



2-POST-LIFT
TW 280 HEAVY-Line
(Lifting capacity: 8000 kg)

TW280

INSTALLATION, OPERATION AND MAINTENANCE MANUAL



Always read these operating instructions carefully before operating the lift. Follow the instructions carefully.

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Further appendix:

- **EU Declaration of Conformity**

Important Information:

PRODUCT PRESENTATION



You can find the product presentation video for this lift on YouTube:
www.youtube.com/watch?v=leLa2uAqvLY
or scan the QR code.



ASSEMBLY



You can find the assembly video for this lift on YouTube:
www.youtube.com/watch?v=hs8M7hzx9Nc
or scan the QR code.



TIPS & TRICKS



In the "Tips & Tricks" section we show you simple solutions to work even more efficiently with your TWIN BUSCH® products.

www.twinbusch.co.uk/2-post-lifts/2-post-lift-8-0-t-clear-floor-HEAVY-LINE::292.html#horizontalTab4

24/7 Service Center:



Our **24/7 Self-Service Center** is a mobile website designed for self-diagnosis of issues with your Twin Busch lift. Here, we provide an extensive video collection covering a wide range of relevant topics for your Twin Busch lift, from fine-tuning and maintenance to component replacement.

With the **24/7 Self-Service Center**, you have a versatile tool at your disposal to learn how to independently maintain and repair your Twin Busch lift.

To access the site on your mobile device, please visit twinbusch.com/qr or scan the QR code provided alongside.

For Twin Busch lifts shipped from mid-2020 onwards, you'll also find the QR code on a sticker attached to the control box.

1. General

The Heavy-Line model series meets the high performance requirements of a professional workshop and has a very comprehensive range of standard equipment, such as turntables with double thread, column protection cover, motor cover, the plug-in adapter extensions included in the scope of delivery and matching practical plug-in adapter holders.

2. Identification of the instructions for use

Instruction manual **TW 280**

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Version: -03, 24.04.2024

File: *TW280_2-post-lift_Instruction_manual_uk_03_20240424.pdf*

3. Technical data

Power supply (3-phase)	400 V / 50 Hz
Fuse protection	16A (C / slow)
Load capacity	8,000 kg
Degree of protection	IP 54
Lifting time	ca. 55 sec.
Lowering time	ca. 50 sec.
Net weight	1.768 kg
Noise level	< 70 db
Working environment	Working temperature: -15°C to +40°C
	rel. Humidity: 30 % to 85 %

4. Modification of the product

Improper use, as well as modifications, conversions and attachments of the lift and all its components not agreed with the manufacturer are not permitted. The manufacturer will not accept any liability in the event of improper installation, operation or overloading. Likewise, improper use will invalidate the CE certification and the validity of the expert opinion.

If there are any modification requests, please contact your dealer or the expert personnel of the Twin Busch GmbH beforehand (see: 2. **Identification of the operating instructions**).

5. Safety-related information

Read the instruction manual carefully before operating the lift. Keep the instructions for reference. Follow the instructions carefully to obtain the best performance from the machine and to avoid damage due to personal fault.

6. Safety instructions

6.1 Warnings and symbols

This lift is specially designed for lifting motor vehicles. The user must not use it for any other purpose. The applicable national regulations, laws and directives must be observed.

The unsupervised operation of lifting platforms may only be entrusted to persons 18 years of age or older who have been instructed in the operation of the lifting platform and have demonstrated their competence to the operator. The order to operate the lifting platforms must be given in writing.

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

Lift the vehicle within the limits of the rated load. Do not attempt to lift vehicles with excessive weight.

6.2 Checking the lifting platforms

The controls must be carried out on the basis of the following directives and regulations:

- *Basics for the testing of lifting platforms*
- *The essential health and safety requirements of Directive 2006/42/EC.*
- *The applicable accident prevention regulations*

The inspections are to be organised by the user of the lifting platform. The user is responsible for appointing a specialist or qualified person to carry out the checks. It must be ensured that the selected person meets the requirements.

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

6.2.1 Checking the lifting platforms

The regular inspection essentially comprises 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 in good working order, and completing the inspection booklet in full. The scope of the extraordinary inspection depends on the type and extent of the structural modifications or repairs.

6.2.2 Regular control

After initial commissioning, lifting platforms must be inspected by a competent person at intervals of no more than one year.

A qualified person is a person who, due to his training and experience, has sufficient knowledge in the field of lifting platforms and is familiar with the relevant state regulations, accident prevention regulations and generally recognised rules of technology to such an extent that he can assess the safe working condition of lifting platforms.

6.2.3 Extraordinary control

Lifting platforms with a lifting height of more than 2 metres and lifting platforms intended for use with persons under the load-bearing elements must be inspected by an expert before or after structural alterations and major repairs to load-bearing components.

An expert is a person who, due to his or her training and experience, has special knowledge in the field of lifting platforms and is familiar with the relevant state occupational health and safety regulations, accident prevention regulations and generally recognised rules of technology to such an extent that he or she can inspect and professionally assess lifting platforms.

6.3 Important safety instructions

- 6.3.1** Recommended for indoor use only. Do not expose the lift to rain, snow or excessive moisture.
- 6.3.2** Only use this lift on a stable and load-bearing surface. Do not install the lift on an asphalt surface.
- 6.3.3** Do not leave the controls while the lift is still in motion.
- 6.3.4** Keep hands and feet away from all moving parts. When lowering, keep your feet away from the lift when lowering.
- 6.3.5** The lifting platform may only be operated by appropriately trained personnel.
- 6.3.6** Do not wear unsuitable clothing, e.g. loose clothing with flounces, hoops, etc. that could be caught by moving parts of the lift. You could be caught by moving parts of the lift.
- 6.3.7** To prevent avoidable incidents, the area around the lift must be tidy and undamaged.
- 6.3.8** The lift is only designed to lift the entire body of vehicles, with the maximum weight being within the load capacity.
- 6.3.9** Always make sure that the safety interlocks are engaged before attempting to work near or under the vehicle. Never remove safety-related components from the lift. Do not use the lift if any safety-related parts are damaged or missing.
- 6.3.10** Do not shake the vehicle while it is on the lift and do not remove any heavy parts from the vehicle that may cause excessive weight shifting.
- 6.3.11** Check the parts of the lift at all times to ensure mobility of the moving parts and the performance of the synchronisation. Ensure regular maintenance and stop operation of the lift immediately if anything is abnormal and contact our specialist dealers for assistance.
- 6.3.12** Lower the lift to the lowest position and remember to switch off the power source after completing maintenance. Switch off the power source after completing the maintenance work.

- 6.3.13 Do not modify any parts of the lift without consulting the manufacturer.
- 6.3.14 If the lift is not used for a long period of time, the users shall observe this:
- a. Disconnect the unit from the mains.
 - b. Empty the oil tank.
 - c. Lubricate the moving parts with hydraulic oil.

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

6.4 Warnings and symbols

All warning labels are clearly visible on the lift to ensure that the user uses the equipment in a safe and appropriate manner.

The warning signs must be kept clean and replaced if they are damaged or missing. Please read the signs carefully and memorise their meaning for future operations.

	Before use read Instructions and safety instructions carefully!		Operation of the lifting platform only by qualified personnel!
	Repairs and maintenance only by qualified personnel, never put safety devices out of operation!		Only qualified personnel allowed in the vicinity of the lifting platform!
	Escape routes always keep clear!		It is forbidden for persons to stand under the lifting platform (when lifting or lowering)!
	Watch your feet when lowering! Danger of crushing!		Climbing on the lifting platform is strictly prohibited!
	Observe the vehicle manufacturer's mounting points!		After lifting the vehicle for a short time, check that it is securely seated!
	Do not exceed the specified load capacity!		When installing and removing heavy parts the vehicle can tip over!
	Never try to load only one side of the lifting platform!		Protect the lifting platform from moisture! Electrical connections must be dry!
	Avoid strong shaking. Avoid shaking the vehicle.		CAUTION! Electrical voltage!

6.5 Potential security risks

6.5.1 Potential security risks

Insulation damage and other faults can cause accessible components to be live.

Security measures:

- Only use the mains cable supplied or a tested mains cable.
- Replace wires with damaged insulation.
- Do not open the control unit.

6.5.2 Risk of injury, risk of crushing

If the weight of the vehicle is too high, if the vehicle is mounted incorrectly or if heavy objects are removed, there is a risk of the vehicle falling or tipping over

Security measures:

- The lifting platform must only ever be used for its intended purpose.
- Carefully read and observe all information in section 6.4.
- Observe the warnings for operation.

6.6 Noise level

The noise emission during operation of the lift should be less than 70 dB (A). For health reasons, it is recommended to install a noise detector in your work area.

7. Packaging, storage and transportation

Packing, lifting, handling and transporting the lifting platform may only be carried out by experienced personnel with appropriate knowledge of the lifting platform and after reading these instructions.

7.1 Storage

The packs must be stored 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 do not recommend stacking the packs as they are not suitable for this type of storage. The narrow base, heavy weight and size of the packs make stacking difficult and potentially dangerous.

If stacking is unavoidable, take all appropriate precautions:

- Never stack more than 2 metres high.
- Never make stacks of single packs. 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.

7.2 Lifting and handling

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

Opening the packs

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, the control panel and the cylinder.

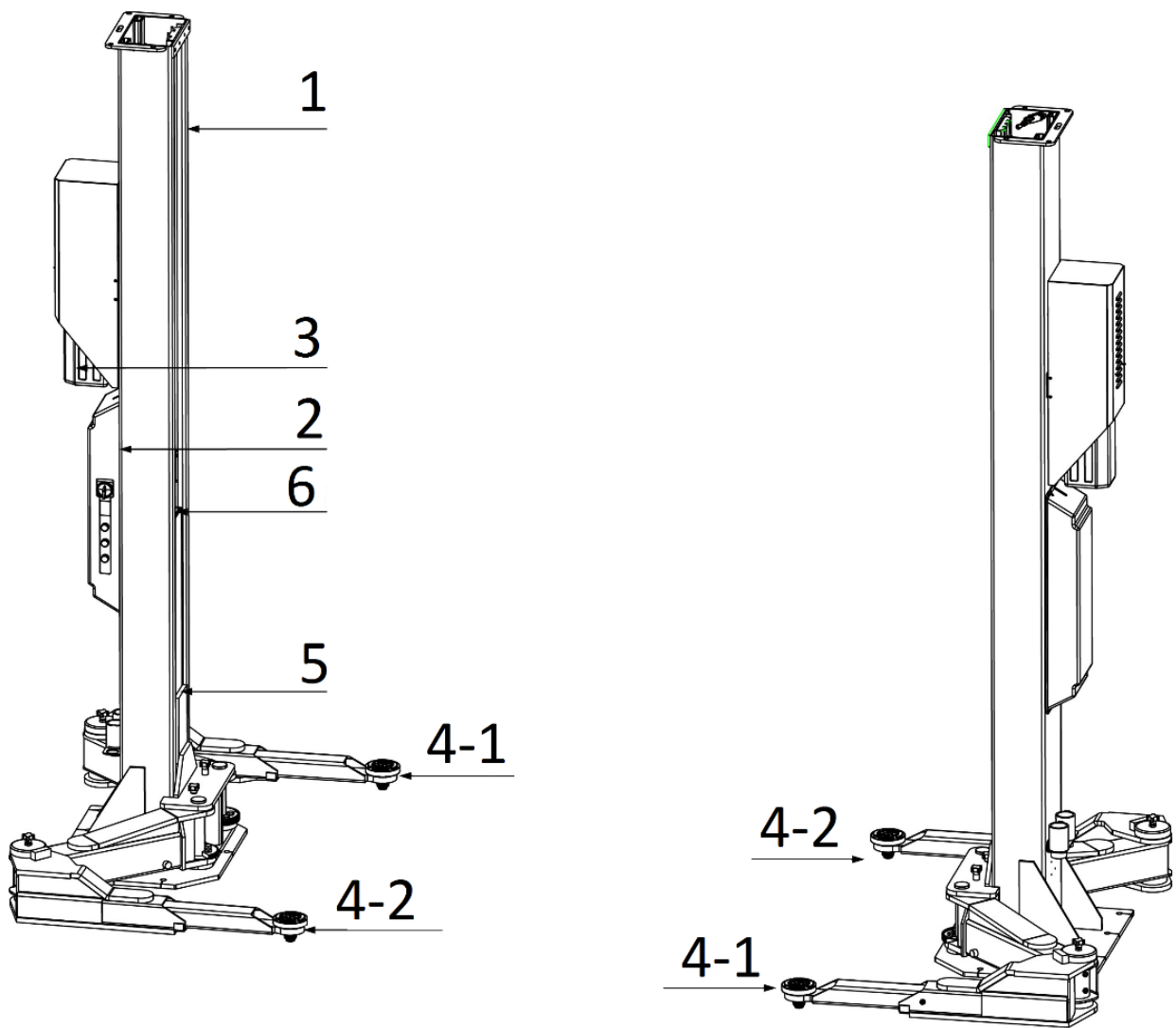
8. Product description

8.1 General descriptions

This is a lifting platform for road vehicles that supports the chassis.

Each lift has an independent control and hydraulic unit that provides sufficient power for fast lifting and allows control on both sides. No interconnected ropes, hoses or wires between the two columns ensure a free and unobstructed working space. Synchronisation is automatic through wireless communication technology and deviations are only allowed within a safe range.

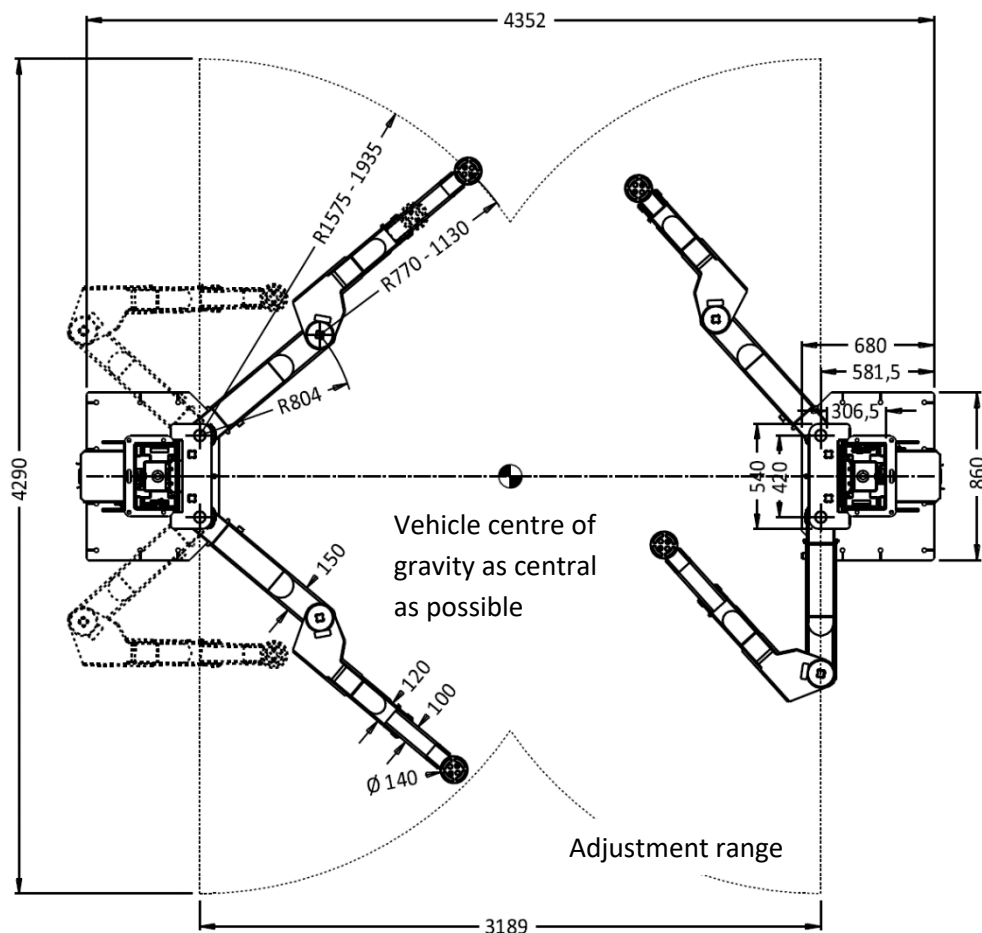
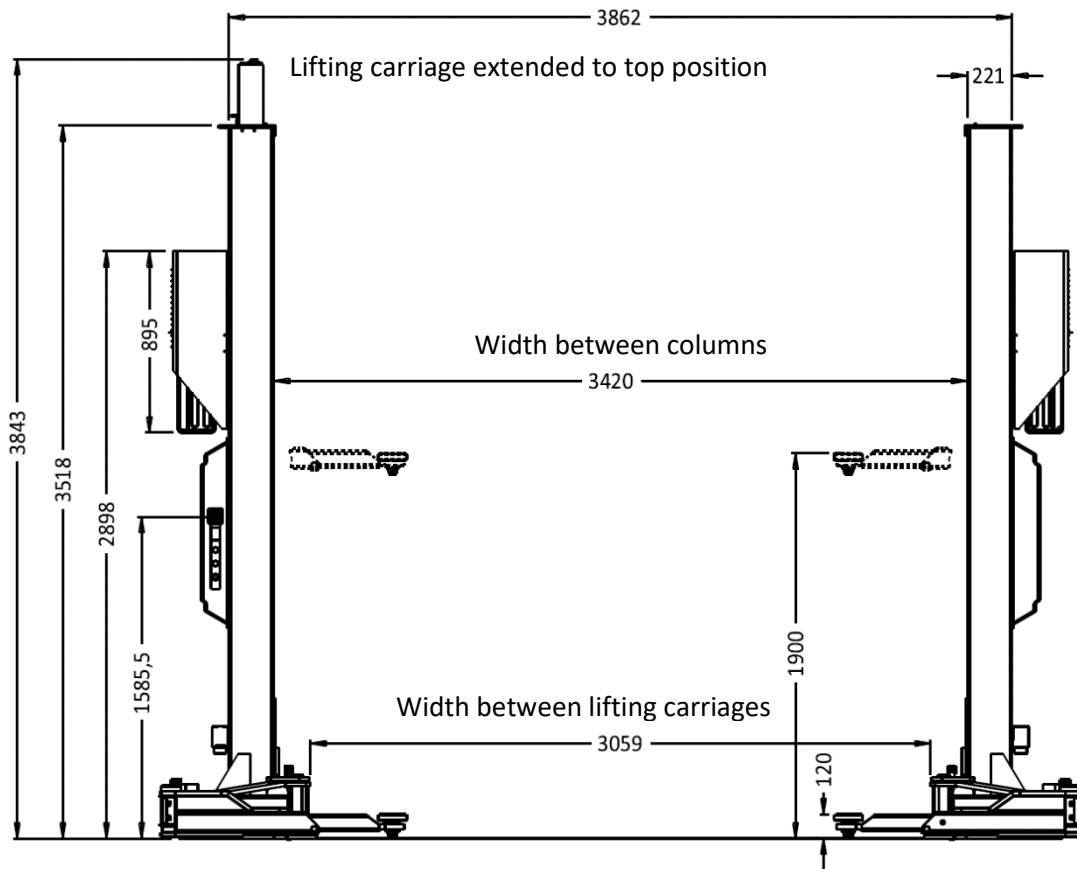
8.2 Lift with optional Type-M foldable arms (single telescopic)



- | | |
|----------------------------|---------------------------|
| 1) Post | 4-2) Joint arm B assembly |
| 2) Control box | 5) Carriage assembly |
| 3) Hydraulic power unit | 6) Hydraulic cylinder |
| 4-1) Joint arms A assembly | |

8.3 Dimensions

Dimensions for lift with Type-M foldable arms.



8.4 Description of the safety devices

S/N	Safety related device	Descriptions
1	Swing arm locking device	Ensure the lifting arms are locked and avoid being swinging at raised position.
2	Mechanical locking device	Catch and support the carriages in case of hydraulic failure.
3	Max rise switch	Limit the max rise of the lifting system.
4	Feet protecting device	Double lowering control buttons and audible warning for final travel for lowering.
5	Insulation main switch	Isolate the main power supply when it is turned off.
6	Contacting detecting device	Detect the working status of both contactors. Disconnect the power of the entire lift in case one of contactor works abnormally.
7	Rising height deviation detecting device	Detect the rising height deviation. In case the deviation exceeds the value that has been set up, enforce to stop the lift and activate an audible warning which gives out at the post with higher rising height.
8	Locking device detecting device	Detect if both carriages are at same level when the locking button is commissioned. The locking button stops functioning when the two carriages are detected being out of the same level.
9	Overload protection	Prevent the lifting system from overloading when rising from the very lowest position.
10	Leakage protection	Prevent the load carrying devices from lowering too fast in case leakage occurs in the hydraulic line.

9. Installation instructions

9.1 Preparations before installation

9.1.1 Space requirements

Indoor installation only. Refer to 3.4 for the dimensions of the lift. There must also be a clearance of at least 1 meter between the column and fixed elements (e.g. wall) in all lifting positions. There must be sufficient space for driving vehicles on and off.

9.1.2 Foundations and connections

The user must have the following work carried out before setting up the lift.

- Construction of the foundation after consultation with the customer service or an authorised service partner. Laying the lines to the installation site. Fuse protection for the connection must be carried out by the user. *Connection of the electrical system must be carried out by a qualified electrician.* Power supply cable requirements for the installation site: minimum 2.5 mm² wire core for 3Ph current and 4.0 mm² wire core for 1Ph current.
- Also observe the corresponding information on the type plate and in the operating instructions. Before making the electrical connection, make sure that the lift is connected to the local power supply.
- Preparation of the foundation (see Appendix 1, Floor plan).

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 are at risk of putting the lift into a dangerous situation.

- C30 concrete foundation with a minimum thickness of 300 mm.
- Surface under the column base: Horizontal and even (Gradients max. 0.5 %).
- Newly built concrete ground must be older than 20 days.

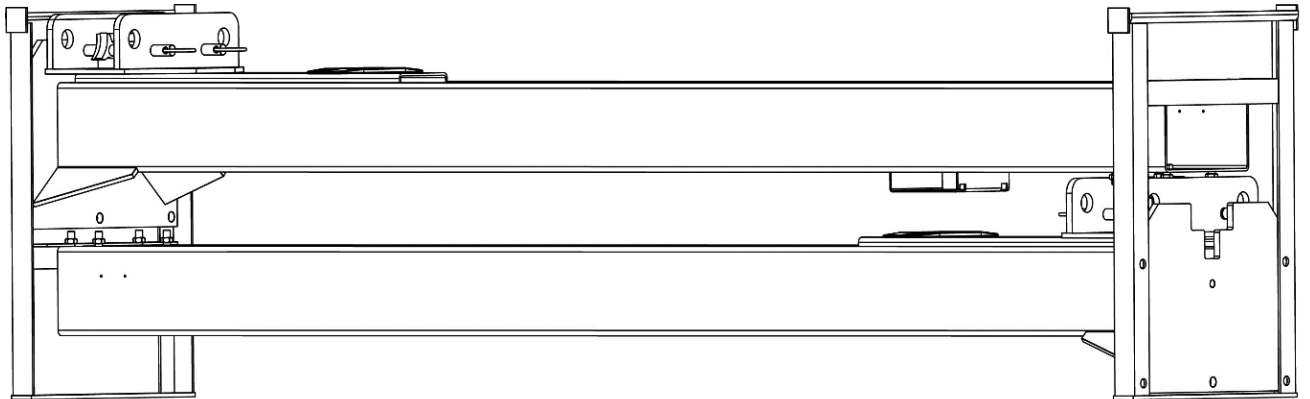
Tool name	Specification	Qty
Electrical drill	With D20 drill bit.	1
Open spanner	D17-19mm	2
Adjustable spanner	bigger than D30mm	1
Cross socket screw driver	PH2	1
Quick spanner handle adapter/ Ratchet	REB-310	1
Levelling device	1mm accuracy	1
Hammer	10 pounds	1
Truck lift	Capacity more than 2000 kg	1
Torque spanner	MD400	1

9.2 Installation attentions

- Tighten all hydraulic and electrical connections.
- Tighten all screws, nuts and bolts.
- Do not place any vehicle on the lift when trial running.

9.3 General Installation Steps

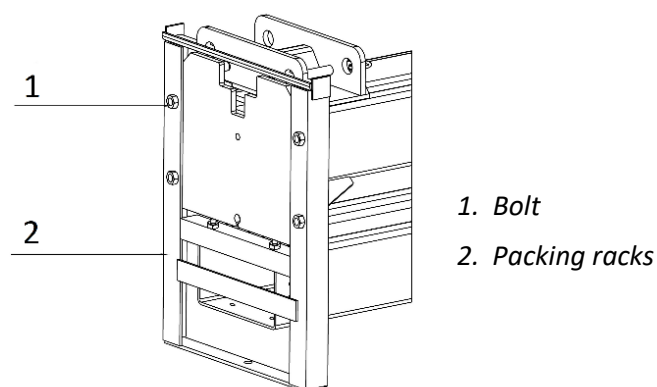
The installation of lifting platforms may only be carried out by trained and qualified fitters.



Step 1: Remove the packaging, take out the carton of accessories

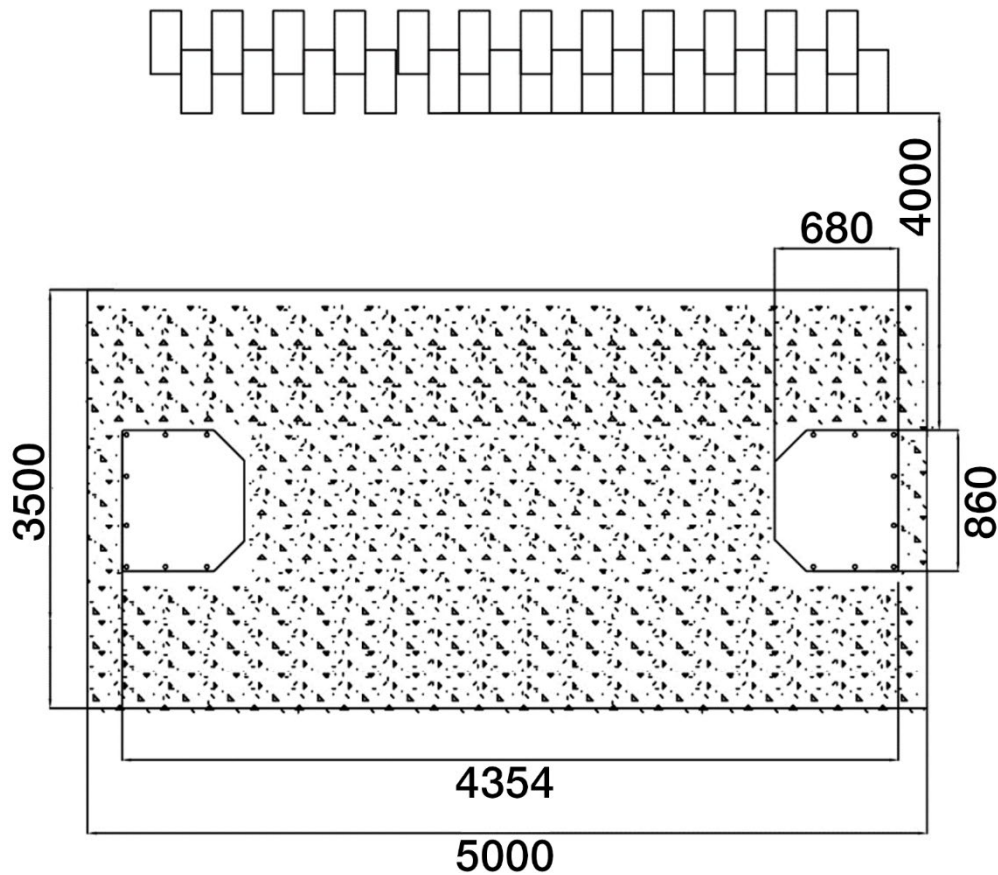
First place a support between the two columns or suspend one of the columns with a crane and then remove the bolts from the packing frame. When the first column has been removed, place a support under the second column and then remove the bolts from the packing frame.

Attention! Please take special care that the column does not fall down, as this may cause accidents or damage to the accessories fixed in the column.



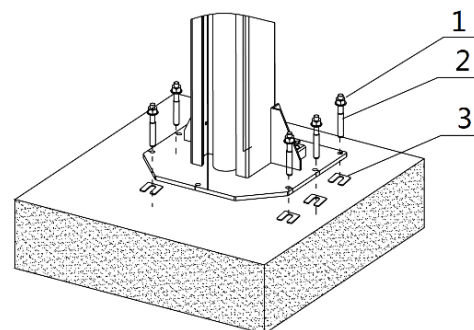
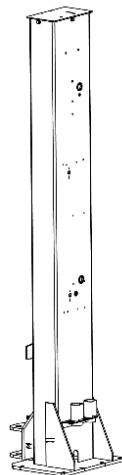
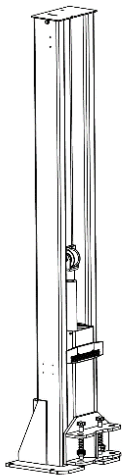
Step 2: Ascertain the standing position for the two posts.

Refer to the floor plan and draw an outline of two base plates on the ground with chalk to ascertain install positions for the two posts.

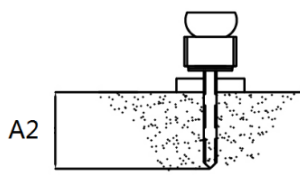
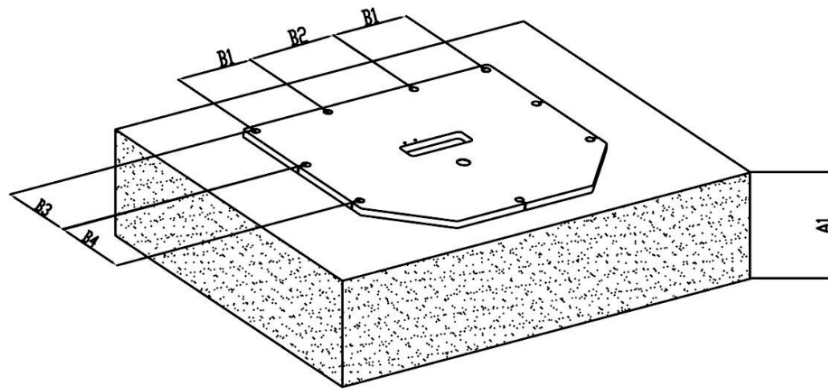


Step 3: Erect and secure the post

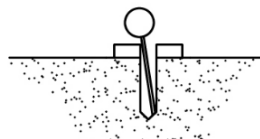
1. Use proper means to erect the post and make the posts face towards each other.
2. Use suitable means to raise the lifting carriage to the first latching position. All the mounting holes in the base plate are then accessible. Make sure the locking pawl is engaged.
3. Check and align the position of the base plates again.
4. Use D20 drill bit. Drill the mounting holes. Remove the dust from the hole.
5. Use a spirit level to check the vertical alignment of the posts. If necessary, place equalizing Plates under the base plates.
6. Tighten the nuts. **Torque: 100-120 Nm.**
- 7.



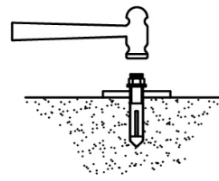
1. Nut
2. Expansion anchoring bolt
3. Equalizing plate



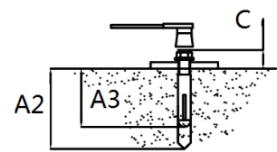
drill



clean



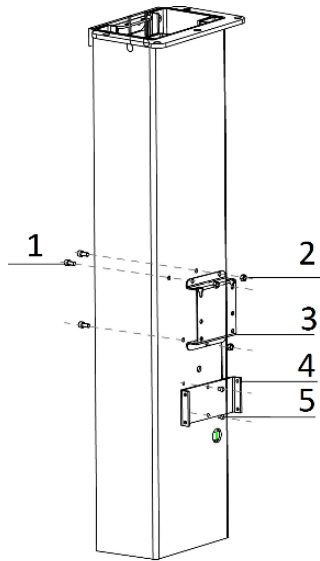
anchor



tighten

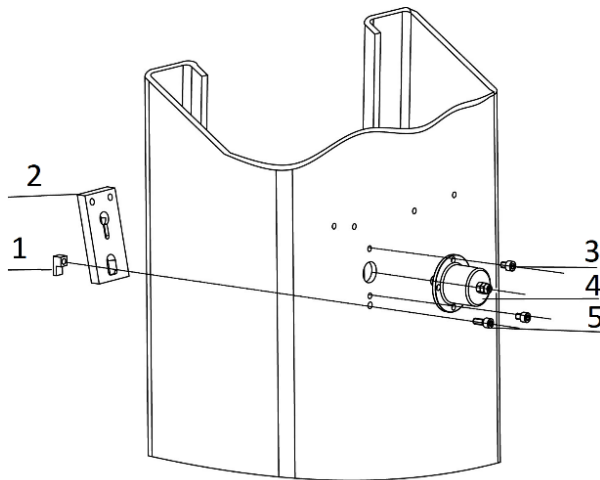
Anchoring bolt	A1 (foundation thickness)	A2 (drilling depth)	A3 (anchoring depth)	B1	B2	B3	B4	C
M20x220	≥300mm	180mm	160mm	240mm	280mm	225mm	195mm	≤60mm

Step 4: Fix the holder for power unit and motor housing



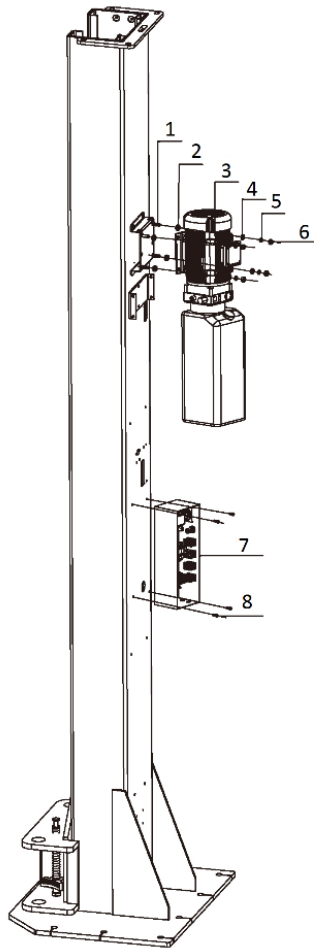
1. Hex socket button screw M10x25
2. Hex Nut M10
3. Power unit holder
4. Motor housing holder
5. Hex socket button head screw M18 x 12

Step 5: Fix the locking device



1. Orientation block
2. Locking plate
3. Hex socket cylinder head screw M6 x8
4. Electromagnet
5. Hex socket cylinder head screw M6x15

Step 6: Install the power unit and control unit



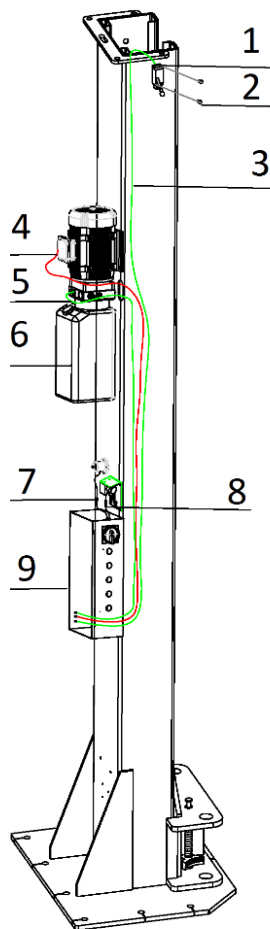
1. Hex nut M10
2. Flat washer M10
3. Spring washer M10
4. Power unit
5. Anti-shock pad
6. Hex head full threaded screw M10x35
7. Control box
8. Hex socket screw M6x12

Step 7: Connect the electrical system

Attention! ONLY qualified electricians may make the electrical connection. Observe the electrical connection diagram before making the connection. Read the type plate and make sure that the supply voltage is suitable for the lift.

Before supplying power to the lift, check and ensure that the power supply has been supplied with overcurrent protection device.

Refer to scheme for wire connection and connect the wires of electrical components to the corresponding terminals reserved in the control box.



1. 8108 limit switch
2. Cross socket flat head screw M5x10
3. Wire of the limit switch
4. Wire of the motor
5. Wire of the solenoid valve
6. Hydraulic power unit
7. Wire of the electromagnet
8. Wire of the rope sensor
9. Control box

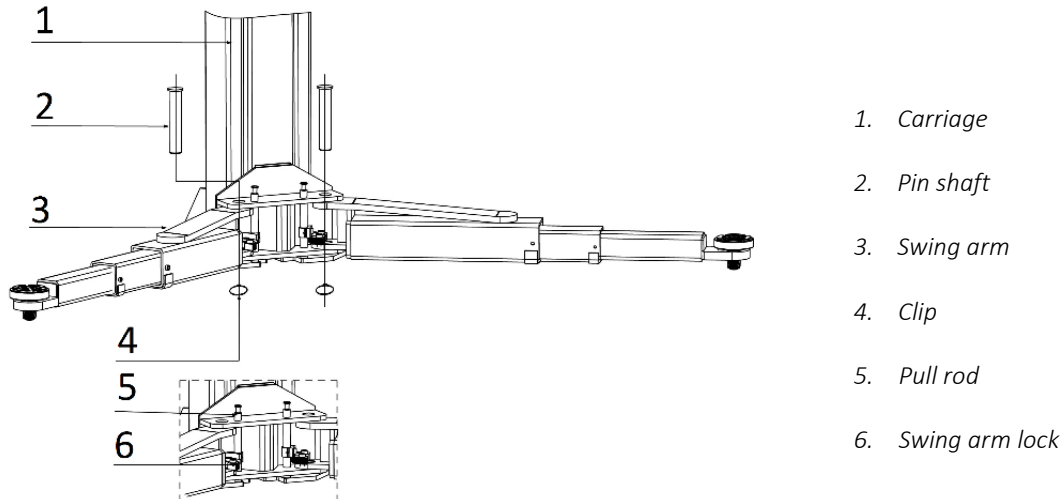
Attention! The wires of the solenoid valves must be connected according to the respective colour markings attached. Connect the wire marked red to the solenoid valve marked red. Connect the wire marked green to the solenoid valve marked green. This is very important!



Step 8: Install lifting arms

Connect the lifting arms to the carriages. The lift arm pins must be greased during assembly. Make sure that the locking device can be switched on and off effectively.

Attention! Mount the arms ONLY after the entire assembly has been erected and anchored.

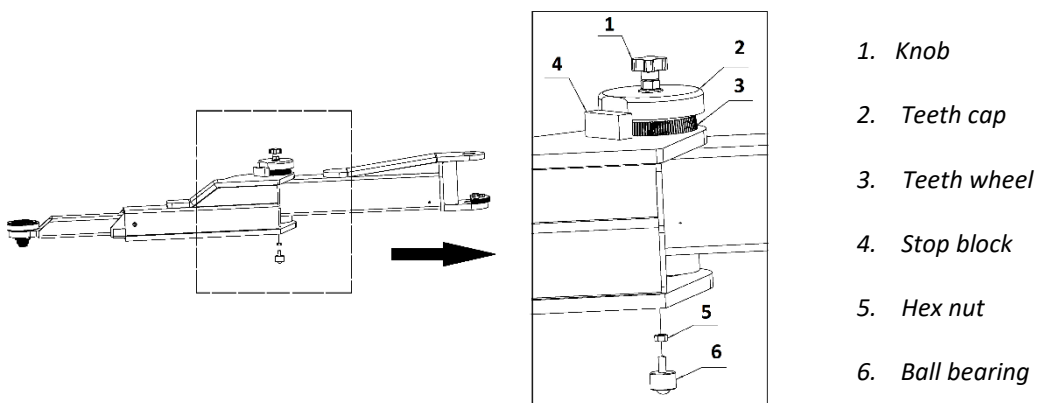


Attentions for assembling Type-M foldable arms

The release device at middle joint may not release automatically on uneven floor.

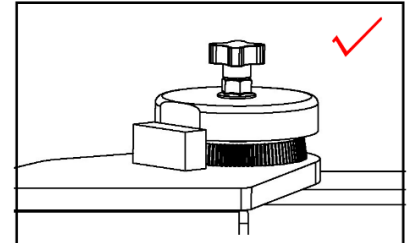
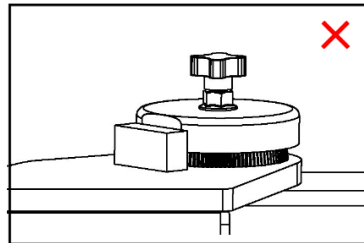
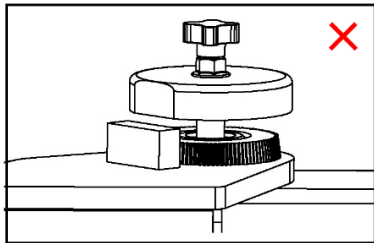
On floor with level deviation being not more than 6 mm, it can have adjusted to release automatically.

Adjust the position of the hexagon nut (Pos. 5) on the lower unit correctly so that the centre arm lock can be released automatically in the lower position. If the nut is not set correctly, there is a risk of disengagement.



On condition that the teeth cap(Pos.2) can be pulled up higher than the stop block, screw up the nut (Pos.5) up until its max pulled out position is lower than the top surface of the stop block (Pos.4).

When the arm locking device cannot release automatically at bottom, screw down the nut (Pos.5) until the locking device can release automatically at bottom.



Step 9: Fill with hydraulic oil

Use only clean and fresh oil and do not fill the tank completely.

The lift must be lowered completely before changing or refilling hydraulic oil.

Prepare 14 litres of anti-abrasive hydraulic oil.

Respectively pour about 6 litres of hydraulic oil into each oil tank. The level of oil shall reach the tippets volume mark of the tank.

Add more oil after running the lift for several cycles until the lift can rise to the maximum lifting height.

It is suggested to use HM NO.46 hydraulic oil. When the average temperature of the location is below 10°C, use HM NO.32 hydraulic oil.

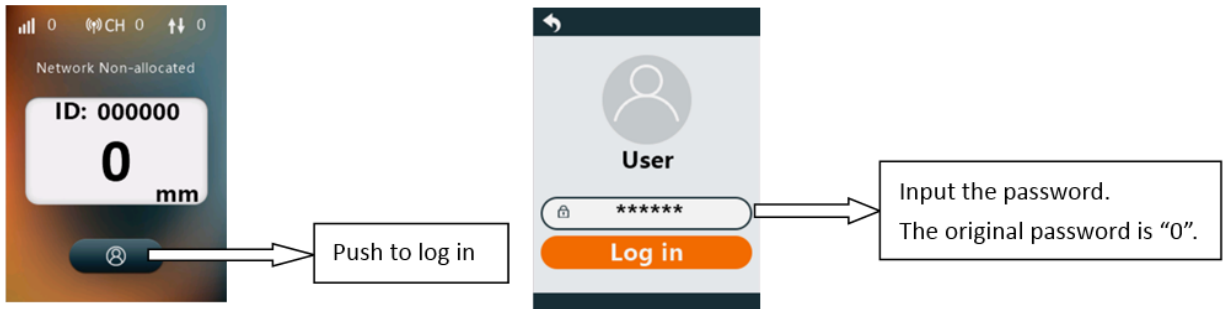
Change the oil 6 months after initial use and change once per year thereafter.

Step 10: Bleed the hydraulic line and make the mains connection.

Refer to section 5.2 Descriptions of control system and get familiar with the control and system setting methods.

1. Log in the setting system.

Turn on the Main Switch. Push the button at the bottom of the screen, log in and reset the lifting system.

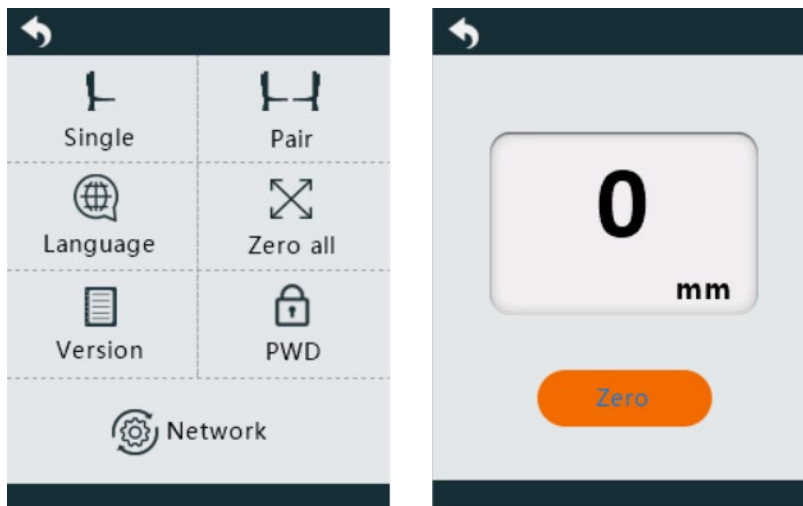


2. Bleed the hydraulic line and set "Zero" for each column in single control mode.

Enter the single control Mode. Bleed the hydraulic line by raising and lower the carriage at least for 2 complete cycles.

After bleeding, lower the carriage completely to the bottom and push the "Zero" button.

Bleed and set "Zero" to the other columns in the same way.

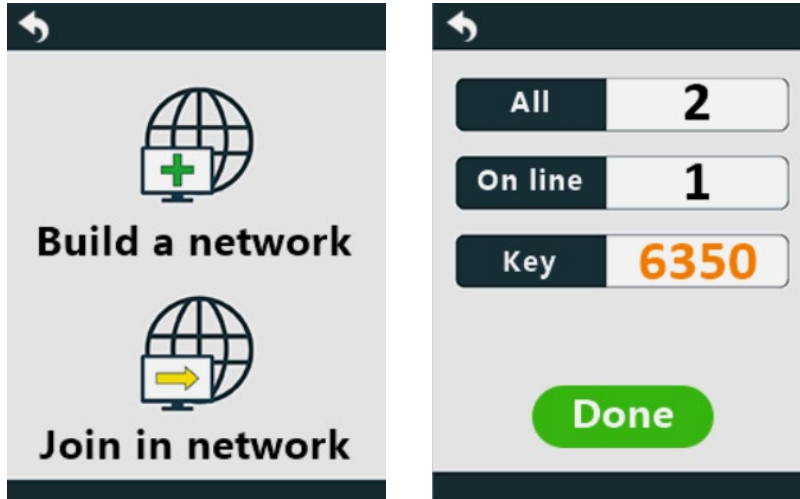


3. Pairing

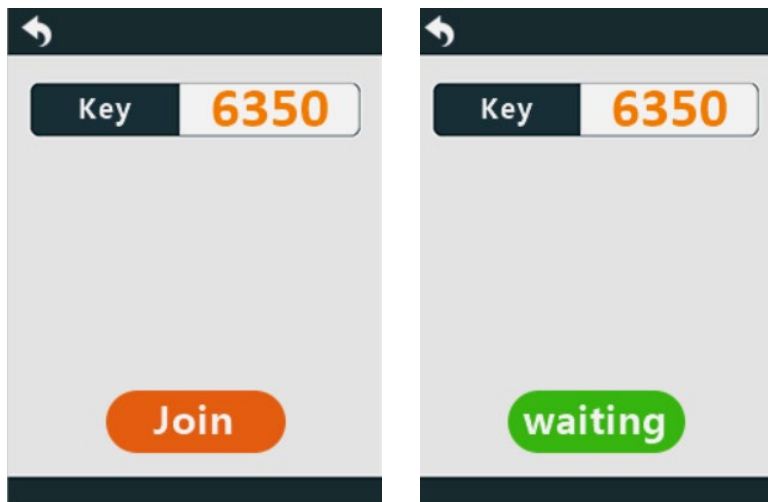
First switch on the main switch on both columns.

Push the “Network” button at the first column, build a new network and you will get a key number.

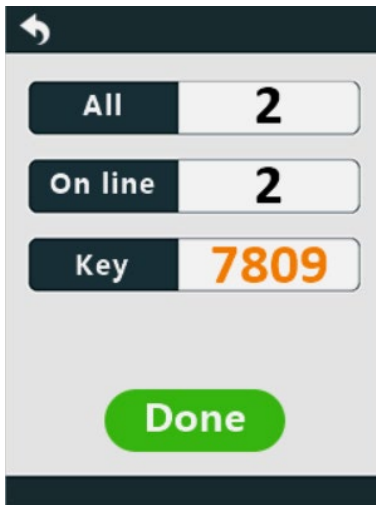
An example key number in the following is 6350. It is given randomly by the system.



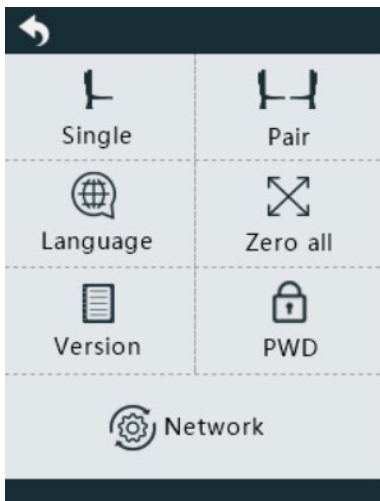
Push “Join in network” button at the second column, input the same key number given by first column so as to join the network built by the first column.



Go back to the first column and push the button “Done”.



Return to the main setting page and push the button “Pair” to enter the pair control mode.



9.4 Items to be checked after installation

S/N	Check items	YES	NO
1	Screw torque of expansion bolts : 80-100 Nm;	√	
2	Rising speed ≥ 20 mm/s;	√	
3	Grounding resistance: not bigger than 4 Ω ;	√	
4	Height difference of the two carriages ≤ 5 mm;	√	
5	Mechanical locks are robust and synchronized when running with rated load ;	√	
6	All control buttons work as “hold to run”.	√	
7	The earth wire is connected.	√	
9	The lift rises and lowers smoothly.	√	
10	There is no abnormal noise during running with load.	√	
11	There is no oil leakage when running with load.	√	
12	All expansion bolts, nuts or circlips have been tightened.	√	
13	The max rise can be reached.	√	
14	Safety advices, name plate and logos are clear.	√	

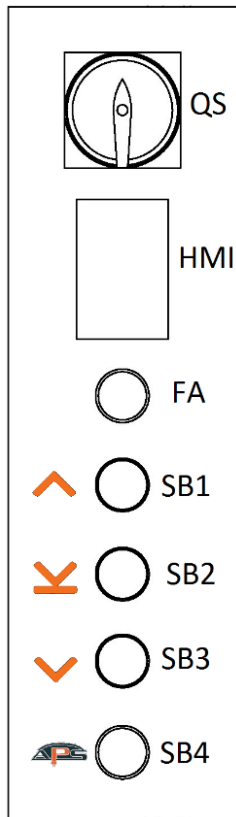
10. Precautions

10.1 General precautions

- ONLY authorised persons are allowed access to the lifting platform.
- Do not attempt to lift the vehicle with excessive length or width. Otherwise there is a risk that the vehicle will fall off the lift.
- Check the space above and below the load and the load carrying equipment. It must be free of obstructions before operation.
- Before lifting, run the lift for one complete cycle without load to ensure that it is in good condition.
- Before lifting the vehicle and during all work on the vehicle, ensure that the vehicle is properly stopped with the handbrake.
- It is forbidden to be in the movement field during the lifting or lowering process.
- 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.
- Always use safety stands when moving or installing heavy components.
- Do not climb onto the load or load carrying device when they are raised.

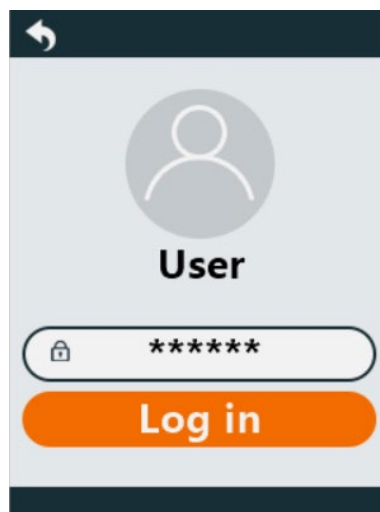
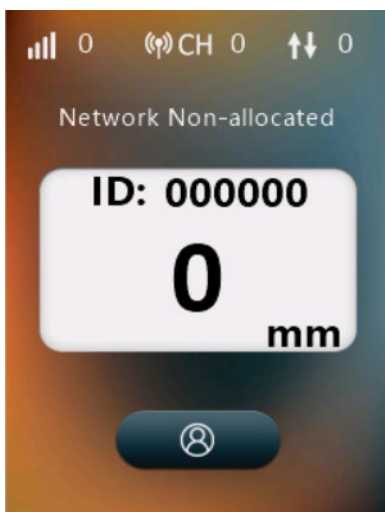
10.2 Descriptions of control system


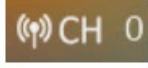
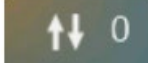
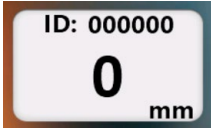
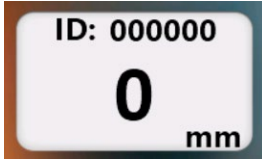

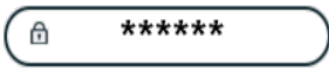







1. Layout of the control panel



Pos.	Description	Function
QS	Main switch	Control main power.
HMI	Touch screen	Set up the communication system. Display information of the lifting system.
FA	Alarm-buzzer	Audible warning for the final portion of travel down to bottom. Audible warning for excessive height deviation.
SB1	UP button	Control the rising movement.
SB2	Safety lock button	Engage the mechanical safety lock.
SB3	DOWN I and DOWN II button	Control the normal lowering. Reactivate it to control the final lowering. Movement when the carrying device. Automatically stops at a safety distance from the floor.
SB4	Parking button	Push to descend directly on condition that the mechanical lock has not been engaged.

2. Layout of the touch screen



S/N	SYMBOL	Descriptions
1		The display of signal intensity. The signal is weak if the value followed by is less than 160.
2		The display of communication channel code. Two paired columns will display a same channel code.
3		The display of height deviation between two columns.
4		ID: Identity code of the column. It is generated randomly. Two paired columns display a same ID code.
5		The display of vertical rise of the cylinder in mm. Lower the carriage completely to the bottom, push button "Zero" in single mode or "Zero all" in pair mode to clear the height value to zero for the control system. It must be attained that if you zero the height with the carriage being at a position above the bottom, you will get a negative height value.
6		Push this button to enter the page for "Log in"
7		Input the password.
8		Push this button to do network connections, such as build a network and join the network.
9		Push this button to enter into single control mode in which you can control a single column.
10		Push this button to enter into pair control mode after the network setting is done.
11		In pair control mode, lower the columns completely and push this "Zero all" button to clear the height deviation.
12		Reset the language.
13		Push this Version button to get detailed edition information of the control system.
14		Push this PWD button to reset the password.

10.3 Operation instructions

To avoid personal injury and/or property damage, permit only trained 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. The lift must be only used in a static position for lifting and lowering vehicles.

Raise the lift

Make sure that the vehicle is not heavy at the front or rear and that the centre of gravity should be midway between the adapters and centrally above the lift.

1. Park the vehicle between two posts.
2. Adjust the lifting arms until lifting trays are under the pick-up positions of the vehicle and make sure the centre of gravity of vehicle is located over the centre of all four lifting arms.
3. Push the UP button on the control panel until lifting adapters have touched the pick-up positions of of vehicle
4. Keep on raising the vehicle until its wheels are off the ground a little bit and check the stability.
5. Raise the vehicle to the height required, push the "Safety Lock" button to engage the mechanical safety locking unit. Check again the stability of the vehicle and then perform maintenance or repair work underneath.

ATTENTION! If the LOCK button does not work, please press the UP or DOWN button to raise or lower the carriage a little and press the LOCK button again to activate the mechanical lock.

Lower the lift

When lowering the lift, pay careful attention that all personnel and objects are kept clear. An audible warning is accompanied during the final portion of lowering travel.

1. Push the "DOWN" button on the control panel.
2. When it is lowered completely, position the swing arms and adapters to provide an unobstructed exit before removing vehicle from lift area.
3. Drive the vehicle away.

11. Trouble Shooting

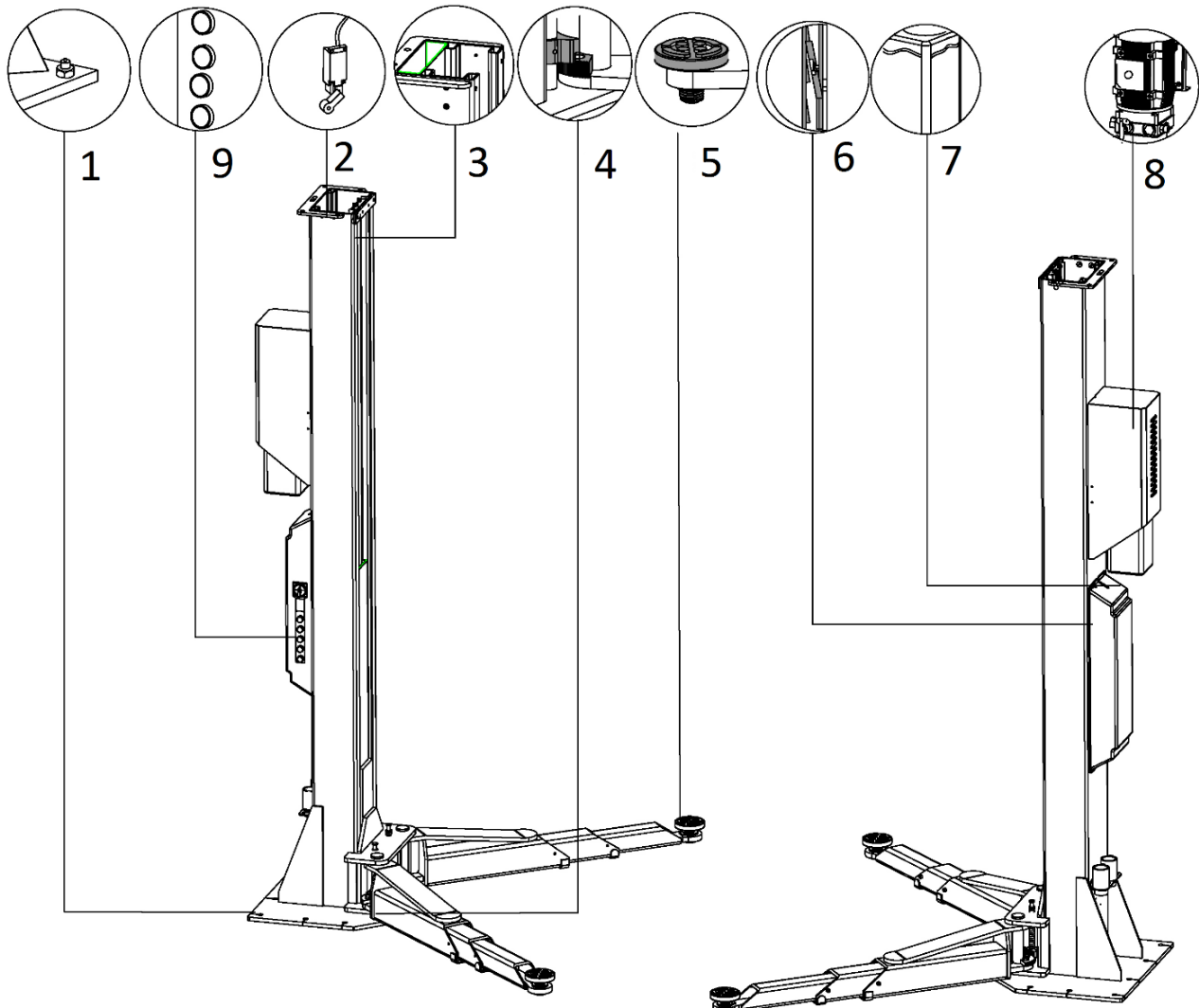
ATTENTION: If the problem cannot be fixed by yourself, please do not hesitate to contact us for help. We will offer our service and advice as soon as we can. Problems can be identified much quicker if photos and videos are supplied to us by email.

The following table lists possible errors, their cause and the corresponding troubleshooting for quicker identification and self-remedy.

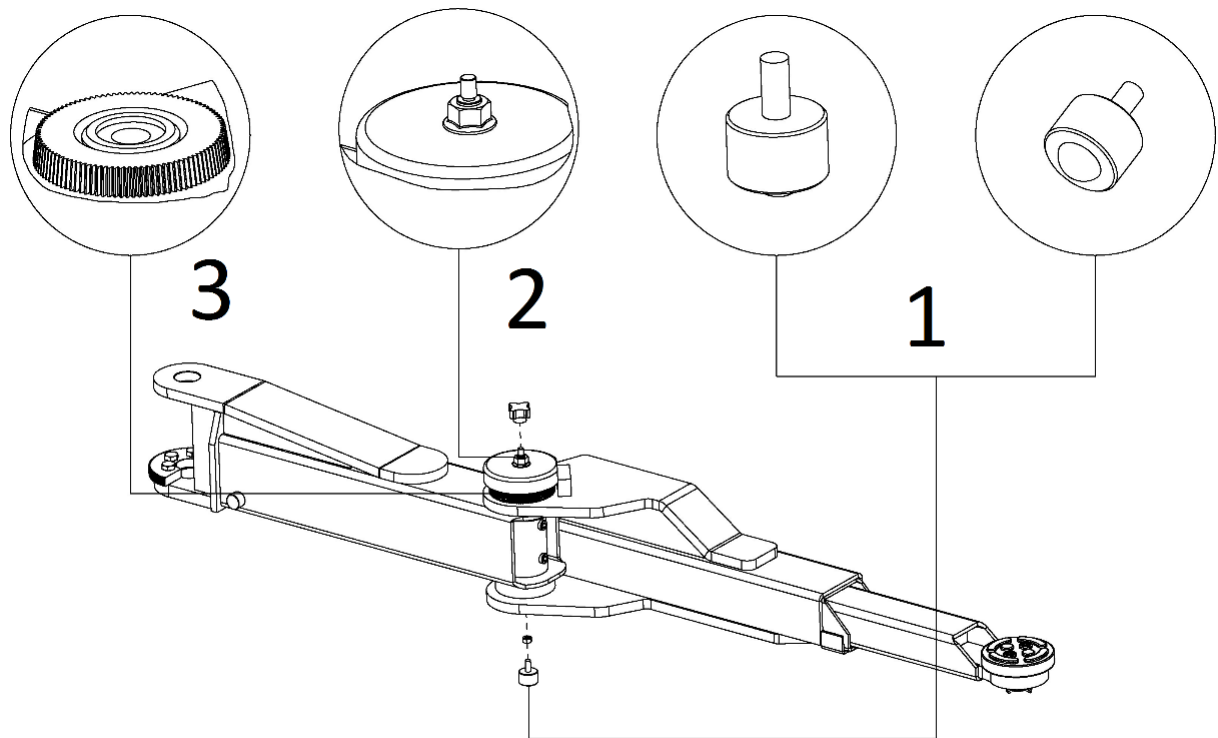
Troubles	Possible Causes	Solutions
Unusual noise.	Wear on the inner side of the columns.	Grease the inside of the columns.
	Pollution in the columns.	Remove the dirt.
Motor will not start, not will the lift go up.	The cable connections are loose.	Check the cables and reconnect them.
	The motor is defective.	Replace it.
	The limit switch is defective / damaged or the cable connection is loose.	Reconnect the cables or replace the limit switch.
Motor runs, but does not raise the lift.	The motor runs backwards/ in the wrong direction of rotation.	Check the cable connection.
	The pressure relief valve is loose or dirty.	Clean or screw it tight.
	The gear pump is defective.	Replace them.
	The oil level is too low.	Top up with oil.
	The oil hose has come loose or is torn off.	Fix or replace it.
	The damping valve is loose or pinched / clogged.	Clean or fix it.
The beams descend slowly after they have been raised.	The oil hose is leaking.	Check or replace it.
	The oil cylinder/piston is leaking.	Replace the gasket.
	The directional valve is leaking.	Clean or replace it.
	The pressure relief valve is leaking.	Clean or replace it.
	Manual or electric drain valve is leaking / dirty.	Clean or replace it.
Lifting too slowly.	The oil filter is dirty or jammed.	Clean or replace it.
	Oil level is too low.	Top up with oil.
	The overpressure valve is mounted incorrectly.	Mount it correctly.
	The hydraulic oil is too hot. (over 45°C)	Change the oil.
	The seal of the cylinder is worn.	Replace the seal.
Lowering too slowly.	The throttle valve is jammed / dirty.	Clean or replace it.
	The hydraulic oil is dirty.	Change the oil.
	The drain valve is blocked.	Clean it.
	The oil hose is damaged / kinked.	Replace it.
The steel cable is worn out.	Not greased during installation or it is worn out.	Replace it.

12. Maintenance

The following are the requirements for routine maintenance. Simple and inexpensive routine maintenance can ensure that the lift operates normally and safely. The frequency of routine maintenance is determined by the working conditions and frequency.



S/N	Components	Methods	Period
1	Expansion bolts	Check with torque spanner. Torque: 100-120 Nm	Every 3 months
2	Limit switch	Push the UP button and inspect and to ensure the lifting platform stops rising when the switch is activated.	Every day
3	Running path inside the post for carriages	Lubricate the path with NO.1 lithium based grease. No obstruction on the track.	Every 3 months
4	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
5	Rubber contact pads	Inspect the pads and clean off any objects that may cause sliding or damage.	Every day
6	Mechanical safety catch	Check and assure both mechanical catches can engage and disengage simultaneously by pushing control buttons.	Every day
7	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
8	Unloading valve oil hose connectors	Inspect to ensure no leakage before using the lift.	Every day
9	Control button	Check and assure all buttons work as "hold-to-run" and work as the function indicated.	Every day



S/N	Components	Methods	Period
1	Ball bearing	Clear the dirt or other solid objects sticking under the ball.	Every week
2	Knob	Tighten the knob.	Every month
3	Teeth wheel	Lubricate with NO.1 lithium based grease.	Every 3 months

If you follow the above maintenance requirements, the lift will always remain in good working condition and its service life can be extended.

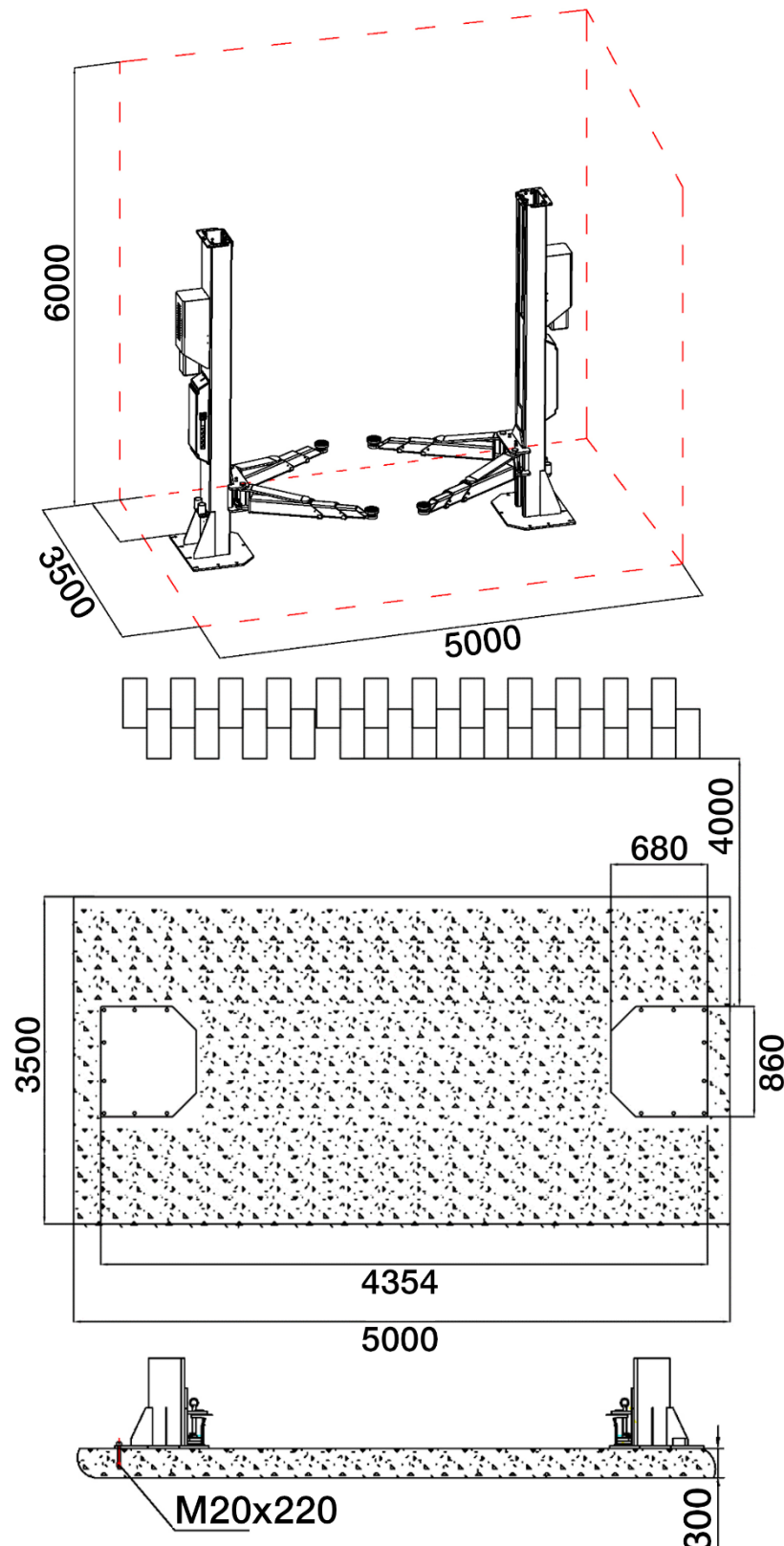
13. Annex 1, Floor plan

Indoor installation only. In addition, a distance of at least 1 metre must be maintained between the lifting platform and fixed elements (e.g. wall) in all lifting positions. There must be sufficient space for lifting and lowering vehicles.

C30 concrete foundation with a minimum thickness of 300 mm.

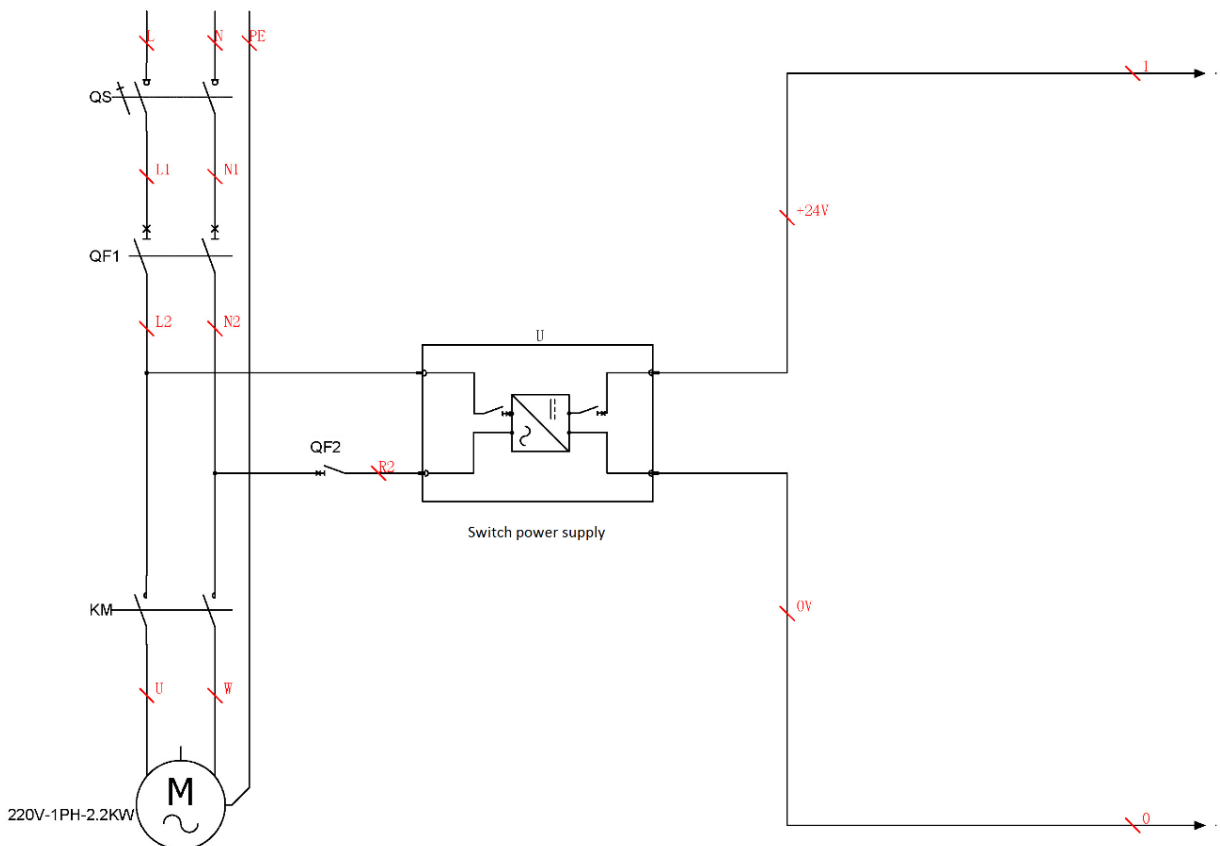
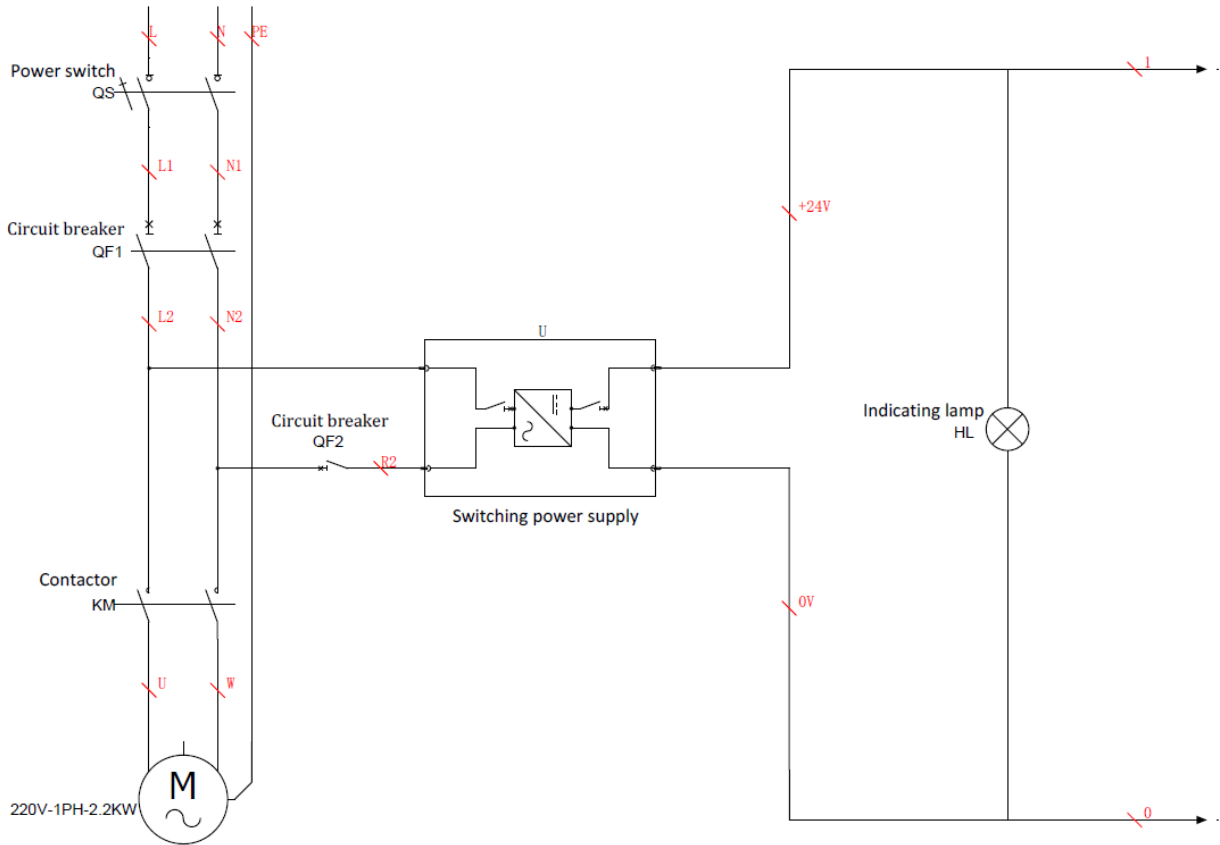
Surface under the base frame: Horizontal and even (slopes max. 0.5 % or a deviation smaller than 5 mm).

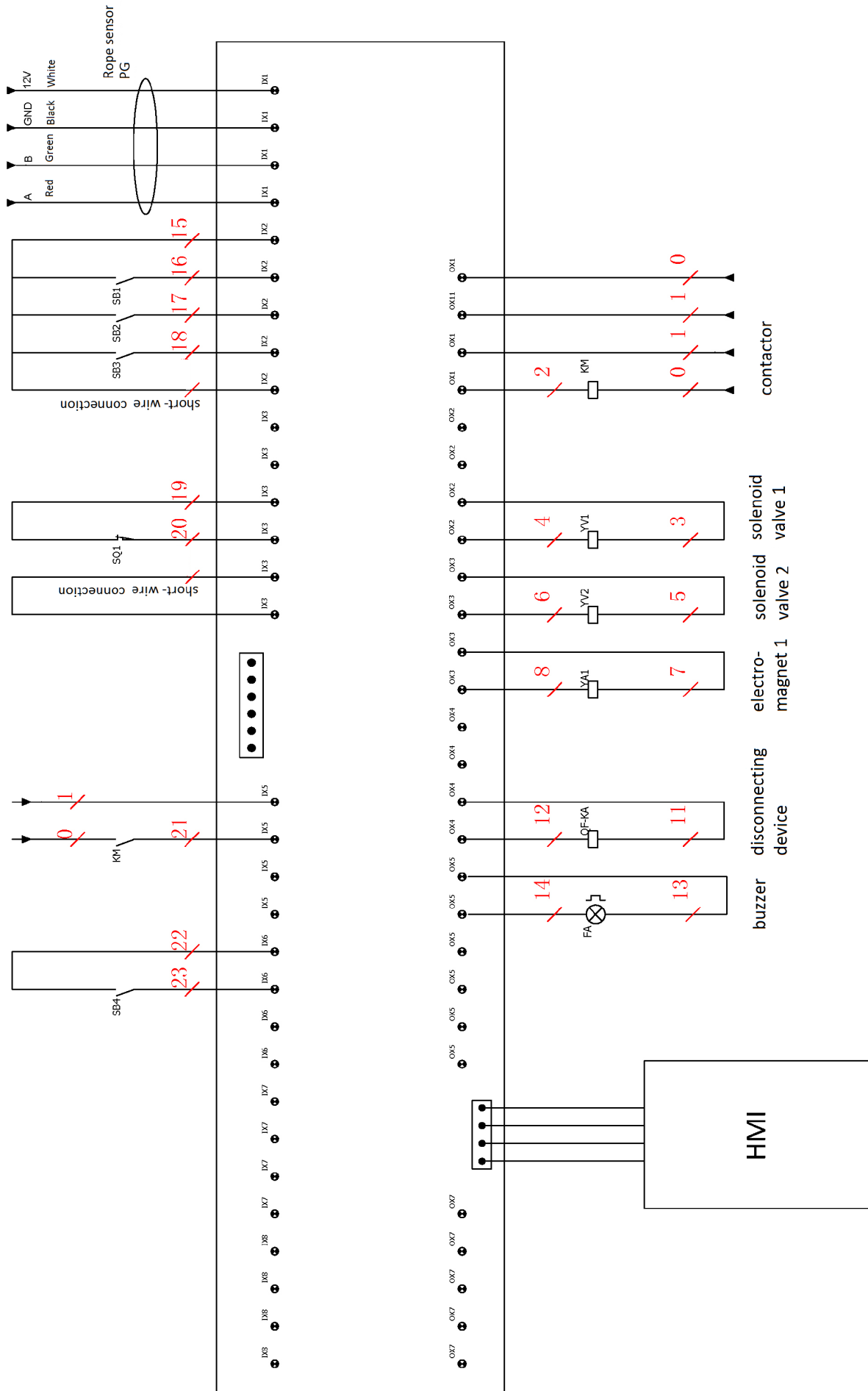
Newly built concrete floor must be older than 20 days. Units of measurement in millimetres.

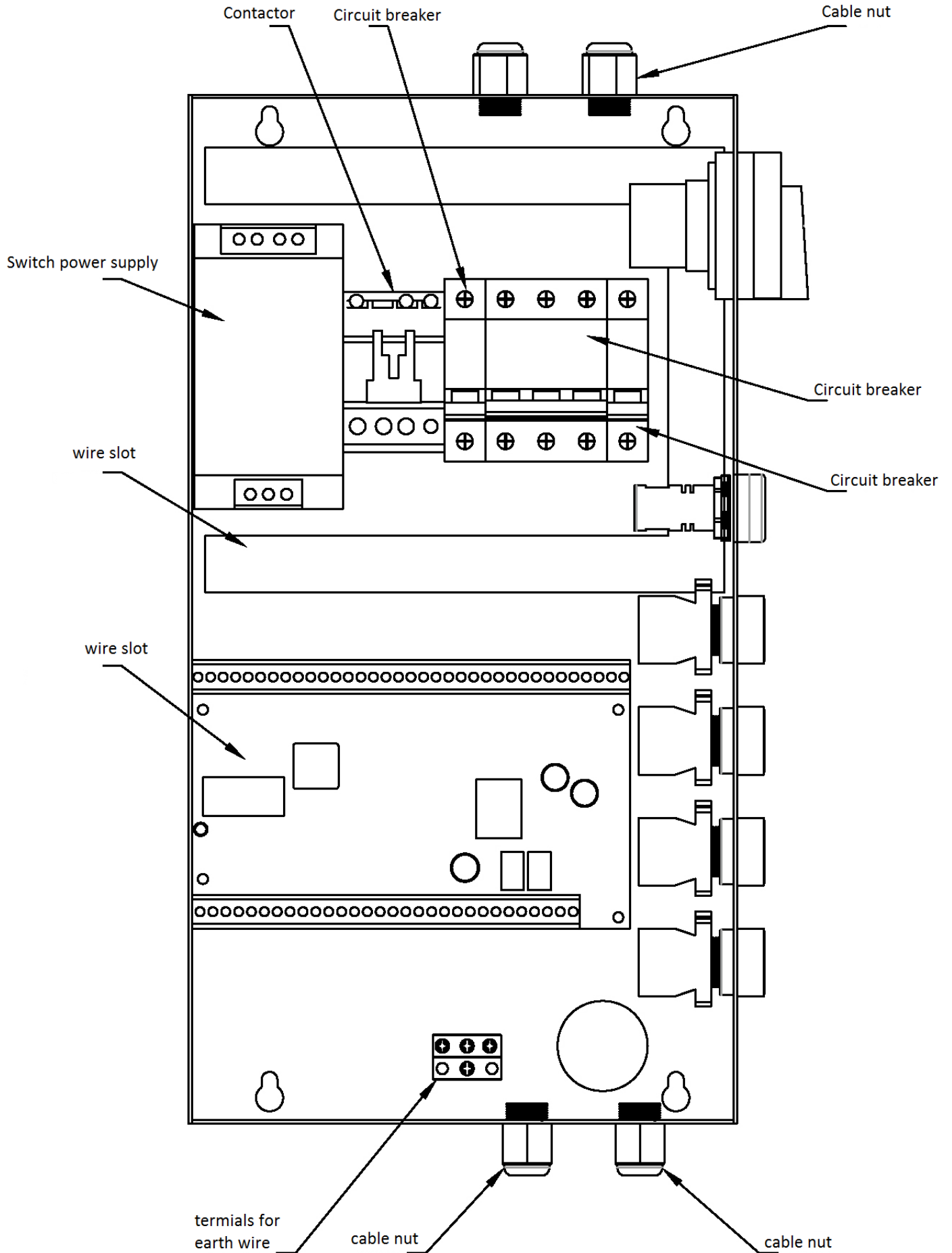


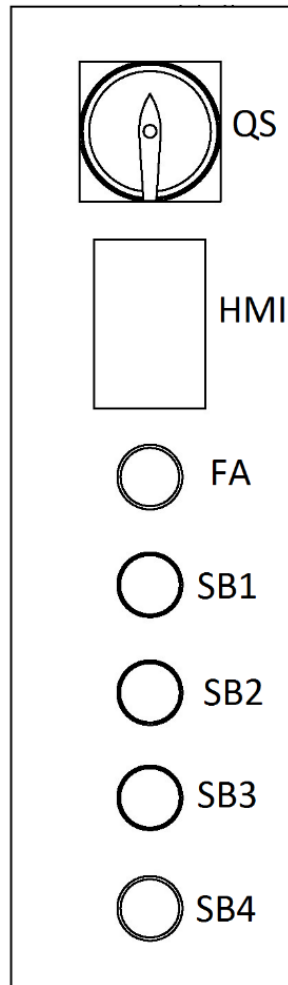
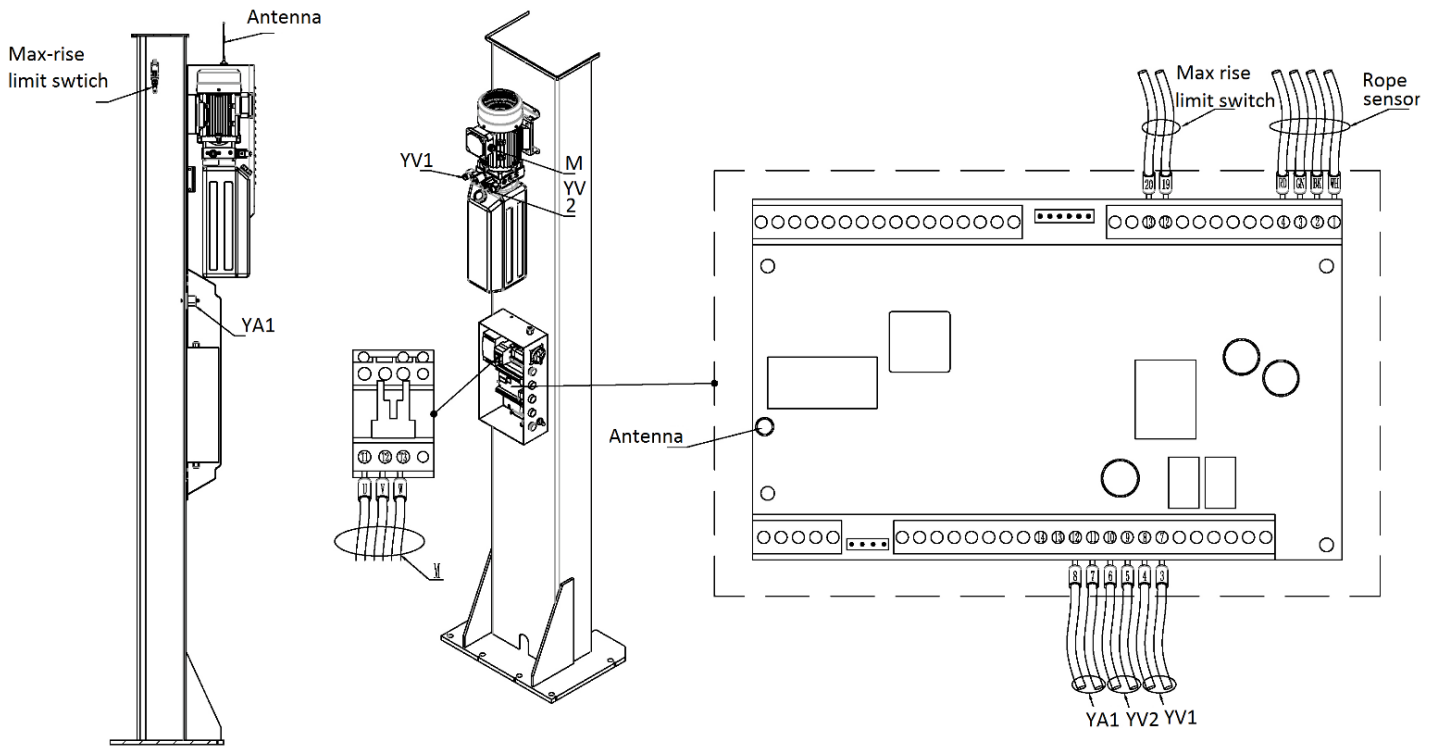
14. Annex 2, Electrical schemes and parts list

(Note: For the specific requirements on voltage, the actual voltage of your lift may differ with the following diagram.)



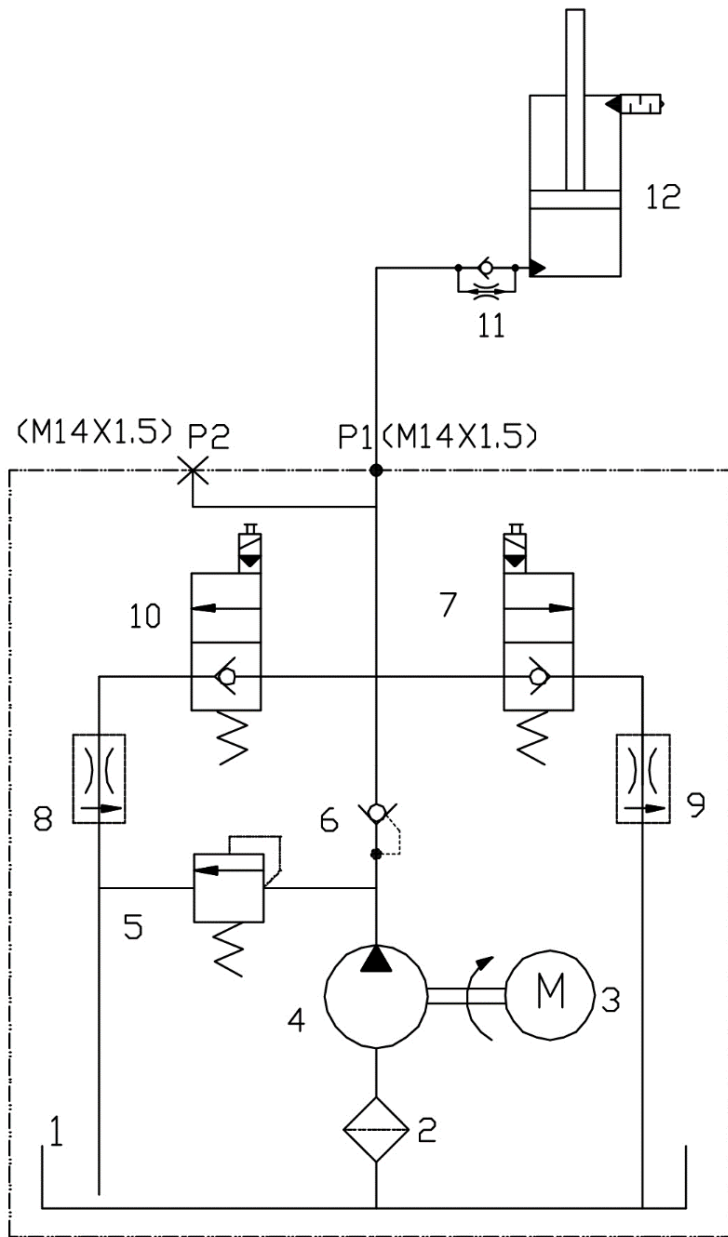




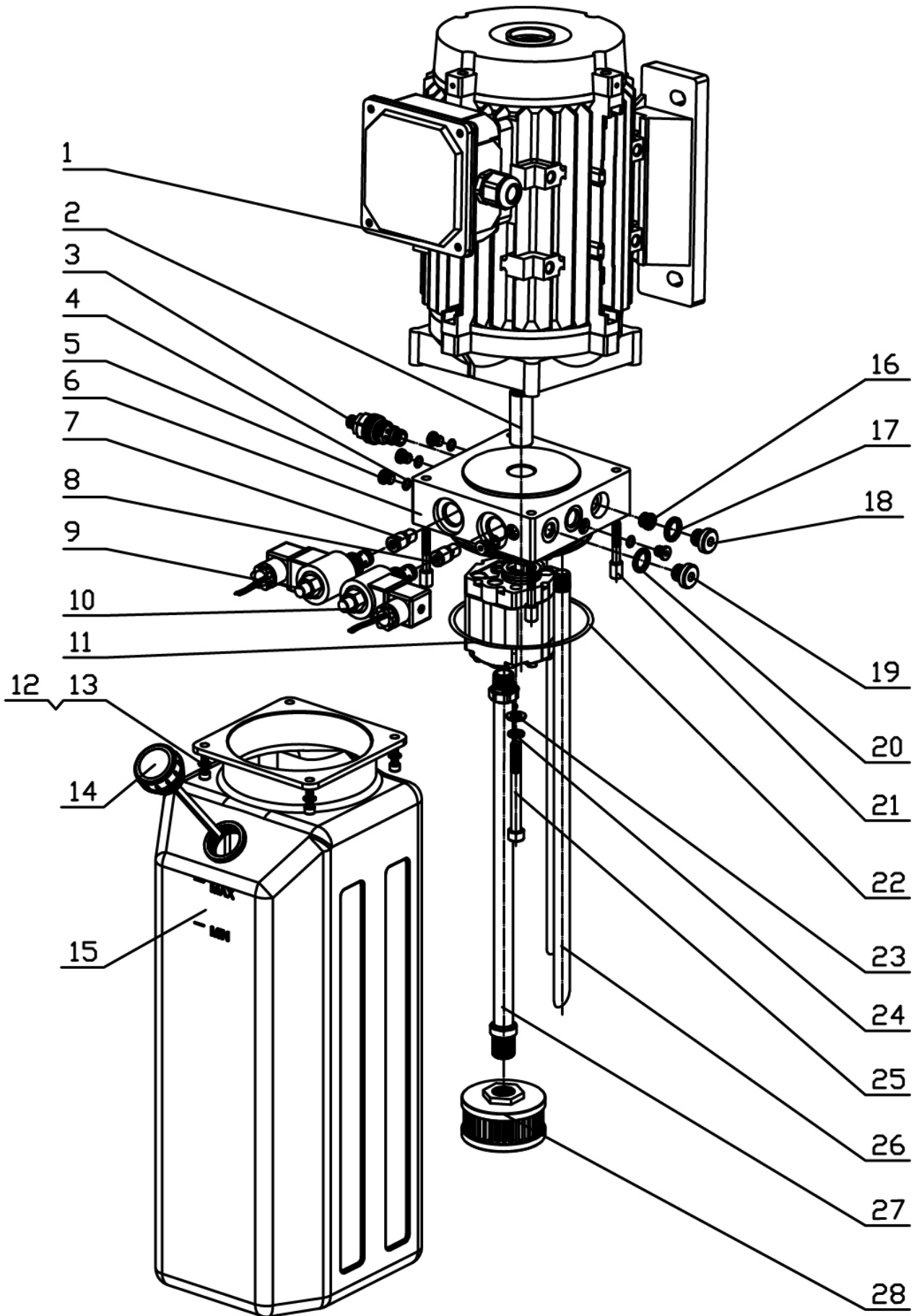


Code in the scheme	P-code	Component name	Specification	Qty
HMI	321500005	Touch screen	TJC3224K024_011R	2
QF1	320801003	Circuit breaker (3Ph)	CDB6iC25/3P (CB-60A C25)	2
	320802001	Circuit breaker (1Ph)	CDB6iC32/2P (CB-60A C32)	2
SQ1	320301011	Limit switch	TZ8108	2
QF2	320803005	Circuit breaker	CDB6iC6/1P(CB-60A C6)	2
KM	320902009	Contactor	NC1-1810Z	2
FA	321202001	Alarm	AD118-22SM/R/AC/DC/24 V	2
QS	320304001	Main switch	LW26GS-20-04	2
SB1,SB2,SB3,SB4	320401042	Button	NP2-EA11 (CDLA6H-EA11)	8
U	321004142	Switch power supply (380 V/400 V/415 V)	DHR-120-24 320V-440VAC	2
	321103414	Switch power (220 V/230 V/240 V)	DHR-120-24 100-120VAC/200-240VAC	2
PG	321004119	Rope sensor	2000mm/WF50-E-02	2
YA1	330310005	Electromagnet	6254E-A14	2
-	321301028	Circuit board	915	2
-	321004145	Disconnecting device	AC/DC 24 V-48 V	2

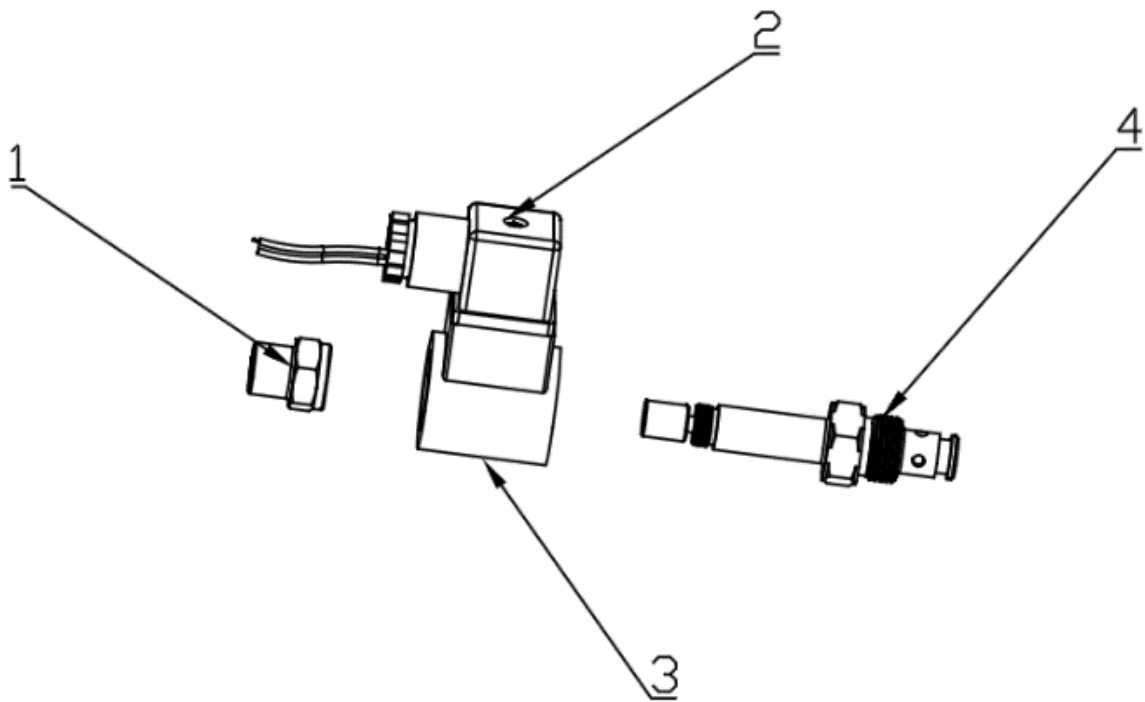
15. Annex 3, Hydraulic schemes and parts list



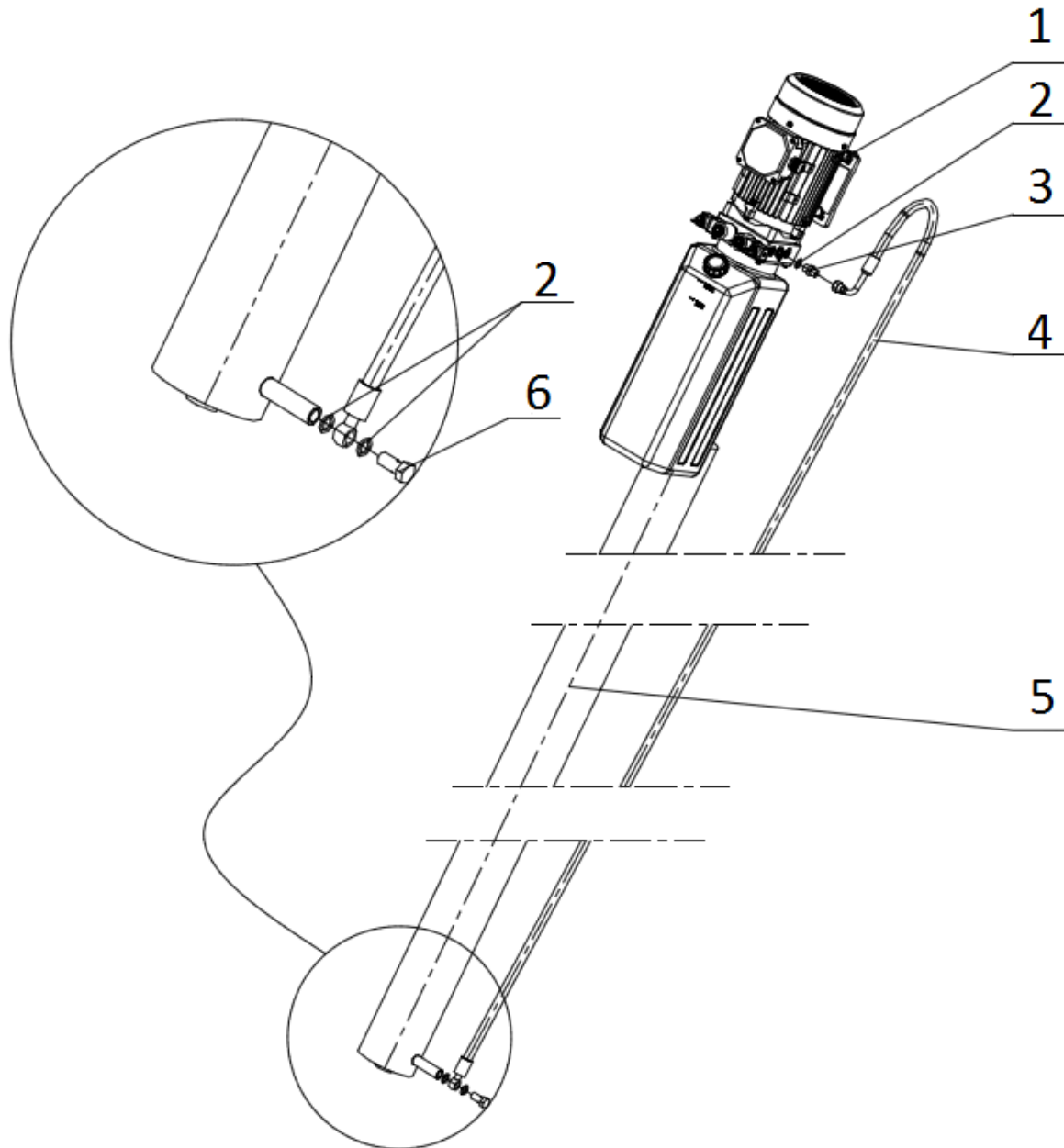
Pos.	Component name
1	Oil tank
2	Filter
3	Motor
4	Gear pump
5	Relief valve
6	Non-return valve
7	Solenoid shifting valve (unloading valve)
8	Pressure compensating valve
9	Pressure compensating valve
10	Solenoid shifting valve (unloading valve)
11	Restrictive valve
12	Hydraulic cylinder



Pos.	Code	Component name	Specification	Qty
1	320204254	Motor (380 V-3Ph)	380V-2.2kW-3Ph	1
	320204232	Motor (400 V-3Ph)	400V-2.2KW-3PH	1
	320204277	Motor (220 V-1Ph)	220V-2.2KW-1PH	1
2	330404007	Coupling	46mm (LBZ-T202BK-1)	1
3	330304007	Relief valve	YF08-40	1
4	207101100	Type O seal ring	EKM,6,5*1.5	7
5	210101015	Fitting	YBZ1-PG02A	7
6	330101111	Hydraulic block	LBZ-T202BK-1	1
7	330308038	Pressure compensating valve	BL-I2.15	1
8	330308033	Pressure compensating valve	BL-I1.0	1
9	330311004	Shifting valve (core)	DHF08-220H-DC24	1
10	330311004	Shifting valve (core)	DHF08-220H-DC24	1
11	330201016	Gear pump (1Ph-50HZ)	CBK-F220-H/CBK-2.1F-H	1
	330201019	Gear pump (1Ph-60HZ)	CBK-F216-H	1
	330201010	Gear pump (3Ph-50HZ)	CBK-F225-H	1
12	202109144	Bolt	M5*18	4
13	204101003	Flat washer	M5	4
14	330502013	Breather	YBZ-BT-M30*2-B	1
15	330405051	Oil reservoir	10L-SLYX-10L-L-BX	1
16	330302004	Non-return valve	ILCV2000-G1/4	1
17	207103019	Composite washer	M14	1
18	210101004	Hex socket fitting	G1/4	1
19	210101013	Fitting	M14*1.5	1
20	207103019	Composite washer	M14	1
21	202109145	Bolt	YBZ-E3D4H1/10-02	4
22	207101098	Type O seal ring	109*5.3	1
23	204201013	Spring washer	M8	2
24	204101005	Flat washer	M8	2
25	202109072	Hex socket cylinder head screw	M8*85 8.8	1
26	330402016	Oil-return pipe	YBZ-E2D1/1-01(340mm)	2
27	330401013	Oil-suck pipe	YBZ-SJYG350	1
28	330403003	Filter	YBZ-E2D3I1/1-10	1

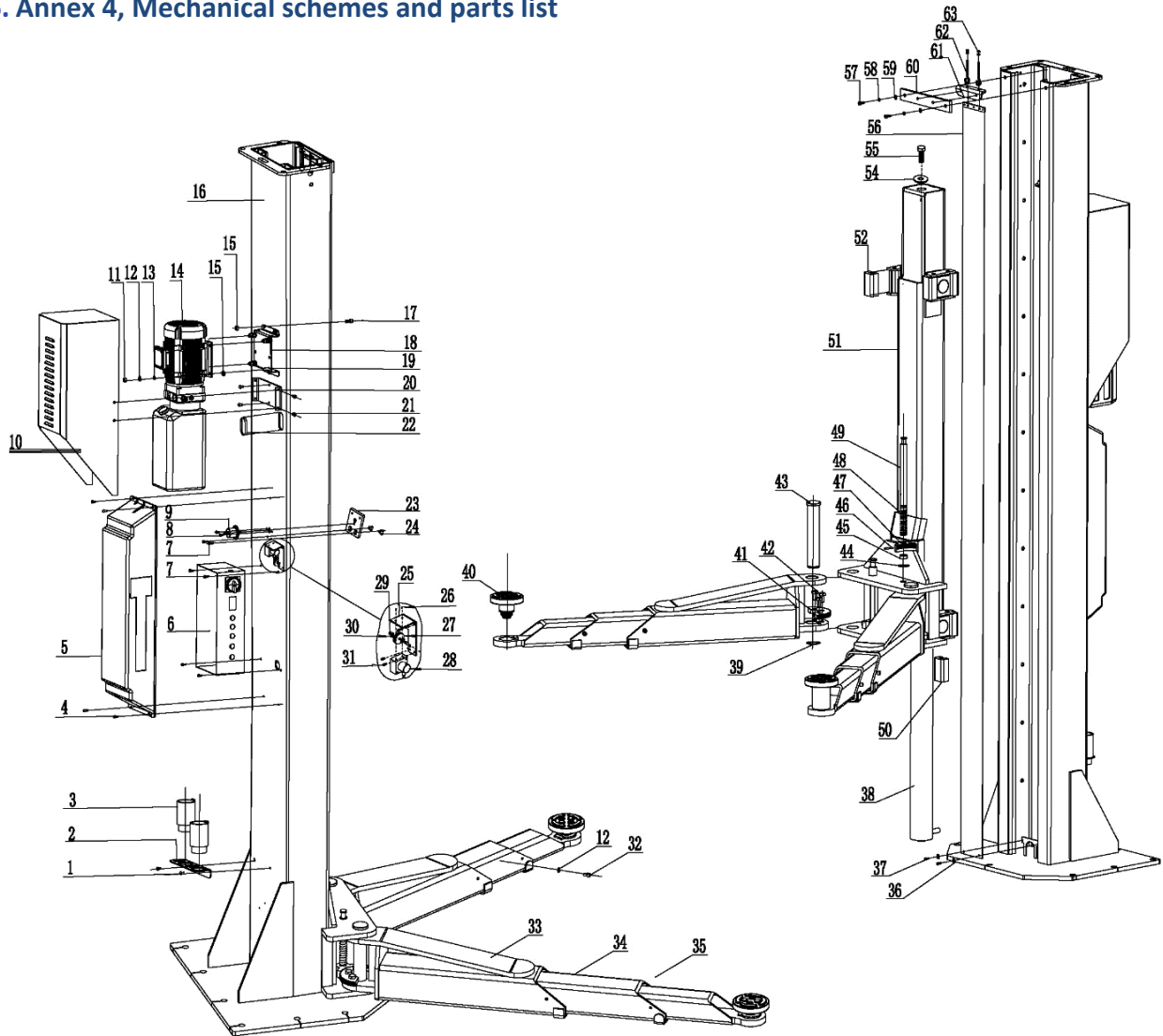


Pos.	Code	Component name	Specification	Qty
1	203204102	Locking nut	FHLM-1/2-20UNF	1
2	330308032	Solenoid coil connector	DIN43650-DC	1
3	330308031	Solenoid coil	LC2-0-C-2H,24VDC	1
4	330311004	Shifting valve (core)	DHF08-220H-DC24	1



Pos.	Code	Component name	Specification	Qty
1	622034381	Power unit	380V-400V-2.2KW-3PH-50HZ-20MPa-8L	1
2	207103025	Composite washer	13_7X20X1_5	3
3	310101008	Connector	M14*1,5-G1/4	1
4	624002157	Oil hose	Φ8, L=2620	1
5	615068128	Oil cylinder	YG63-73-45-1846	1
6	410901094	Connector with restrictive valve	LR40-3	1

16. Annex 4, Mechanical schemes and parts list



Pos.	Code	Component name	Specification	Qty
1	202110004	Hex socket button head screw	M8X12-GB70_2	8
2	410901744	Holder for height adapter	6254E-A1-B1-C6-V0	2
3	612013002	Height adapter	6214EKZ-A4-B5	4
4	202109019	Hex socket cylinder head screw	M6X12-GB70_1	8
5	420680132	Cover	E25-A1-B3-1	2
6	614901624	Frame of Control unit	E28-A15-B1-2	2
7	202109020	Hex socket cylinder head screw	M6X15-GB70_1	4
8	202109017	Hex socket cylinder head screw	M6X8-GB70_1	4
9	330310005	Electromagnet	6254E-A14	2

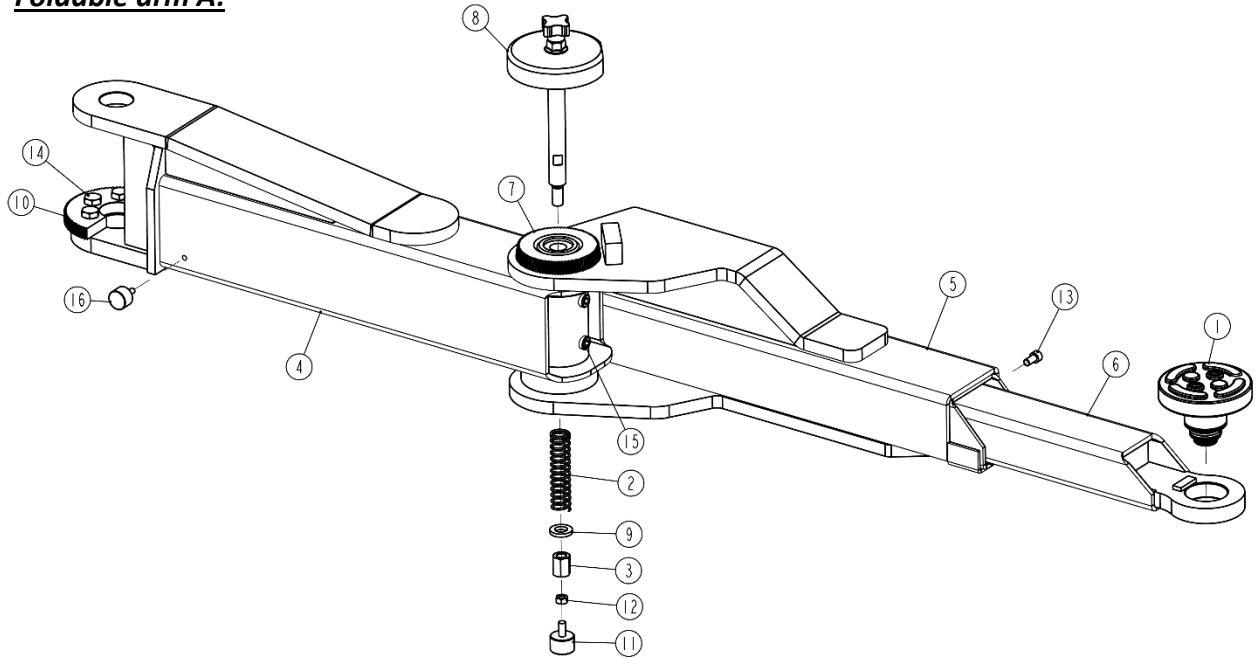
Pos.	Code	Component name	Specification	Qty
10	614004829B	Motor housing assembly	62-A22-B1	2
11	203101006	Hex nut	M10-GB6170	14
12	204201005	Spring washer	D10-GB93	8
13	204101006	Flat washer	D10-GB95	8
14		Hydraulic power unit	2.2kW-20MPa- 8L	2
15	420040010	Anti-shock pad	6254E-A23	8
16	614055001	Welded post assembly	E28-A1-B1	2
17	202109041	Hex socket cylinder head screw	M10X20-GB70_1	6
18	410901745	Holder for power unit	6254E-A1-B1-C10-V0	2
19	201103004	Hex head full threaded bolt	M10X35-GB5783	8
20	410047003	Motor housing holder	62B-A22-B2	2
21	202110005	Hex socket button head screw	M8X20-GB70_2	8
22	420250050B	Protective sheath	6604B-A17	2
23	410901132	Safety locking plate	HDM84-A1-B4	2
24	410040071	Orientation block	6254E-A17	4
25	614901013	Guiding wheel	HDM84-A13-B1	2
26	202103008	Cross socket flat head screw	M5X10	4
27	420080020	Pulley I	6214DS-A8	2
28	321004119	Rope displacement sensor	2000mm/WF50-E-02	2
29	204301001	Circlip	D10-GB894_1	2
30	204101006	Flat washer	D10-GB95	4
31	202109017	Hex socket cylinder head screw	M6X8	8
32	202109040	Hex socket cylinder head screw	M10X16-GB70_1	8
33	614055003	First-stage arm	E28-A4-B1	4
34	614901572	Second-stage arm	E28-A4-B2	4
35	614055005	Three-stage arm	E28-A4-B3	4

Pos.	Code	Component name	Specification	Qty
36	204101004	Flat washer	D6-GB95	8
37	202101027	Cross socket cap head screw	M6X8-GB818	4
38	615068128	Hydraulic cylinder	E28-YG63-73-1850	2
39	204301016	Circlip	D50-GB894_2	4
40	615035022	Lifting tray	6214EKZ-A4-B4-V0	4
41	410550321	Teeth block	E28-A4-B4	4
42	201102040	Hex head full threaded bolt	M16x30-GB5783	12
43	410901646	Swing shaft	E28-A12	4
44	204301009	Circlip	D25-GB894_2	4
45	410901645	Sheath of the pull rod	E28-A3-B10	4
46	206102008	Elastic cylindrical pin	D5X50-GB879_4	4
47	410911189	Small teeth block	E28-A3-B4-1	4
48	410580371	Pressure spring	C18-A3-B5	4
49	410911188	Pull rod	E28-A3-B5-C1-1	4
50	420680137	Sliding block	E28-A3-B8-1	4
51	614901626	Carriage	E28-A3-B1-1	2
52	420680056	Sliding block	HDM84-A3-B8	16
54	410901134	Washer	HDM104-A4	2
55	201103006	Hex head full threaded bolt	M20*60	2
56	615068527	Protective curtain	E28-A1-B8	2
57	202109052	Hex socket cylinder head screw	M12*30	4
58	204201006	Spring washer	M12	4
59	204101007	Flat washer	M12	4
60	410911004	Pull plate	E28-A1-B7	2
61	410911003	Installation plate for column curtain	E28-A1-B6	2
62	410010051	Installation rod for column curtain	6254E-A1-B5	4

Pos.	Code	Component name	Specification	Qty
63	203101004	Hex nut	M6-GB6170	8

Mechanical schemes and parts list for Type-M foldable arms

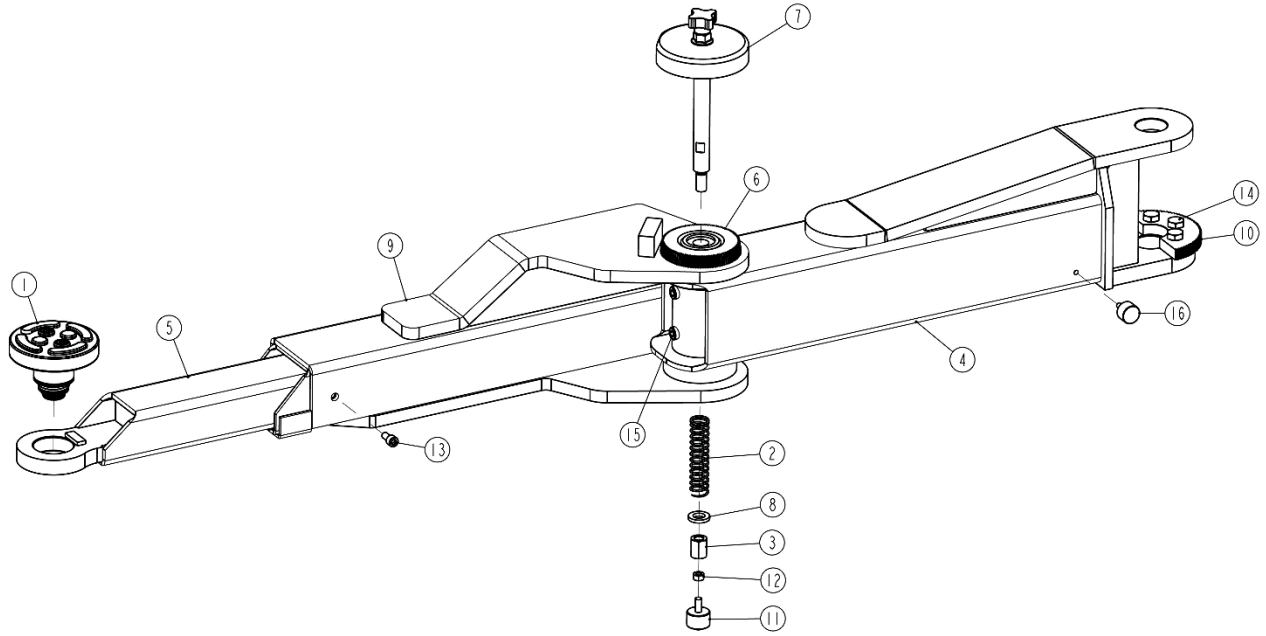
Foldable arm A:



Pos.	Code	Description	Specification	Qty
1	615035022	Round adapter assembly	6214EKZ-A4-B4-V0	1
2	410150121	Pressure spring	6254E-A2-B4	1
3	203204106	Hex head long nut	CLM-M16X30	1
4	614901612	1st section of the arm assembly	E28-A20-B1	1
5	614901613	2nd section of the arm assembly	E28-A20-B2	1
6	614901614	3rd section of the arm assembly	E28-A20-B3	1
7	612901610	Shaft assembly with teeth wheel	E28-A20-B4	1
8	615068555	Inside teeth wheel assembly	E28-A20-B6	1
9	410911154	Guiding washer	E28-A20-B7	1
10	410550321	Teeth block	E28-A4-B4	1
11	205201016	Universal ball bearing	KSM-22FL	1
12	203101006	Hex nut	M10-GB6170	1
13	202109041	Hex socket cylinder head screw	M10X20-GB70_1	1
14	201102040	Hex head full threaded bolt	M16X30-GB5783	3

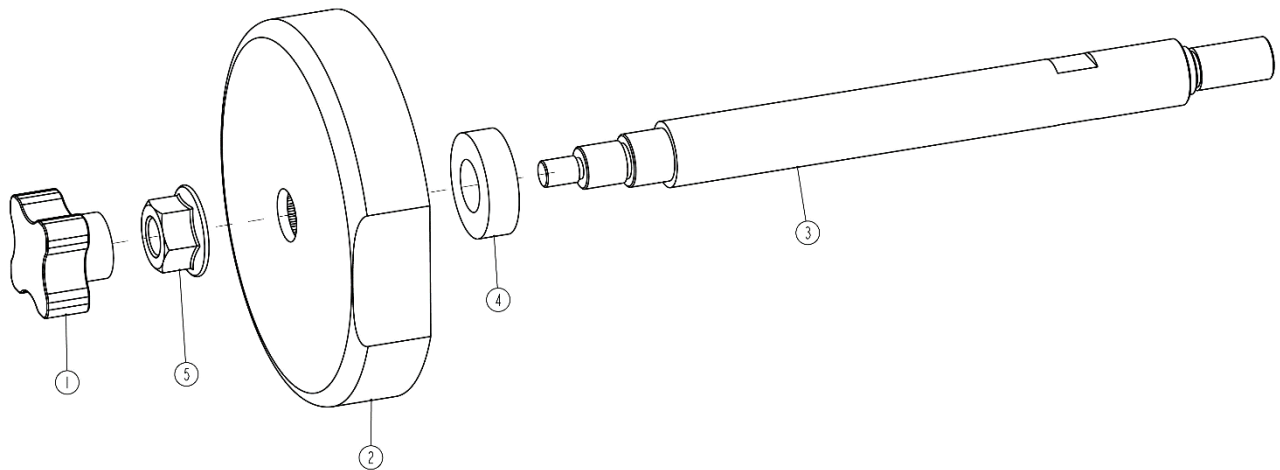
15	202208011	Hex socket cylinder head tapping screw	M20X30-GB79	2
16	202309001	Bottom adjustable screw	M8X22	1

Foldable arm B:



Pos.	Code	Description	Specification	Qty
1	615035022	Lifting tray assembly	6214EKZ-A4-B4-V0	1
2	410150121	Pressure spring	6254E-A2-B4	1
3	203204106	Hex head long nut	CLM-M16X30	1
4	614901612	1st section of the arm assembly	E28-A20-B1	1
5	614901614	3rd section of the arm assembly	E28-A20-B3	1
6	612901610	Shaft with teeth wheel	E28-A20-B4	1
7	615068555	Inside teeth wheel assembly	E28-A20-B6	1
8	410911154	Round guiding washer	E28-A20-B7	1
9	614901615	2nd section of the arm assembly	E28-A21-B2 (differ to the corresponding part on Joint arm A)	1
10	410550321	Teeth block	E28-A4-B4	1
11	205201016	Universal ball bearing	KSM-22FL	1
12	203101006	Hex nut	M10-GB6170	1
13	202109041	Hex socket cylinder head screw	M10X20-GB70_1	1
14	201102040	Hex head full threaded bolt	M16X30-GB5783	3

15	202208011	Hex socket cylinder head tapping screw	M20X30-GB79	2
16	202309001	Bottom adjustable screw	M8X22	1



Pos.	Code	Description	Specification	Qty
1	203204011	Knob	50XM10	1
2	410911121	Teeth wheel	E28-A20-B6-C1	1
3	410911153	Guiding shaft	E28-A20-B6-C2	1
4	410911152	Round chip	E28-A20-B6-C3	1
5	203204107	Hex flange nut	M16-GB6177_1	1



The company

Twin Busch GmbH | Amperestr. 1 | D-64625 Bensheim

hereby declares that the **2-post vehicle lift**

TW 280 | 8.000 kg

EE-E28

Serial number:

in this configurations we have placed on the marked complies with the relevant essential health and safety requirements of the following EC-directive(s) in its/their current version(s).

EC-directive(s)

2006/42/EC

Machinery

Applied harmonized standards and regulations

EN 1493:2022

Vehicle Lifts

EN 60204-1:2018

Safety of Machinery – Electrical Equipment of Machines

EN 12100:2010

Safety of machinery - General principles for design - Risk assessment and risk reduction

CE Certificate

MD-391 Issue 1

date of issue: 27.02.2023

place of issue: Helsinki

technical file no.: SHES211002005801-01/02/03

Certification body

SGS Fimko Ltd.,

Takamotie 8,

FI-00380 Helsinki

Notified Body Appointment No.: 0598

In the case of improper use, as well as in the case of assembling, modification or changes which are not agreed with us, this declaration will lose its validity.

Authorized person to compile technical documentation is: Michael Glade (address as below)



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Authorized signatory: Michael Glade
Bensheim, 10.03.2023 Qualitätsmanagement

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The technical specifications and illustrations provided in the user manual are not binding. Our products are subject to technical changes, so the delivered condition may vary.