-A7-B5	2
37	202109040	Hex socket cylinder head screw	M10X16-GB70_1	4
38	204101006	Flat washer	M10	4

**Optional Low-profile 3-stage arms (615-1150 ,745-1345)
pick-up clearance as low as 85mm**



Pos.	Code	Description	Specification	Qty
1	614901422	Lifting arm of long 3-stage arm (right side)	6254E-A28-B1	1
2	614901423	Mid arm of the long 3-stage arm (right side)	6254E-A28-B2	1
3	614901424	Retractable arm of the long 3-stage arm	6254E-A28-B3	2
4	202111004	Hex socket flat head screw	M8X12-GB70_3	8
5	420040250	Round pad	6254E-A7-B4-C4	4
6	610004547	Low-profile Lifting tray assembly	6254E-A7-B4-V1	4
7	614901733	Lifting arm of short 3-stage arm assembly(right side)	6254E-A31-B1	1
8	614901734	Mid arm of the short 3-stage arm (right side)	6254E-A31-B2	1
9	614901427	Retractable arm of the short 3-stage arm	6254E-A29-B3	2
10	614901426	Mid arm of the short 3-stage arm (left side)	6254E-A29-B2	1
11	614901425	Lifting arm of short 3-stage arm (left side)	6254E-A29-B1	1
12	410901074	Teeth block (semi-teeth)	6254E-A7-B8	4
13	202109085	Hex socket cylinder head screw	M12X30-GB70_1	12
14	410049031B	Pin shaft	6254E-A12	4
15	614901736	Lifting arm of short 3-stage arm assembly (left side)	6254E-A9-B2-V1	1
16	614901735	Mid arm of the long 3-stage arm (left side)	6254E-A30-B2	1
17	202110018	Hex socket cylinder head screw	M10X12-GB70_1	4
18	614004030B	Fender for the long 3-stage arm	6254E-MDN-A10-B4	2
19	204301013	Circlip	D38-GB894_1	4
20	614004012B	Fender for the short triple arm	6254E-A27-B4	2
21	202109040	Hex socket cylinder head screw	M10X16-GB70_1	1

Optional height-extension adapter and holder


Pos.	Code	Description	Specification	Qty
1	612004003B	Height-extension adapter	6254E-A11,L=100	4
1	612005002	Height-extension adapter	6254EB-A4, L=55	4
2	410901744	Holder	6254E-A1-B1-C6-V0	2
3	202110004	Hex socket button head screw	M8X12-GB70_2	4