

TW280W & TW280W-G

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:

ASSEMBLY



Find the assembly video for this lift

You on YouTube:

www.youtube.com/watch?v=hs8M7hzx9Nc

or scan the QR code.



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.





TIPS & TRICKS



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

[https://www.twinbusch.co.uk/Tips-Tricks: :74.html](https://www.twinbusch.co.uk/Tips-Tricks/:74.html)

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](https://www.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

With a lifting capacity of 8.0 tonnes and symmetrically telescoping double-jointed support arms in M-support arm design, the **TW280W / TW280W-G** is our most powerful power package in the 2-post range.

Thanks to its extremely wide adjustment range, everything from small cars (e.g. Smart) to vans, even with a long wheelbase (e.g. MB Sprinter, motorhomes, special vehicles) can be lifted without any problems.

The TW280W / TW280W-G has two operating units (one per column) and two independent hydraulic power packs for particularly convenient operation and can be easily adapted to the requirements of the workshop in terms of installation width (4132 mm or less).

As an outstanding highlight, the individual lifting columns communicate with each other completely wirelessly via a secure radio link. They are conveniently controlled via control units on both columns, which monitor and display the lifting height in real time.

There is also a practical plug-in adapter holder on the outside of each column, which provides space for the safe storage of two plug-in adapters.

2. Identification of the instructions for use

Instruction manual **TW280W & TW280W-G**

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Status: -04, 22.07.2024

File: TW280W_TW280W-G_2-post_lift_Instruction_manual_uk_04_20240722.pdf

3. Technical data

Power supply (3-phase)	400 V / 50 Hz
Fuse protection	16A (C/sluggish)
Load capacity CE	8,000 kg
Degree of protection	IP 54
Lifting time	approx. 60 sec.
Lowering time	approx. 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.

5. Safety-related information

Read the operating instructions carefully before operating the lift. Keep the instructions in a safe place for future reference. Follow the instructions carefully to achieve the best performance from the machine and to avoid damage caused by personal negligence.

Check all connections and components thoroughly for damage. The lift may only be put into operation if it is in a safe operating condition.

5.1 Safety instructions

- Do not install the lift on an asphalt surface.
- Read and understand the safety instructions before operating the lift.
- Do not leave the control unit under any circumstances when the lift is in motion.
- Keep hands and feet away from moving parts. When lowering, pay particular attention to your feet.
- The lifting platform may only be operated by trained personnel.
- Bystanders are not permitted in the vicinity of the lifting platform.
- Wear suitable clothing.
- The area around the lifting platform should always be kept free of obstructions.
- The lift is designed for lifting the entire vehicle, which does not exceed the maximum authorised weight.
- Always ensure that all safety precautions have been taken before working near or under the vehicle.
- **Never remove safety-relevant components from the lift. Do not use the lift if safety-relevant components are missing or damaged.**
- Do not under any circumstances move the vehicle or remove heavy objects from the vehicle that could cause significant weight differences while the vehicle is on the lift.
- Always check the manoeuvrability of the lift to guarantee its performance. Ensure regular maintenance. If an irregularity occurs, stop the work with the lift immediately and contact your dealer.
- Lower the lift completely when it is not in use. Do not forget to disconnect the power supply.
- If you do not use the lift for a longer period of time:
 - a.) Disconnect the lift from the power source.
 - b.) Empty the oil tank.
 - c.) Lubricate the moving parts with hydraulic oil.

Caution: To protect the environment, dispose of the unused oil in the prescribed manner.

- **For safe lifting of transporters, it is essential to use the optional special lifting adapters. You can find these at: www.twinbusch.co.uk**

5.2 Monitoring and testing of the safety equipment

- Swing arm locking device Ensure that the lifts are locked and do not swing in the raised position.
- Mechanical locking device Catching and supporting the carriages in the event of a hydraulic failure.
- Max rise switch Limit the maximum height of the lifting system.
- Feet protecting device Double buttons for lowering and acoustic warning for the final lowering path.
- Insulation main switch Disconnect the main power supply when it is switched off.
- Contactor detecting device Disconnect the power supply to the entire lift if one of the contactors is not working properly.
- Rising height deviation detecting device If the deviation exceeds the set value, the lift must be stopped and an acoustic warning signal will sound at the column with the greater climbing height.
- Locking device detecting device Recognise whether both carriages are at the same height when the locking button is pressed. The locking button no longer functions if it is detected that the two carriages are not at the same level.
- Overload protection Prevent the lifting system from being overloaded when lifting from the starting position.
- Leakage protection Prevent the load handling attachments from lowering too quickly if a leak occurs in the hydraulic line.

5.3 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.



Read Instructions and safety instructions carefully before use!



Operation of the lifting platform only by qualified personnel!



Repairs and maintenance only by qualified personnel, never disable safety devices!



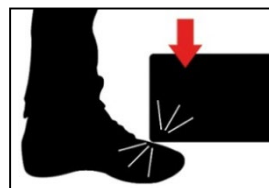
Only qualified personnel allowed in the vicinity of the lifting platform!



Always keep escape routes clear!



It is forbidden for persons to stand under the lift (when lifting or lowering)!



Watch your feet when lowering! Danger of crushing!



It is forbidden for persons to climb up onto the lift.



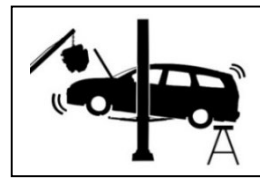
Observe the vehicle manufacturer's mounting points!



After briefly lifting the vehicle a few inches, check that it is securely seated!



Do not exceed the specified load capacity!



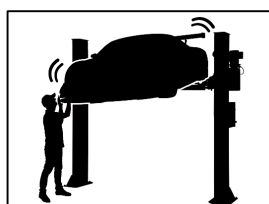
When installing and removing heavy parts the vehicle can tip over!



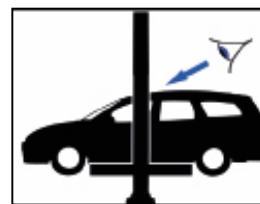
Never try to load only one side of the lifting platform!



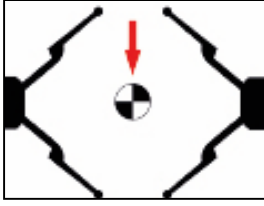
Protect the lifting platform from moisture! Electrical connections must be dry!



Avoid strong shaking. Avoid shaking the vehicle.



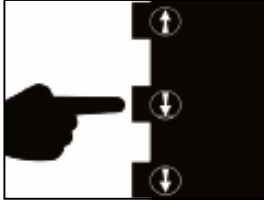
After briefly lifting the vehicle a few inches, check that it is securely seated!



Be sure to check the Centre of gravity distribution pay attention!



After a short lift Support arm lock check!



Lifting platform to the lifting in the safety catches (Safety Lock).



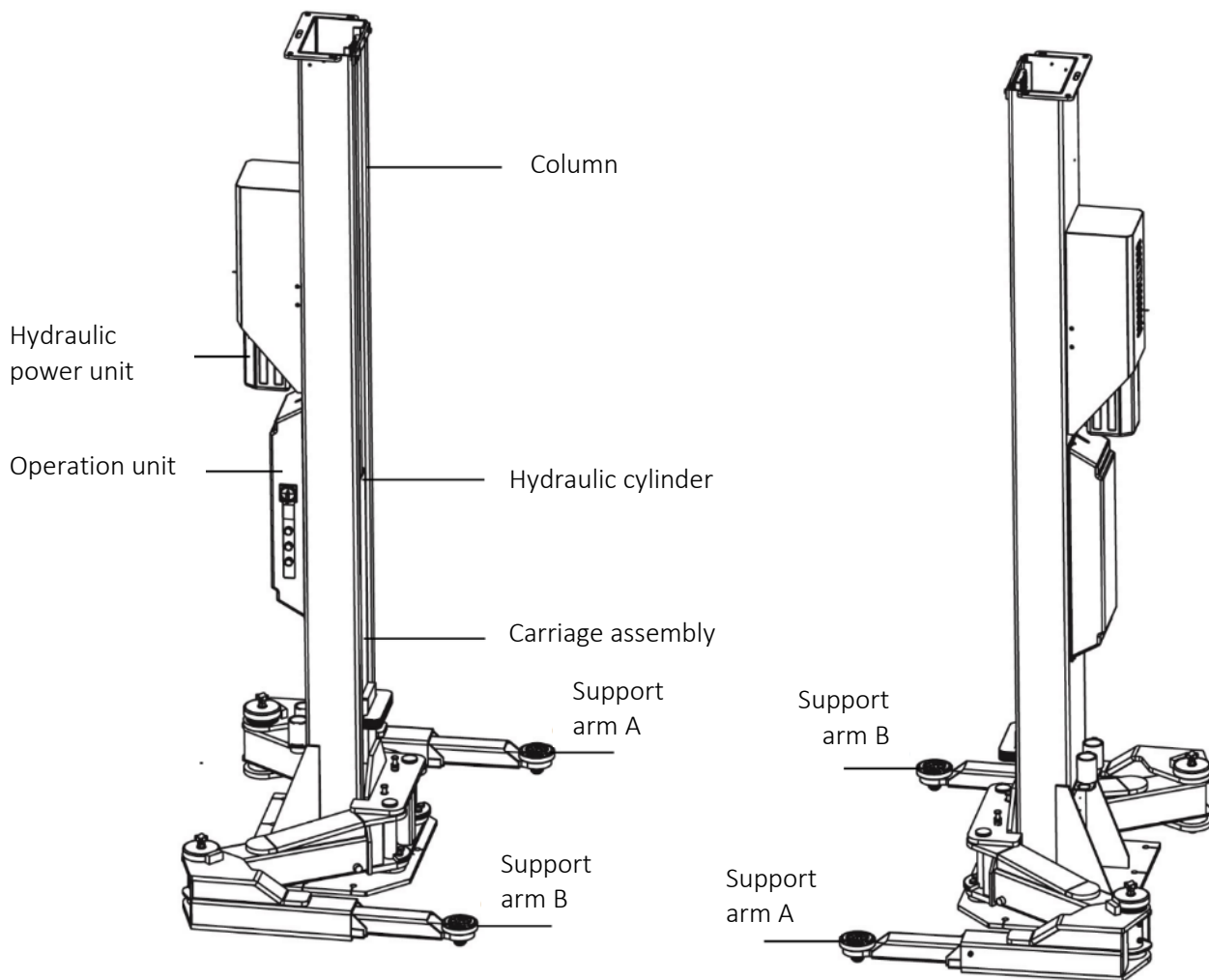
CAUTION!
Electrical voltage!

6. Conformity with the product

The TW280W / TW280W-G 2-post lift is CE-certified and is compliant with the Machinery Directive 2006/42/EC, fulfilling the standards EN 1493:2022, Safety of machinery EN 60204-1:2018 (look at: EU Declaration of Conformity, at the end of the user manual).

7. Technical specification

7.1 Machine description



8. Structure of the lifting platform

8.1 Before installation

8.1.1 Tools and equipment required

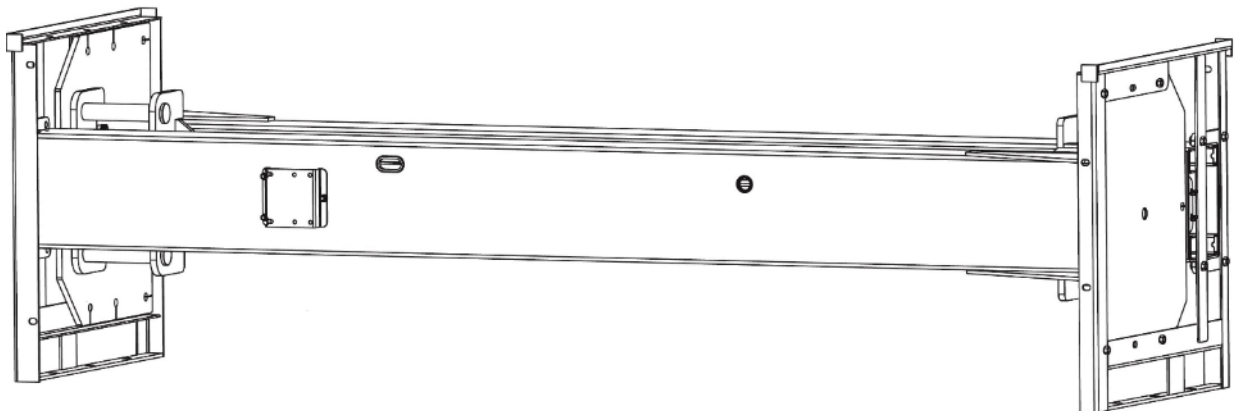
- Suitable lifting tool for bulky and heavy components
- Hammer
- Phillips and slotted screwdriver
- Torque spanner
- Spanner attachments and open-end spanners
- Impact drill
- Levelling device
- Hydraulic oil HLP 32

8.2 Ground conditions

The lifting platform must be installed on a solid foundation with a compressive strength of more than 3 kg/mm², a flatness of less than 5 mm and a minimum thickness of 300 mm. Detailed information can also be found in the corresponding foundation plan on our homepage at www.twinbusch.co.uk.

Note: If a new concrete floor is to be poured, it must cure for at least 28 days until a lifting platform can be installed.

8.3 Assembly instructions

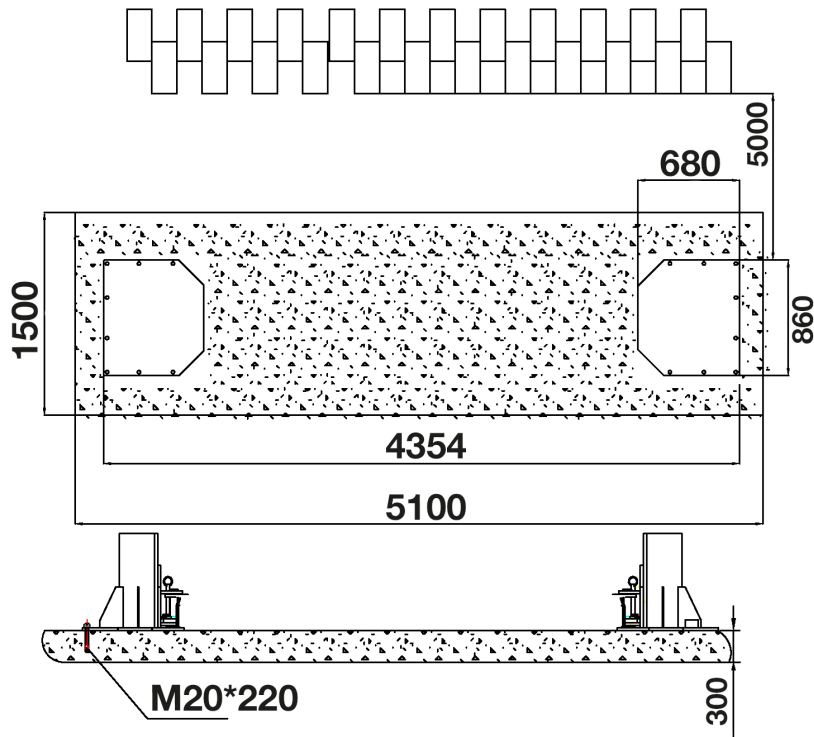


- 1) Remove the packaging and take out the box with the accessories. Read and understand the operating instructions before proceeding.
- 2) First place a support between the two pillars or suspend one of the pillars with a crane and then remove the screws from the packing frame. Once the first pillar has been removed, place a support under the second pillar and then remove the screws from the packing frame.

Attention: Please take particular care to ensure that the column cannot fall down. The accessories could be damaged or people could be injured.

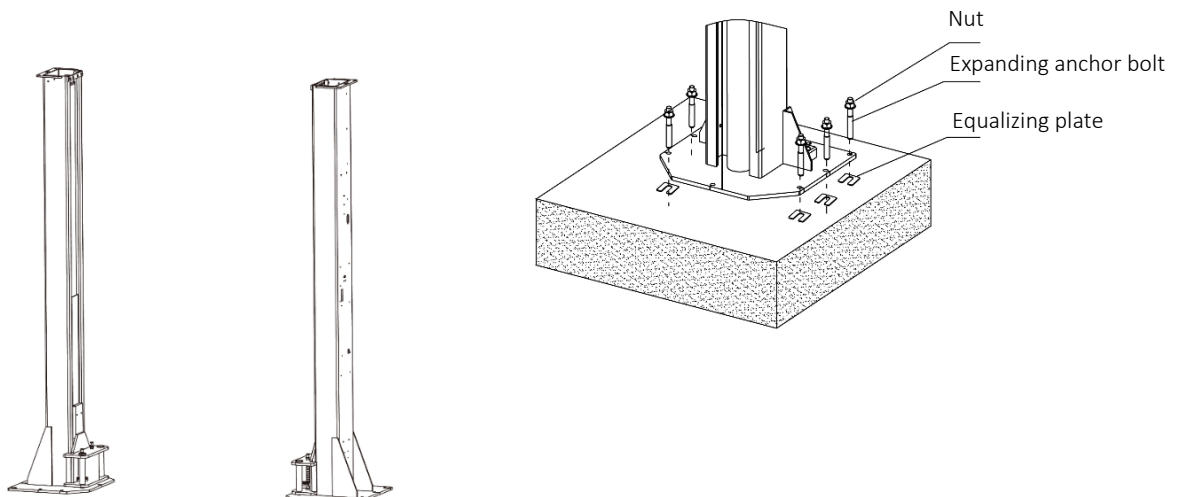
- 3) Determine the position of the two columns.

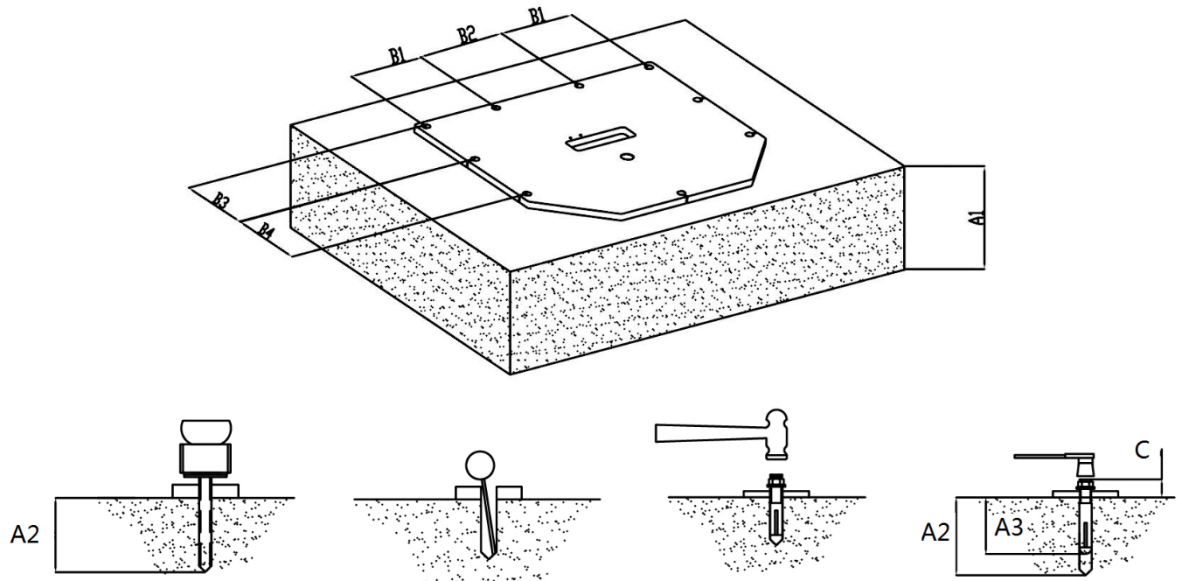
Using the floor plan, draw the outlines of two base plates on the floor with chalk to determine the installation positions for the two columns.



4) Erect and secure the post

- a) Use proper means to erect the post and make the posts face towards each other.
- b) 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.
- c) Check and align the position of the base plates.
- d) Use a D20 drill bit. Drill the mounting holes. Remove the dust from the hole.
- e) Use a spirit level to check the vertical alignment of the posts. If necessary, place the levelling plates under the base plates.
- f) Tighten the nuts. **Tightening torque: 100-120 Nm.**

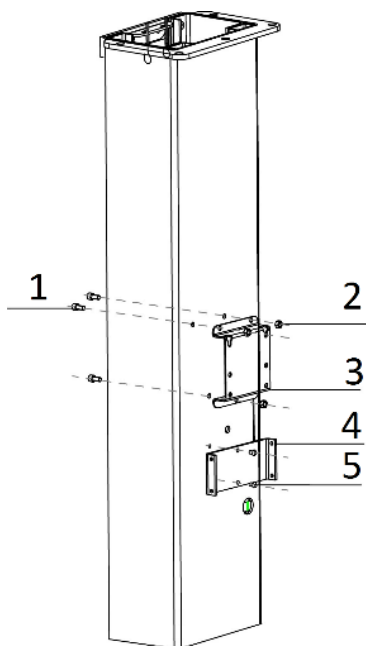




Anchoring bolt	A1 (foundation thickness)	A2 (drilling depth)	A3 (anchoring depth)	B1	B2	B3	B4	C
M20x220	≥300 mm	180 mm	160 mm	240 mm	280 mm	225 mm	195 mm	≤60 mm

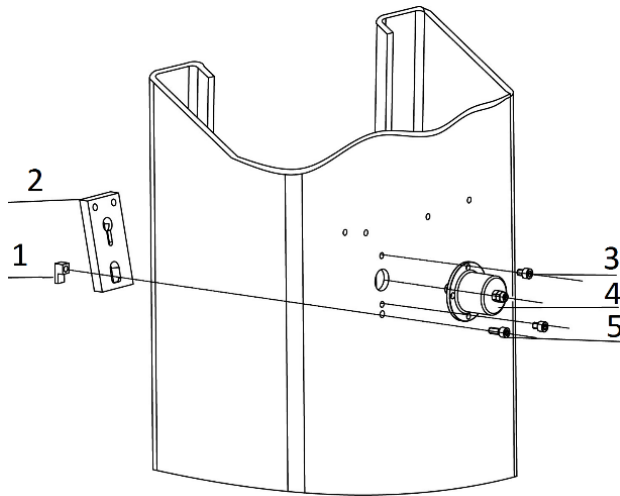
Illustration: Work steps for fixing the pillars

5) Fix the holder for power unit and motor housing.



- 1 Hex socket button-head screw M10 x 25
- 2 Hex nut M10
- 3 Power unit holder
- 4 Motor housing holder
- 5 Hex socket screw with hexagon socket M18 x 12

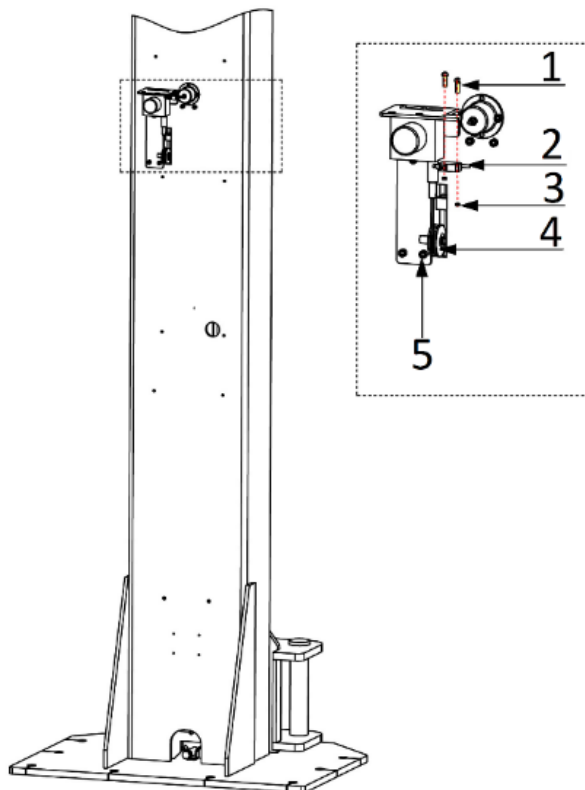
6) Fix the locking device.



- 1 Orientation block
- 2 Locking plate
- 3 Cylinder head screw with Hex socket M6x8
- 4 Electromagnet
- 5 Cylinder head screw with Hex socket M6 x15

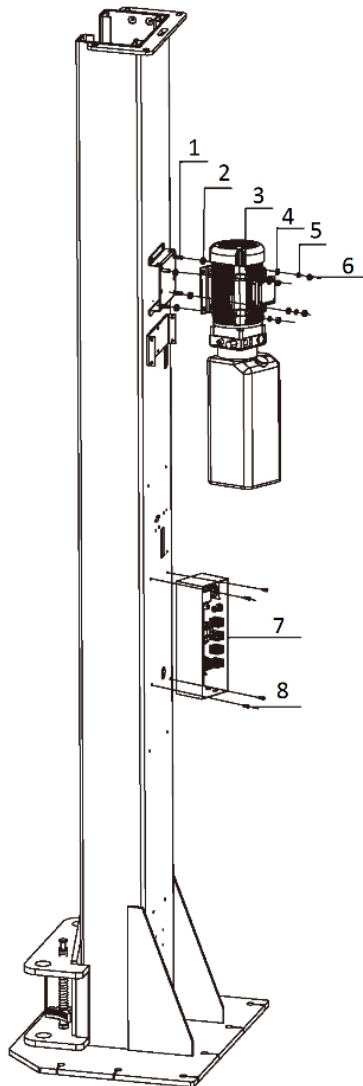
a) Install the locking device.

b) Connect the wires of the microswitch and the electromagnets to the terminals provided in the switch box.



- 1 Phillips screw M3*25
- 2 Microswitch
- 3 Hexagon nut M3
- 4 Guide wheel
- 5 Cheese head screw with hexagon socket M6x8

7) Install the power unit and the control unit.



- 1 Hex head screw with full thread M10x35
- 2 Anti-shock cushion
- 3 Aggregate
- 4 Washer M10
- 5 Spring washer M10
- 6 Hexagon nut M10
- 7 Switch box
- 8 Hexagon socket cylinder head screw M6x12

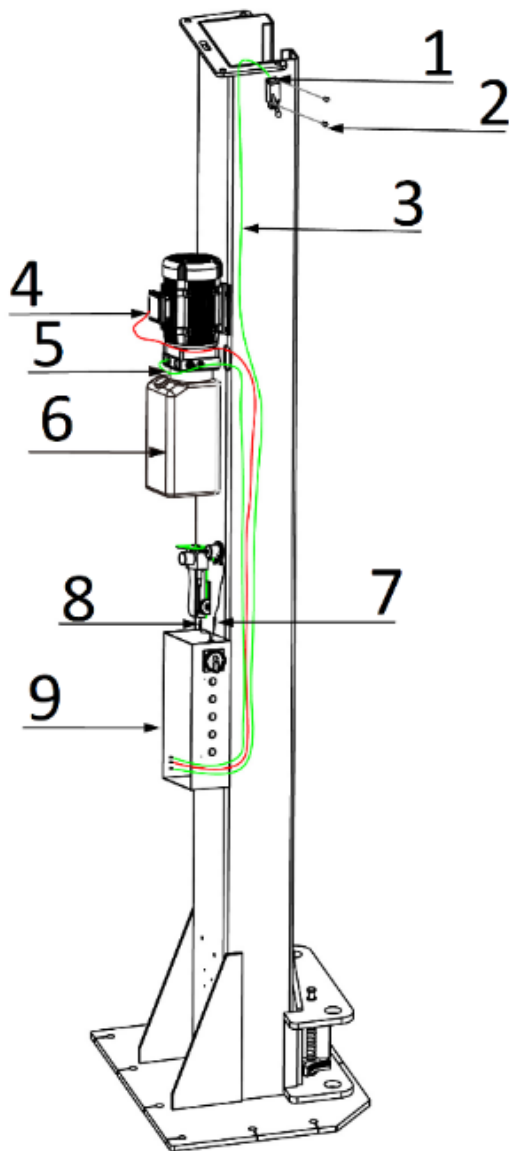
8) Connect the electrical system.

Attention: Observe the electrical connection diagram before making the connection.

Read the rating plate and make sure that the supply voltage is suitable for the lift.

Before supplying the lift with power, make sure that the power supply is equipped with an overcurrent protection device.

Refer to the cable connection diagram and connect the wires of the electrical components to the corresponding terminals reserved in the switch box.



- 1 8108 Limit switch
- 2 Cross recessed flat head screw M5x10
- 3 Wire of the limit switch
- 4 Motor cable
- 5 Line of the solenoid valve
- 6 Hydraulic power unit
- 7 Wire of the electromagnet
- 8 Wire of the rope sensor
- 9 Control box



Illustration: Solenoid

Attention: The wires of the solenoid valves must be connected according to the respective colour markings. Connect the cable marked in red to the solenoid valve marked in red. Connect the cable marked in green to the solenoid valve marked in green.

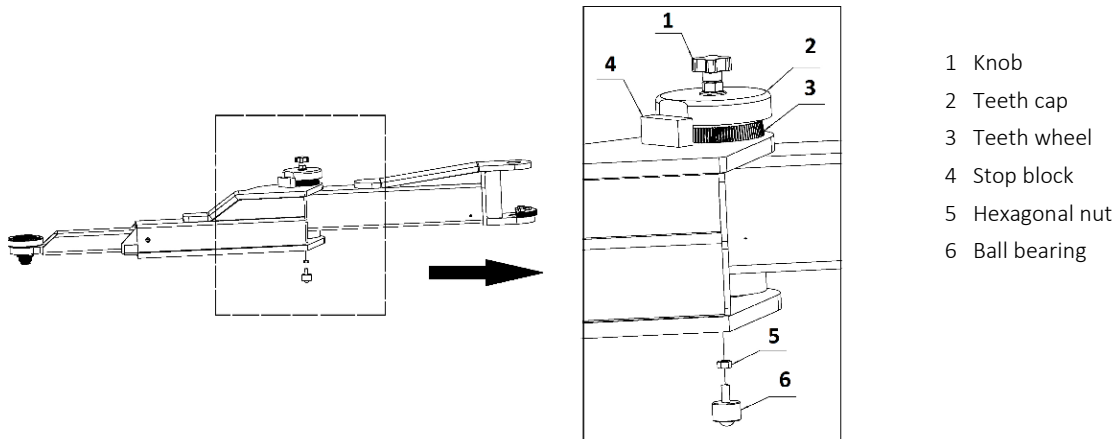
9) Install the lifting arms.

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

Attentions for assembling Type-B foldable arms

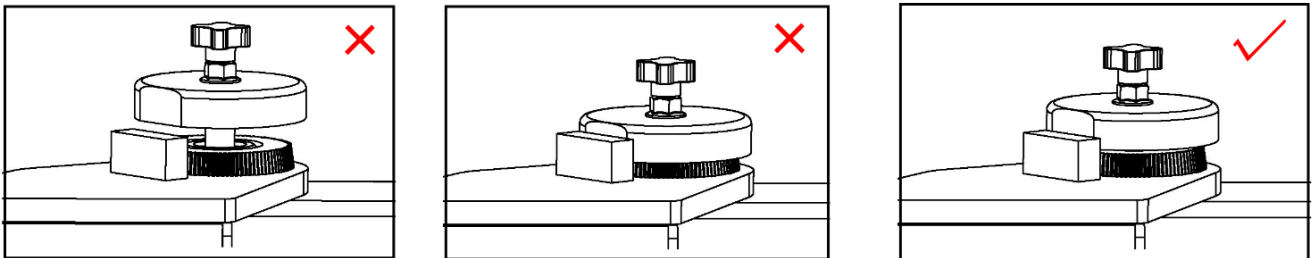
The release device on the middle joint may not release automatically on uneven ground. It can unlock automatically on a floor with a deviation of no more than 5 mm.

Set the position of the hexagon nut 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.



10) Fill with hydraulic oil.

Only use clean and fresh oil. Do not fill the tank completely full.

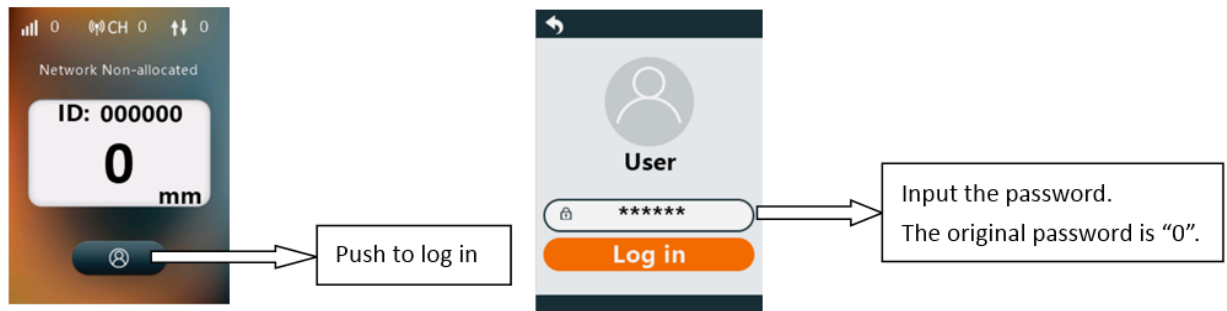
The hydraulic oil tank has a capacity of approx. 14 litres. It is recommended to use **HM NO.46 hydraulic oil**. If the average temperature at the place of use is below 10°C, use hydraulic oil type **HLP 32**.

Pour about 6 litres of hydraulic oil into each of the two oil tanks. The oil level must reach the fill level mark on the tank. Top up with more oil after you have operated the lift for several cycles until the lift has reached the maximum lifting height.

11) Bleed the hydraulic line and make the mains connection.

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.

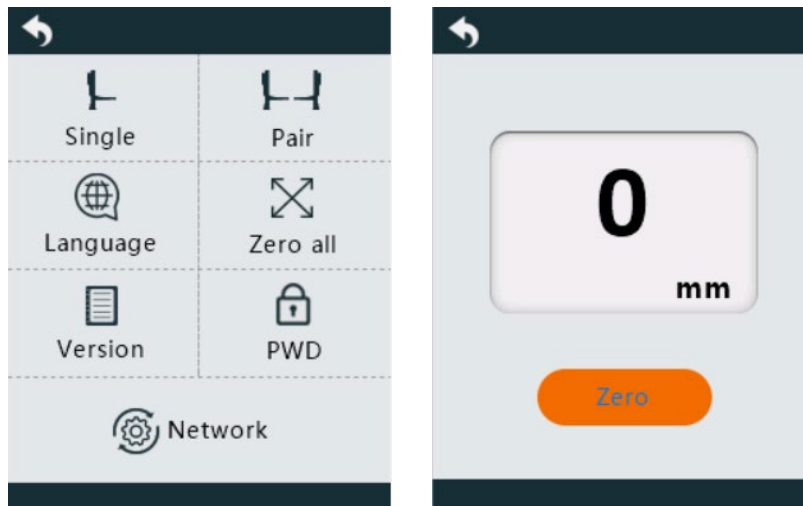


2. Bleed the hydraulic line and set "Zero" for each column in single control mode.

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.

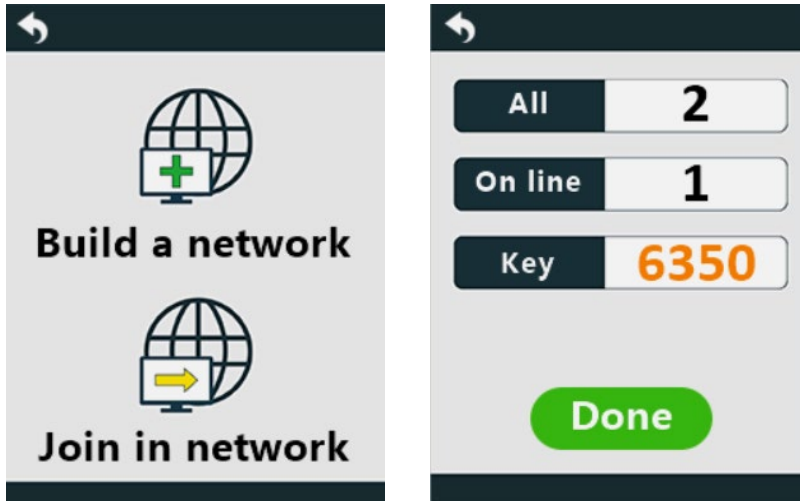


3. Pairing

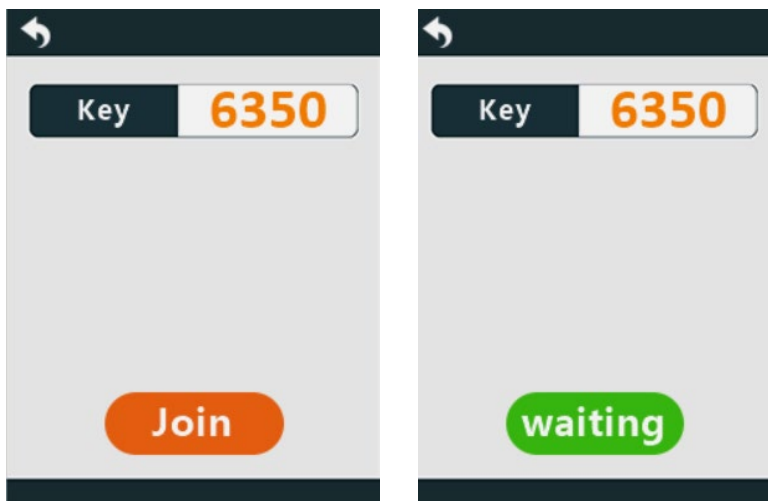
First switch on the main switch on both columns.

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

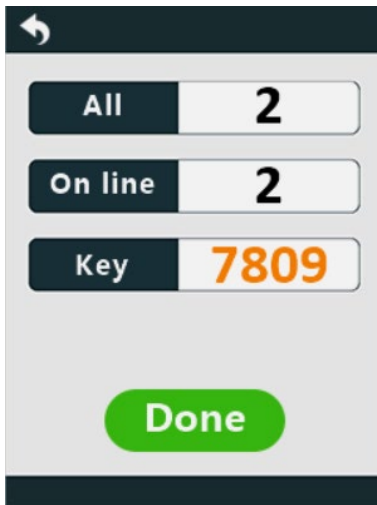
An example key number in the following is 6350. It is given randomly by the system.



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 pair control mode.



8.4 Test points after assembly

S/N	Check	YES	NO
1	Screw torque of the expansion screws: 80-100Nm (63-74b.ft)		
2	Climbing speed $\geq 20\text{mm/s}$ (7/8"/s)		
3	Earthing resistance: not greater than 4Ω		
4	Height difference between the two slides $\leq 5\text{mm}$ (3/16")		
5	Mechanical locks are robust and synchronised when running at rated load?		
6	All control buttons function as "hold to run"?		
7	Is the limit switch working correctly?		
8	Is the earthing cable connected?		
9	Both carriages raise and lower evenly?		
10	No abnormal noises are heard during operation under load?		
11	No oil leaks under load?		
12	Are all expansion bolts, nuts or circlips firmly tightened and secured?		
13	Can the maximum lifting height be reached?		

9. Commissioning

9.1 Safety precautions

- **If the safety devices are defective or show any abnormalities, the lifting platform must not be put into operation under any circumstances!**
- Check all connections of the hydraulic lines for tight fit and proper functioning. If there are no leaks, a lifting operation can be started.
- Only the operator should be in the vicinity of the lifting platform during a lifting or lowering operation. Always ensure that there are no persons in the danger zone.
- Vehicles should always be aligned so that the vehicle's centre of gravity is in the middle between the lift columns. If this is not the case, the lift should not be used. Otherwise, neither we nor the dealer, if any, will accept responsibility for any problems or damage caused.
- When the desired lifting height is reached and the safety catches are engaged, switch off the power supply to the lift before starting work in order to avoid incidents caused by unintentional operation by other persons.
- Ensure that the safety catches are engaged before starting work on or under a vehicle. No persons may be in the working area of the lifting platform during the lifting and lowering process.
- Avoid excessive rocking of the vehicle while it is on the lift.

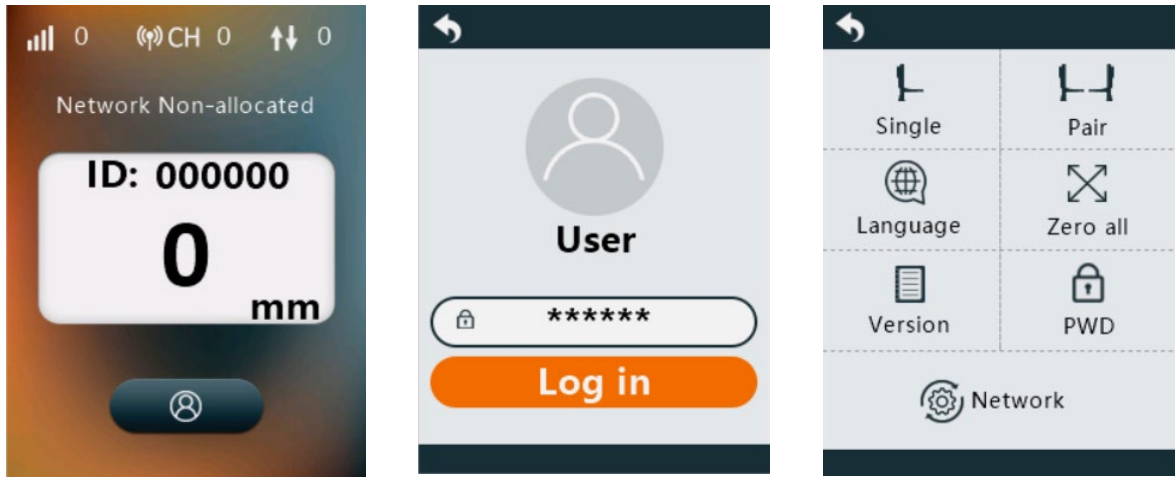
- Before lifting the vehicle and when carrying out any work on the vehicle, make sure that it has been properly stopped with the handbrake.

9.2 Description of the control unit (control box)







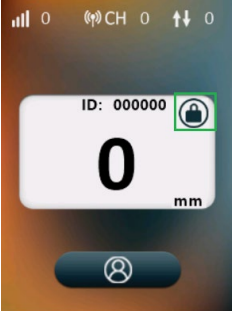


Description	Function
Main switch	Switch on or off
Touchscreen	Setting up the communication system. Display information about the lifting system
Alarm buzzer	Acoustic warning for the last section of the journey downwards. Acoustic warning in the event of excessive height deviation
UP button	Raising the lifting platform
Safety lock button	Lock the mechanical safety lock
DOWN I button and DOWN II	<p>Provided that the mechanical locks are released, the carriage can move directly downwards while the DOWN button is pressed.</p> <p>When the mechanical locks are engaged, the trolley rises first to release the locks before lowering.</p> <p>The carriage stops automatically at a safety distance</p> <p>Distance from the ground. Reactivate it to control the final lowering path.</p>

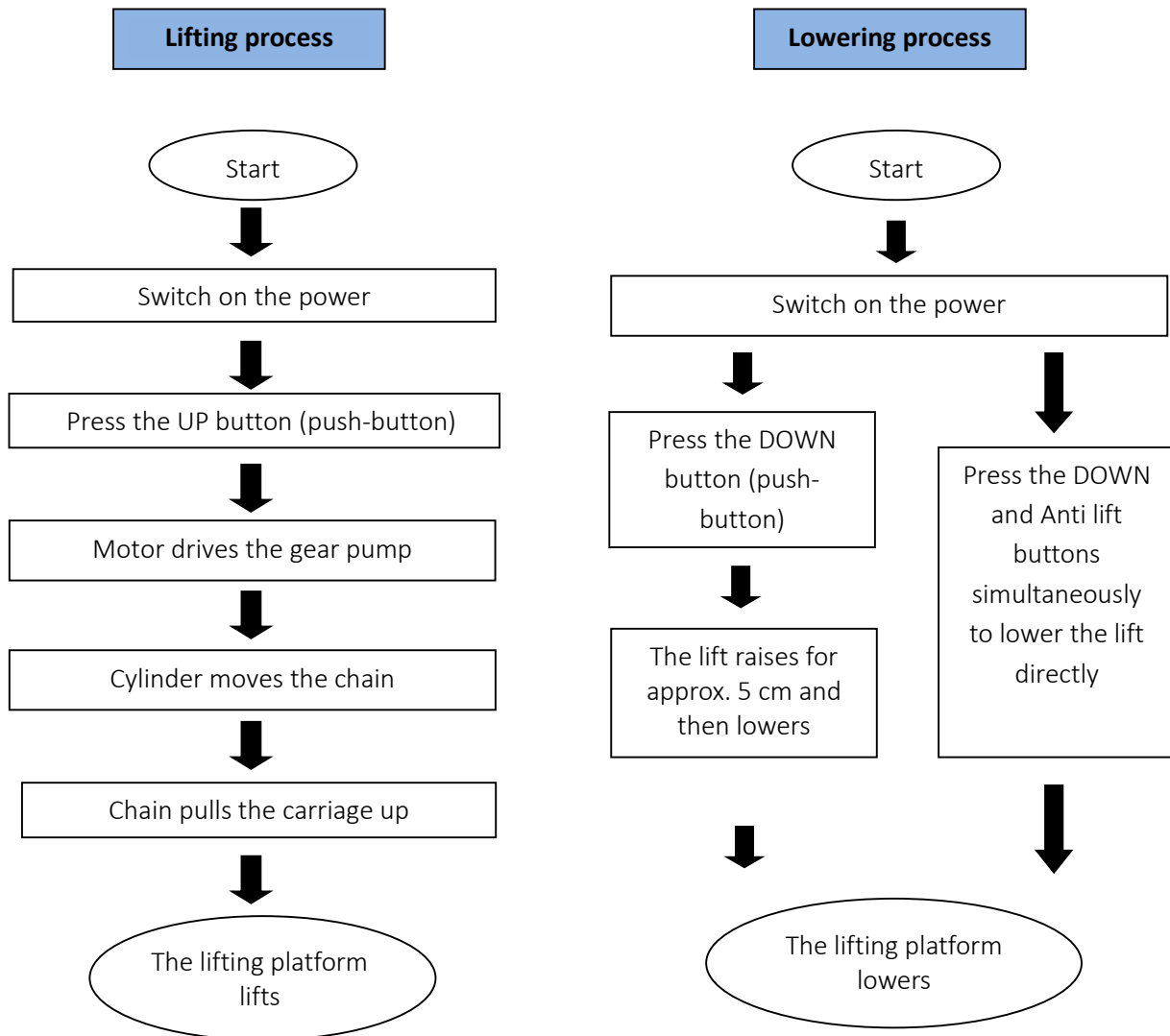
9.3 Structure of the touchscreen



S/N	Symbol	Function
1		The signal intensity display. The signal is weak if the value followed by is less than 160.
2		The display of the communication channel code. Two paired columns show the same channel code.
3		The display of the height deviation between two columns.
4		ID: Identity code of the column. It is generated at random. Two paired columns show the same ID code.
5		The display of the vertical pitch of the cylinder in mm. Lower the carriage completely and press the "Zero" button in single mode or "Zero all" in pair mode to set the height value for to set the control system to zero. It must be achieved that if you set the height to zero when the carriage is at a position above the floor, you will get a negative height value.
6		Press this button to call up the "Log in" page.
7		Enter the password.
8		Press this button to establish network connections, e.g. to set up a network and join the network.

S/N	Symbol	Function
9	 Single	Press this button to enter single control mode, in which you can control a single column.
10	 Pair	Press this button to enter pair control mode after the network setting has been completed.
11	 Zero all	In pair control mode, lower the columns completely and press this "All to zero" button to delete the height deviation.
12	 Language	Reset the language.
13	 Version	Press this button to obtain detailed information about the version of the control system.
14	 PWD	Press this PWD button to reset the password.
15		The display of the abnormal release. Quickly recognise the fault caused by an abnormal release of the locking mechanism.

9.4 Lifting and lowering process flow chart



9.5 Operating instructions

9.5.1 Lifting process

1. **Read and understand the operating instructions before starting work.**
2. Connect the power supply and switch the main switch to ON.
3. Park the vehicle with its centre of gravity in the middle between the two pillars.
4. Align the support arms of the lifting platform so that the pick-up points are in line with the lifting platform. Make sure that the vehicle is positioned correctly.
5. Press the UP button on the control panel until the lifting adapters touch the pick-up positions of the vehicle.
6. Raise the vehicle further so that the wheels are slightly off the ground and check the stability.
7. Press the safety catch button (Lock) to engage the lifting carriages in the safety catches.
8. Set the main switch to OFF and start working on or under the vehicle.

Attention: If the LOCK button does not work, please press the UP or DOWN button to increase or decrease the position and press the LOCK button again to activate the mechanical lock.

9.5.2 Lowering process

1. Connect the power supply and switch the main switch to ON.
2. Press the DOWN button on the control unit. The carriage stops automatically at a safe distance from the floor. Activate the DOWN button again to reduce the final downward movement.
3. When the lift is fully lowered, position the swivel arms and adapters so that it is possible to get out unhindered before removing the vehicle from the lifting area.
4. The vehicle can now be removed.

10. Troubleshooting

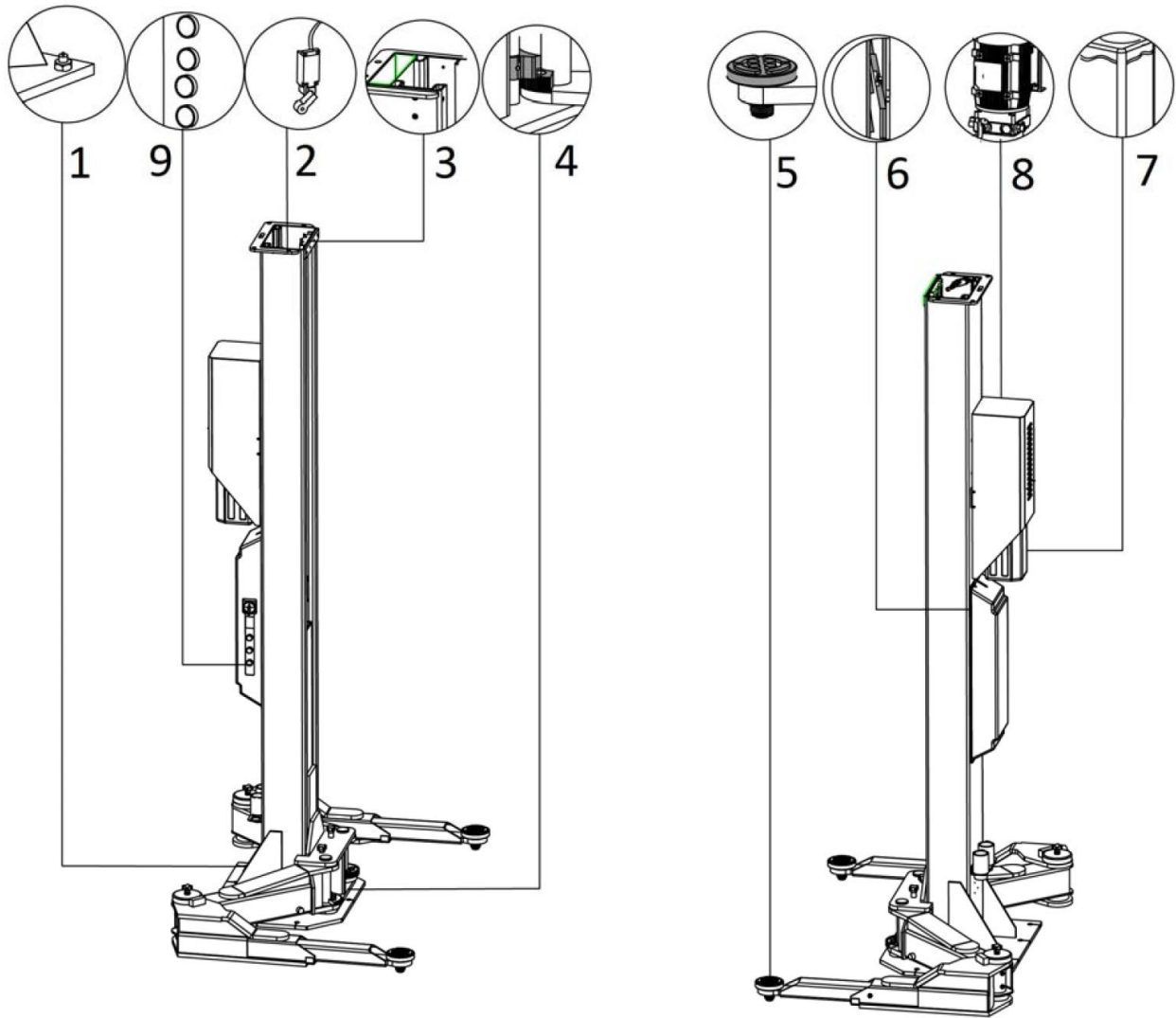
Attention: Do not hesitate to contact the expert staff of Twin Busch GmbH if you are unable to rectify an error yourself. We will be happy to assist you in rectifying the problem. In this case, document the error and send us pictures and a precise description of the error so that we can identify and remedy the cause as quickly as possible.

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

PROBLEMS	CAUSE	SOLUTION
No lifting.	The weight of the loaded vehicle exceeds the maximum capacity of the lift.	Reduce the load.
	The motor is running in the wrong direction.	Swap the connection of the wires U, V.
	Damaged cable travel sensor.	Replace it.
	Abnormal interconnection network.	Restart both columns.
	Damaged gear pump.	Replace it.
	Jammed pressure relief valve.	Clean or replace it.
	Loose cable connection of the emergency valve on the solenoid valve (YV1, YV2).	Check the cable connection and make sure it is secure.
No lowering.	Damaged solenoid valve (YV1, YV2).	Replace it.
	Loose cable connection of the electromagnet (YA1, YA2).	Check the cable connection and make sure it is secure.
	Loose cable connection of the microswitch (SQ2, SQ3).	Check the cable connection and make sure it is secure.
No raising and no lowering while an acoustic warning sounds.	Exceeding the deviation of the climbing height.	Switch one of the columns to single control mode and adjust the height of its carriage until both carriages are at the same height.
	Reverse wire connection of the solenoid valve (YV1, YV2).	Correct the cable connection.
	The two pressure equalisation valve elements are installed in reverse order.	Change the installation position.
Lowering too slowly.	Jammed throttle valve.	Clean or replace the valve.
	Jammed unloading solenoid valve.	Clean or replace the valve.
Lifting and lowering with vibration.	Loose oil suction line.	Tighten the pipe.
	No grease on the sliding surface of the carriage.	Add grease.

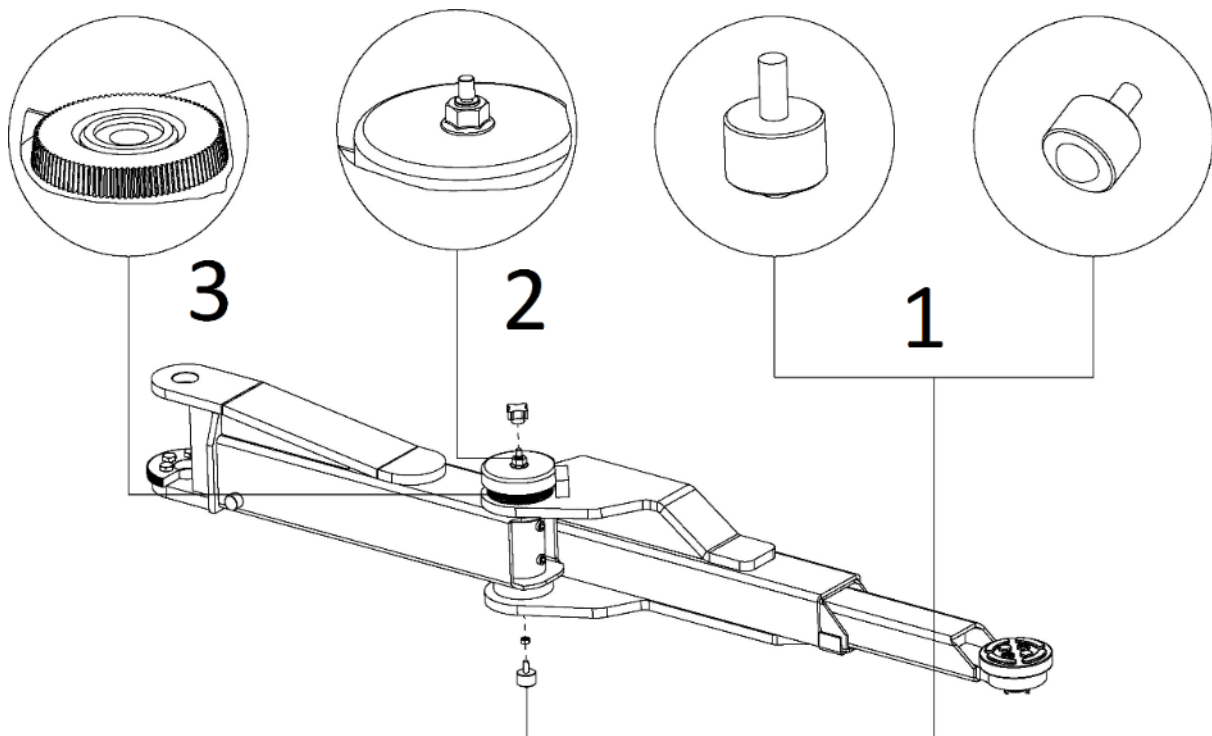
11. Maintenance

Regular maintenance of your lift will ensure a long and safe use of the lift. The following are suggestions for the maintenance intervals and the activities to be carried out. How often you service your lift depends on the environmental conditions, the degree of contamination and, of course, the stress and load on the lift.



S/N	Components	Methods	Period
1	Expansion bolt	Check with a torque spanner. Torque: 100-120 Nm	Every 3 months
2	Limit switch	Press the UP button and check whether the lift stops when the switch is pressed.	Every day
3	Running path within the column for slides	Lubricate the track with lithium-based grease NO.1.	Every 3 months

S/N	Components	Methods	Period
4	Swivel arm locking units	Press the UP button to raise the lifts and check that the four swivel arms are locked in position. Add lubricant if necessary.	Every day
5	Rubber contact pads	Check the pads and remove any objects that slip or damage them.	Every day
6	Mechanical safety interlock	Check whether both mechanical locks can be engaged and disengaged simultaneously by pressing the control buttons.	Every day
7	Hydraulic oil	Change the oil 6 months after initial start-up and once a year thereafter. Check the hydraulic oil and change it if the oil turns black or if there is dirt in the oil tank.	Every year
8	Oil hose connections of the unloading valve	Before using the lift, check that there are no leaks.	Every day
9	Control button	Check that all buttons function as "hold-to-run" and fulfil the specified function.	Every day



S/N	Components	Methods	Period
1	Ball bearing	Remove any dirt or other solid objects stuck under the ball.	Every week
2	Button	Tighten the rotary knob.	Every month
3	Gear wheel	Lubricate with lithium-based grease NO.1.	Every 3 months

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

12. Behavior in the event of an incident

If the lift malfunctions, simple faults may be the cause. Use the following list for troubleshooting *).

If the cause of the error is not listed or cannot be found, please contact the expert Twin Busch GmbH team.

Never attempt to carry out repairs yourself, especially on safety devices or electrical system parts.

*) Points depending on the design and type of the lifting platform





Work on electrical systems only by qualified electricians!

Problem: Lifting platform can neither be raised nor lowered.

Possible causes

- No power supply available.
- Power supply interrupted.
- Main switch not switched on or defective.
- Emergency stop pressed or defective.
- Fuse in power connection has blown or is defective.
- Fuse in the switch box has blown or is defective.

Remedy



- Check power supply.
- Check power supply line.
- Check main switch. 
- Unlock emergency stop, check. 
- Check fuse.
- Check fuse.

Problem: Lifting platform cannot be raised.

Possible causes

- With three-phase current: one phase is missing.
- With three-phase current: Direction of rotation of motor reversed.
- Oil pump defective.
- Emergency drain open.
- Motor is defective.
- Overload.

Remedy

- Check power supply. 
- Check direction of rotation, change phase if necessary. 
- Notify Twin Busch Service.
- Close emergency release valve.
- Notify Twin Busch Service.
- Overload valve has opened, reduce load.

Problem: Lift cannot be lowered.

Possible causes

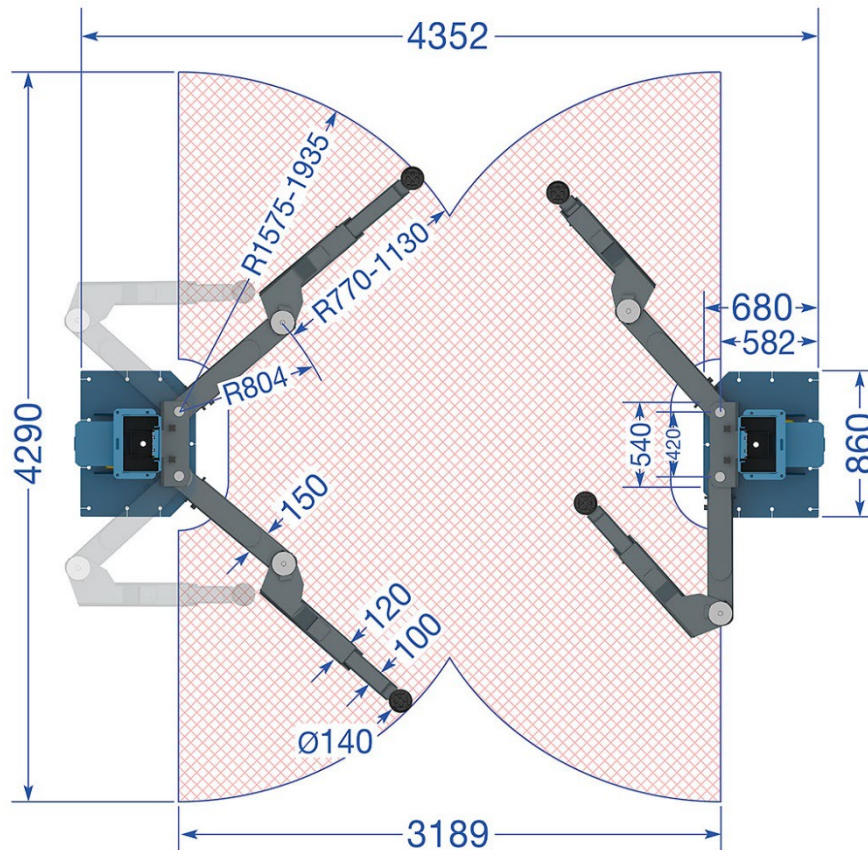
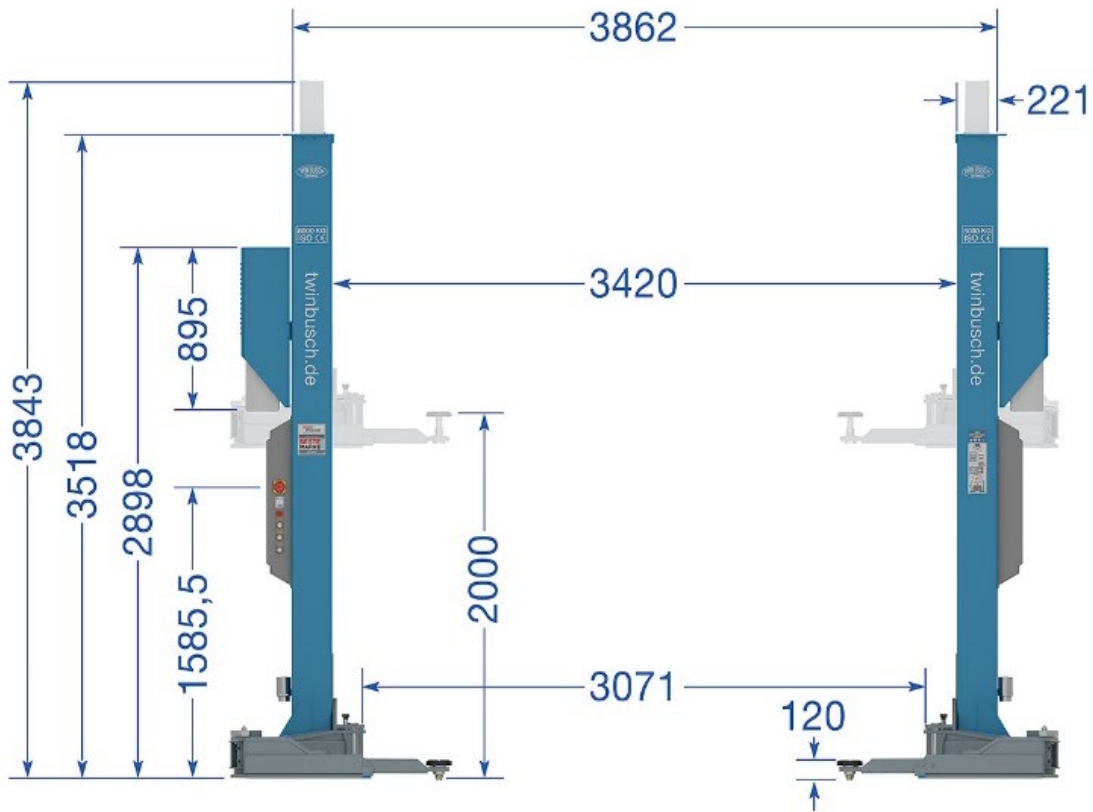
- Lifting platform sits in safety catches.
- Lifting platform has moved into limit switch.
- Motor is defective.
- Lifting platform has been blocked during lowering.

Remedy

- Raise platform a little, pull detents, lower.
- If necessary, loosen limit switch, raise 1 cm and lower.
- Open safety latch and lift over.
- Lower emergency drain.
- Raise the lifting platform slightly again and remove the obstacle.

13. Appendix

13.1 Lifting platform dimensions



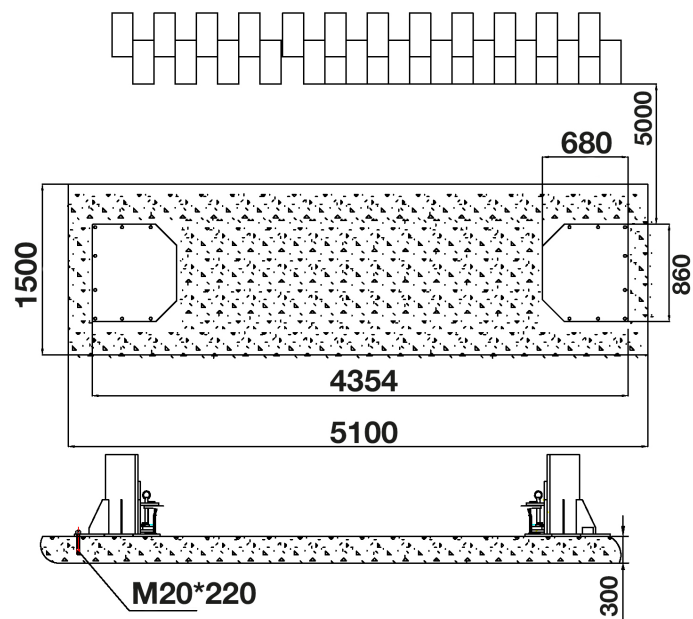
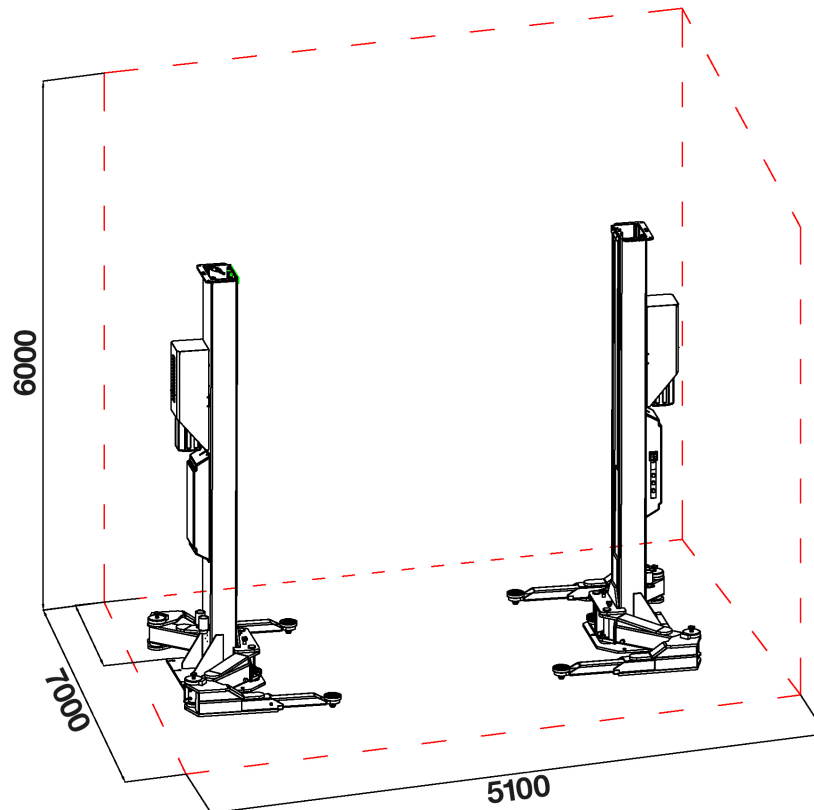
13.2 Foundation requirements and working area

Requirements for the concrete:

- Concrete C20/25 according to DIN 1045-2 (previous designation: DIN 1045 concrete B25).
- The floor must be level and have a flatness of less than 5 mm/m.
- Newly poured concrete must cure for at least 28 days.

Foundation dimensions:

- Ideally, the entire hall floor should be made of concrete C20/25 with a thickness of at least 300 mm.



Other requirements:

- The surrounding soil must be suitable for the load, e.g. no sandy soils, etc.
- Reinforcements in the concrete are not mandatory for proper use of the lifting platform, but are recommended.
- In case of doubt, the foundation should be determined and checked by a structural engineer.

For soil exposed to frost, note the following:

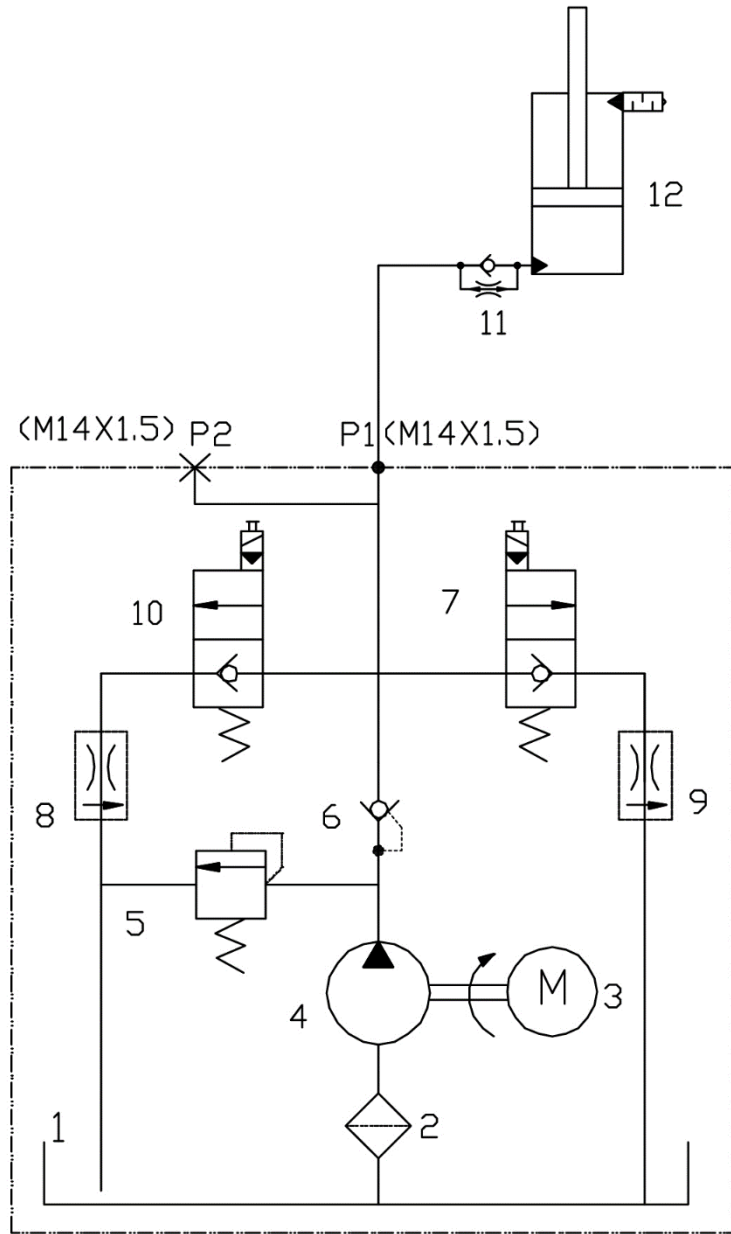
For frost exposure, the concrete must comply with exposure class XF4, as dripping de-icing agent cannot be ruled out.

This results in the following minimum requirements for the concrete when exposed to frost:

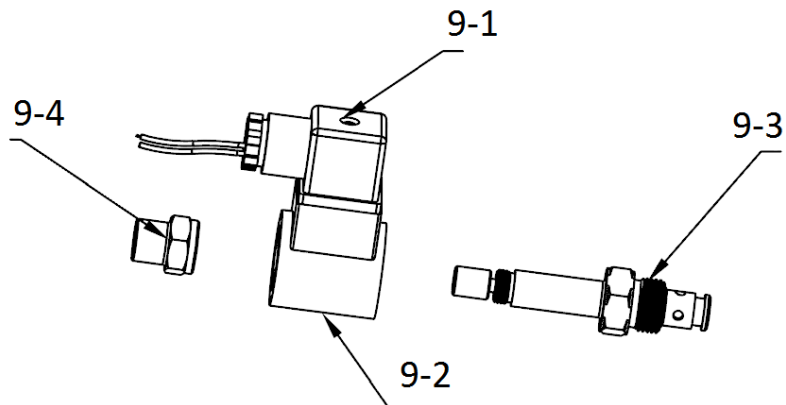
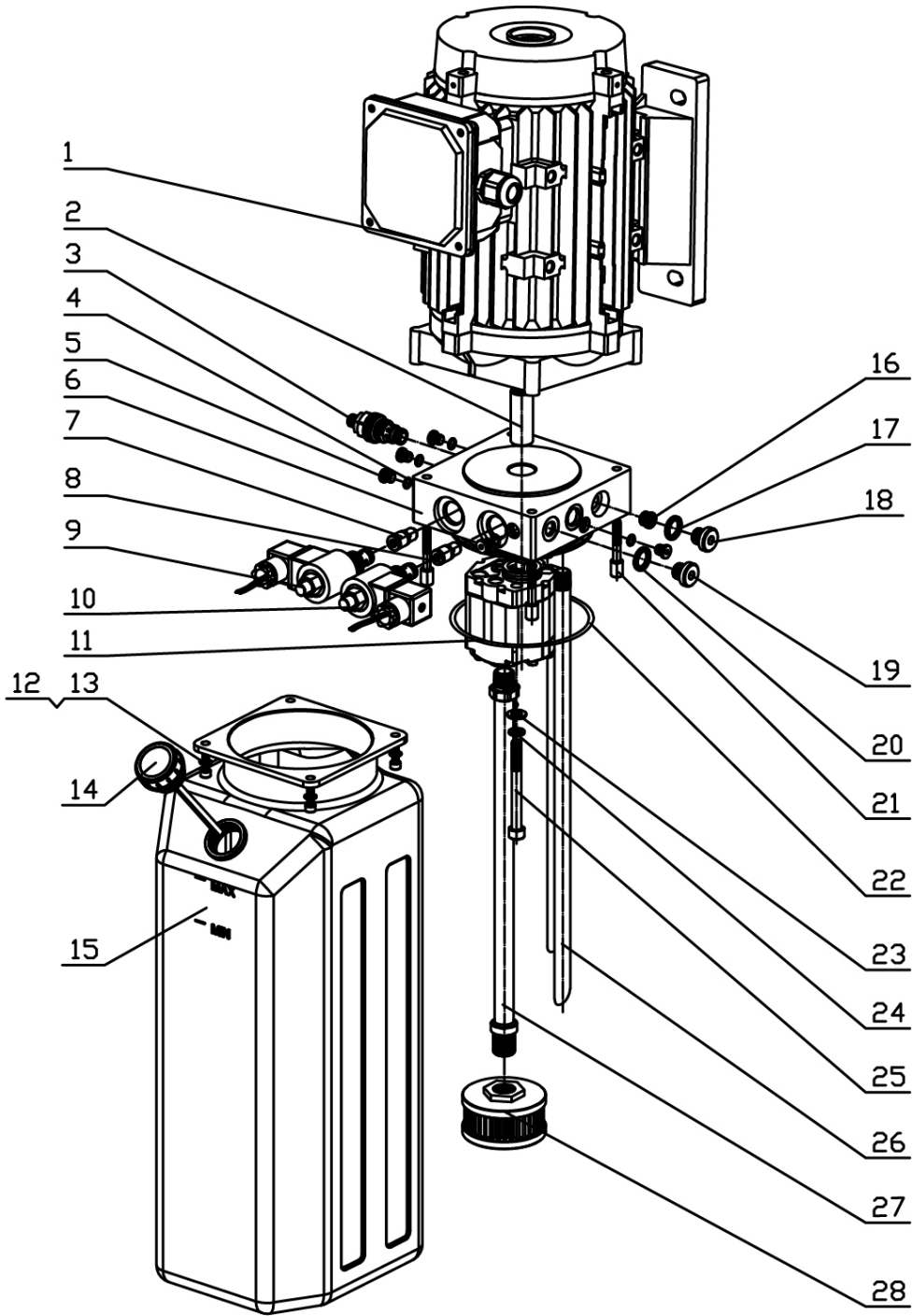
Exposure class:	XF4
Maximum w/c:	0,45
Minimum compressive strength:	C30/37 (instead of C20/25)
Minimum cement content:	340 kg/m ³
Minimum air void content:	4.0 %

It must be noted, however, that the lifts are not designed for outdoor use. The control box is IP54, but the rest of the electrics, motors and limit switches are IP44 at most.

13.3 Hydraulic system



1. Oil tank
2. Filters
3. Motor
4. Gear pump
5. Pressure relief valve
6. Non-return valve
7. Solenoid changeover valve (unloading valve)
8. Pressure equalisation valve
9. Pressure equalisation valve
10. Solenoid changeover valve (unloading valve)
11. Throttle valve
12. Hydraulic cylinder

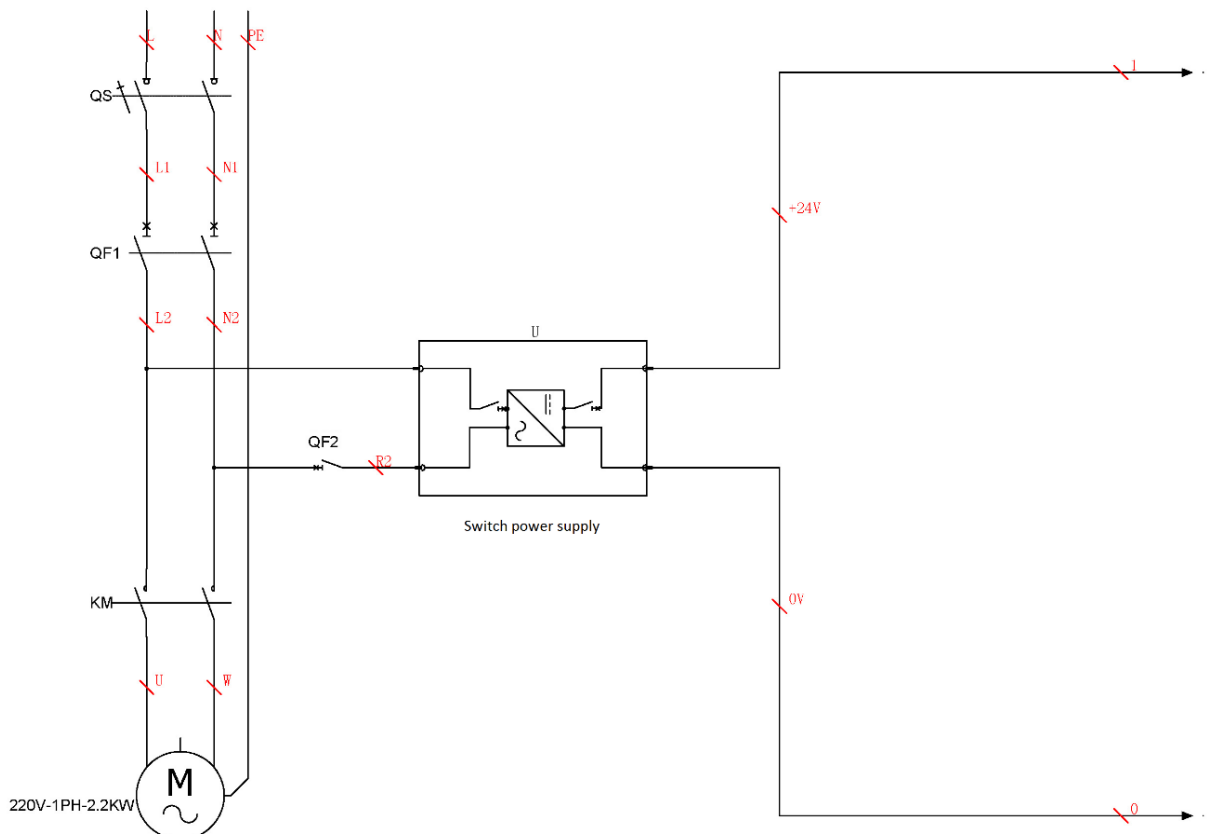
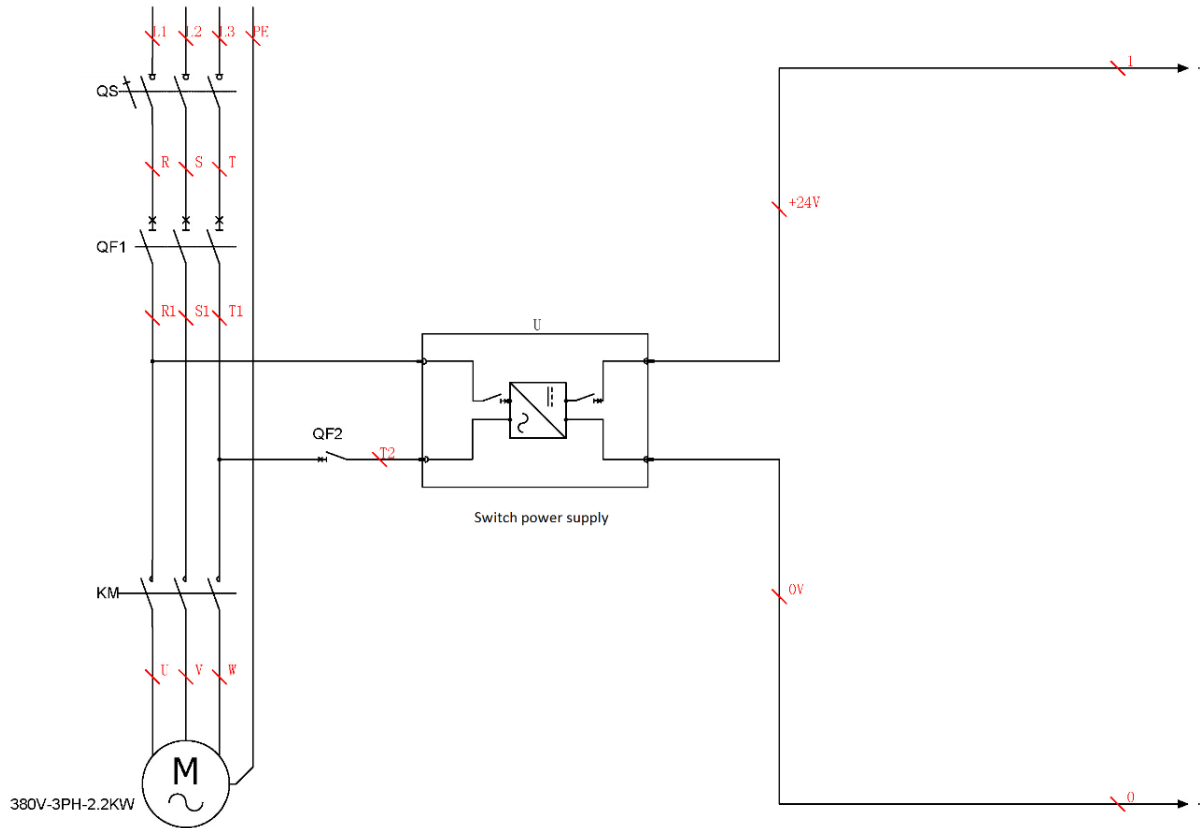


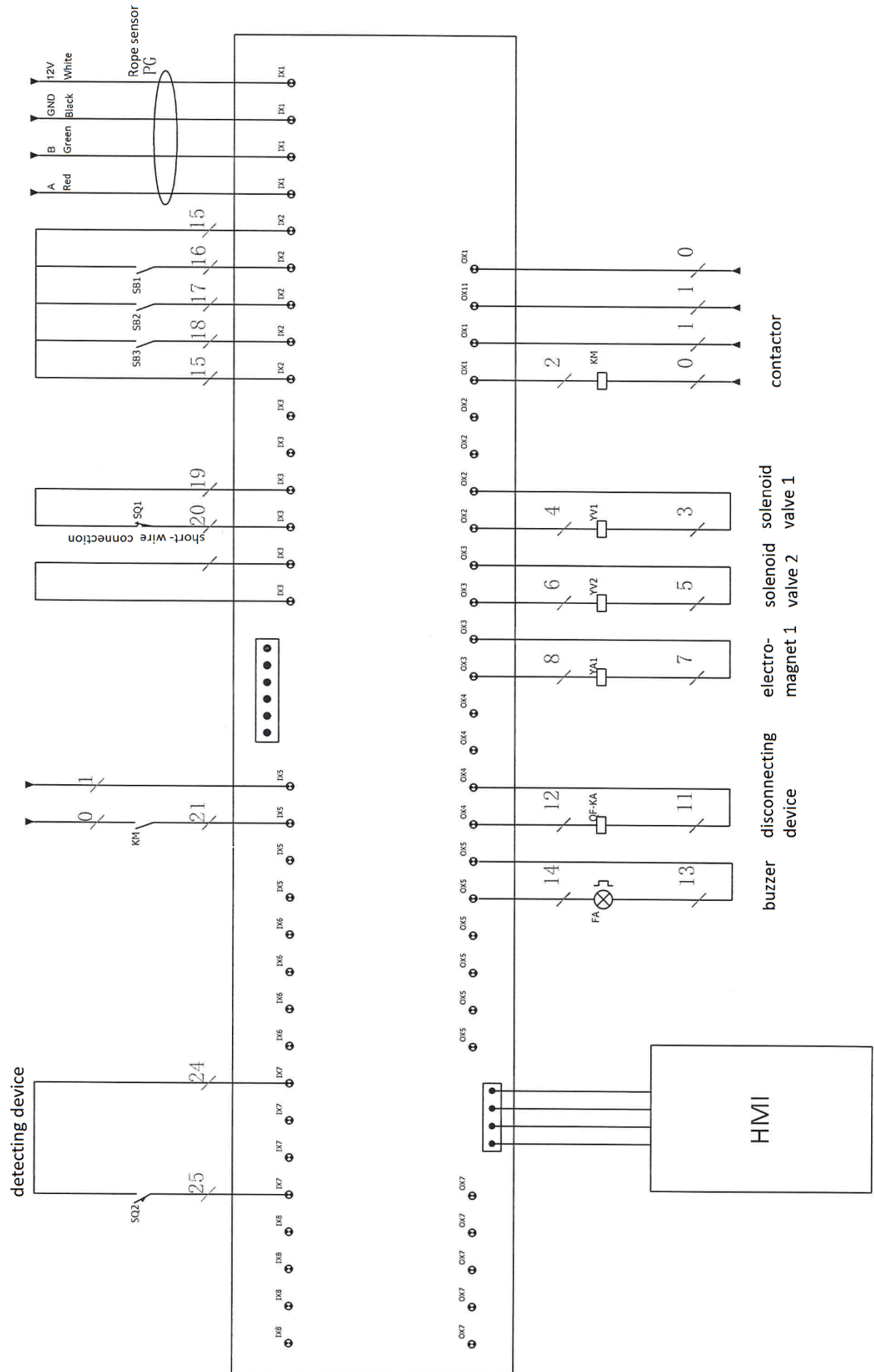
Pos.	Code	Name of the component	Specification	Quantity
1	320204254	Motor (380V-3Ph)	380V-2.2kW-3Ph	1
	320204232	Motor (400V-3Ph)	400V-2.2KW-3PH	1
	320204277	Motor (220V-1Ph)	220V-2.2KW-1PH	1
2	330404007	Clutch	46mm (LBZ-T202BK-1)	1
3	330304007	Pressure relief valve	YF08-40	1
4	207101100	Sealing ring type O	EKM,6.5*1.5	7
5	210101015	Installation	YBZ1-PG02A	7
6	330101111	Hydraulic block	LBZ-T202BK-1	1
7	330308038	Pressure equalisation valve	BL-I2.15	1
8	330308033	Pressure equalisation valve	BL-I1.0	1
9	330311004	Changeover valve (core)	DHF08-220H-DC24	1
10	330311004	Changeover 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	Screw	M5*18	4
13	204101003	Washer	M5	4
14	330502013	Venting	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 disc	M14	1
18	210101004	Hexagon socket screw connection	G1/4	1
19	210101013	Installation	M14*1.5	1
20	207103019	Composite disc	M14	1
21	202109145	Screw	YBZ-E3D4H1/10-02	4
22	207101098	Sealing ring type O	109*5.3	1
23	204201013	Spring washer	M8	2
24	204101005	Washer	M8	2
25	202109072	Allen screw with hexagon socket	M8*85 8.8	1
26	330402016	Oil return line	YBZ-E2D1/1-01(340mm)	2
27	330401013	Oil suction pipe	YBZ-SJYG350	1
28	330403003	Filters	YBZ-E2D3I1/1-10	1

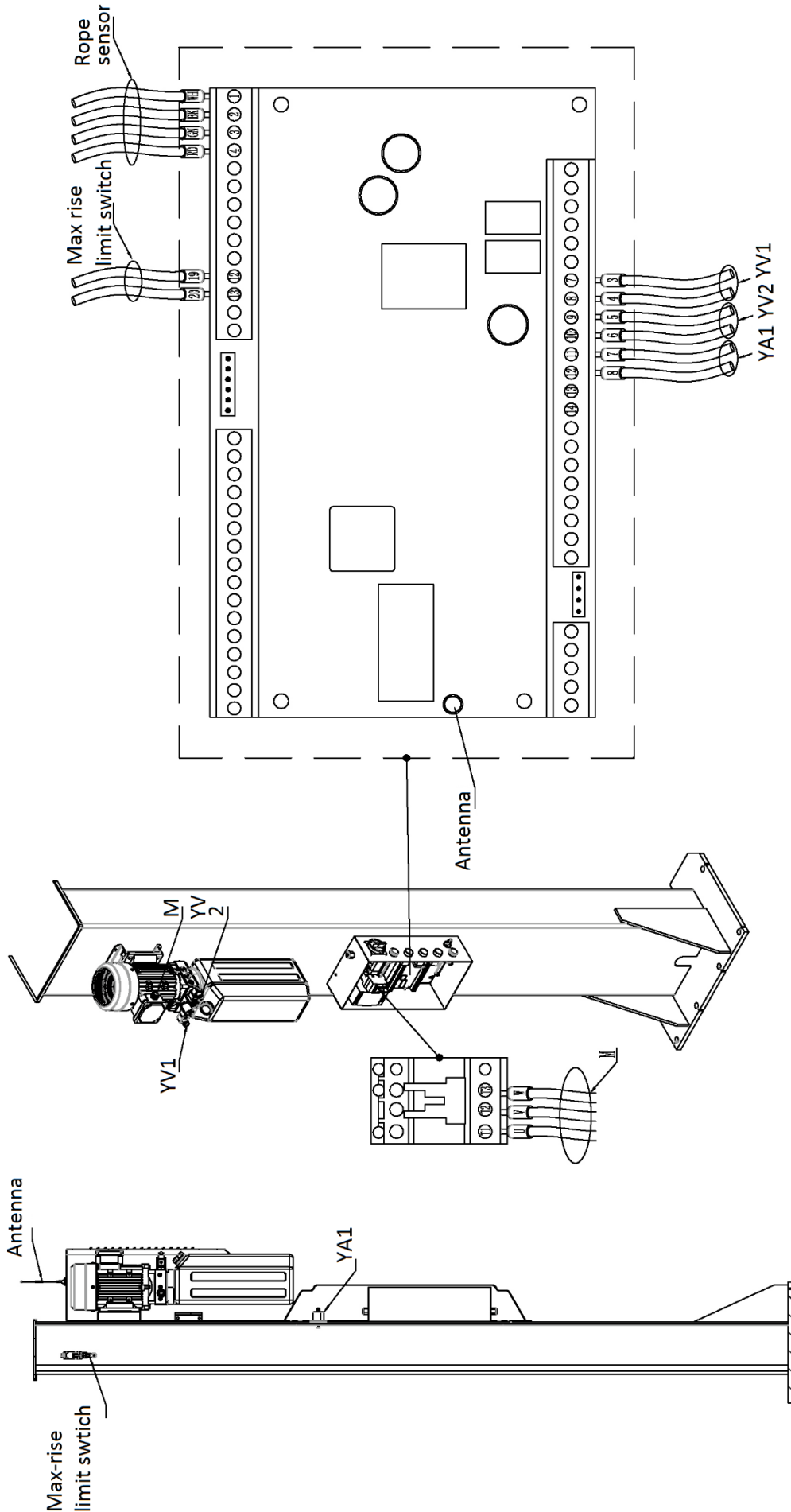
Pos.	Code	Name of the component	Specification	Quantity
1	203204102	Lock nut	FHLM-1/2-20UNF	1
2	330308032	Solenoid coil connector	DIN43650-DC	1
3	330308031	Solenoid coil	LC2-0-C-2H,24VDC	1
4	330311004	Changeover valve (core)	DHF08-220H-DC24	1

13.4 Circuit diagrams

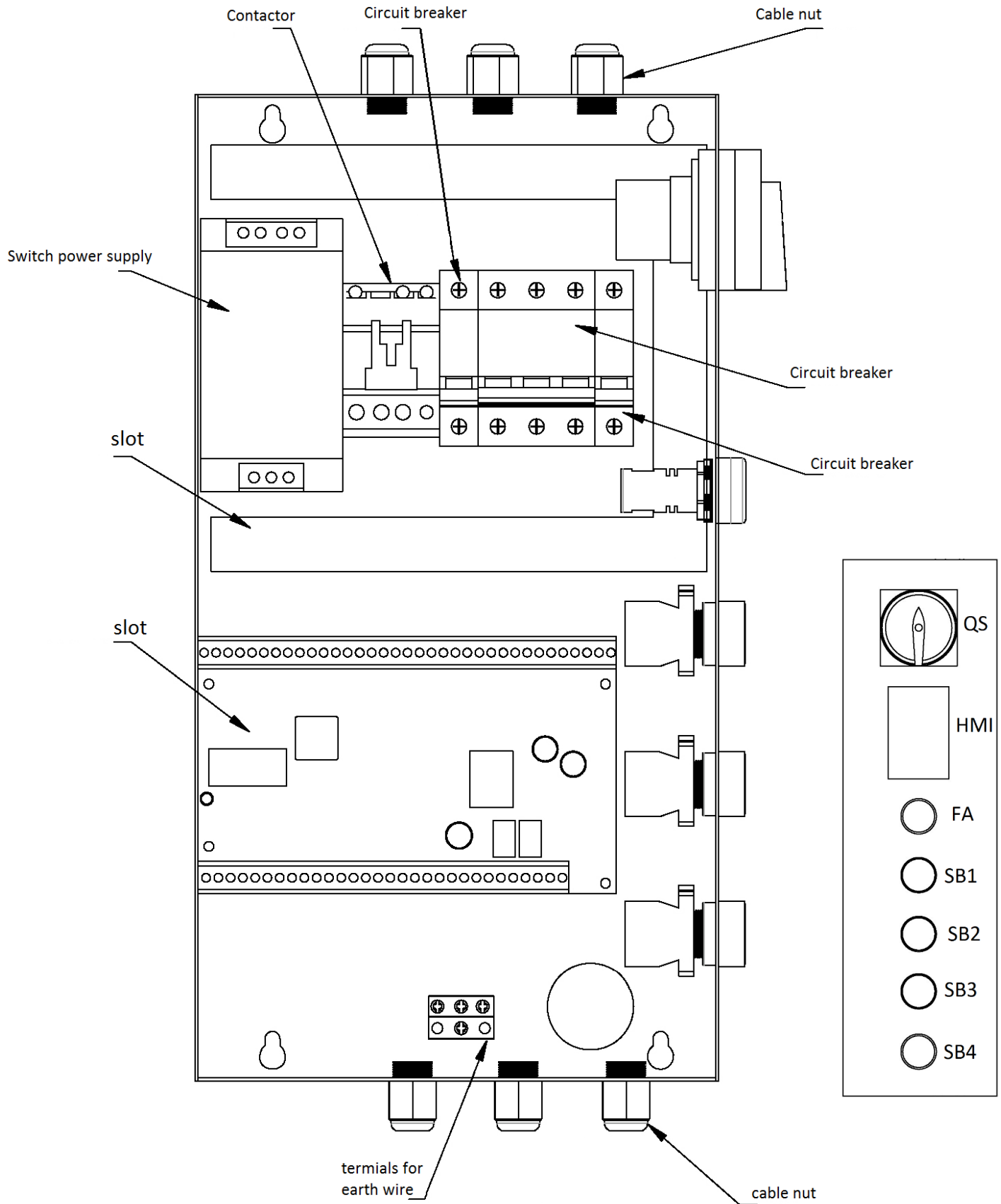
(Note: Depending on the specific voltage requirements, the actual voltage of your lift may differ from the following diagram).





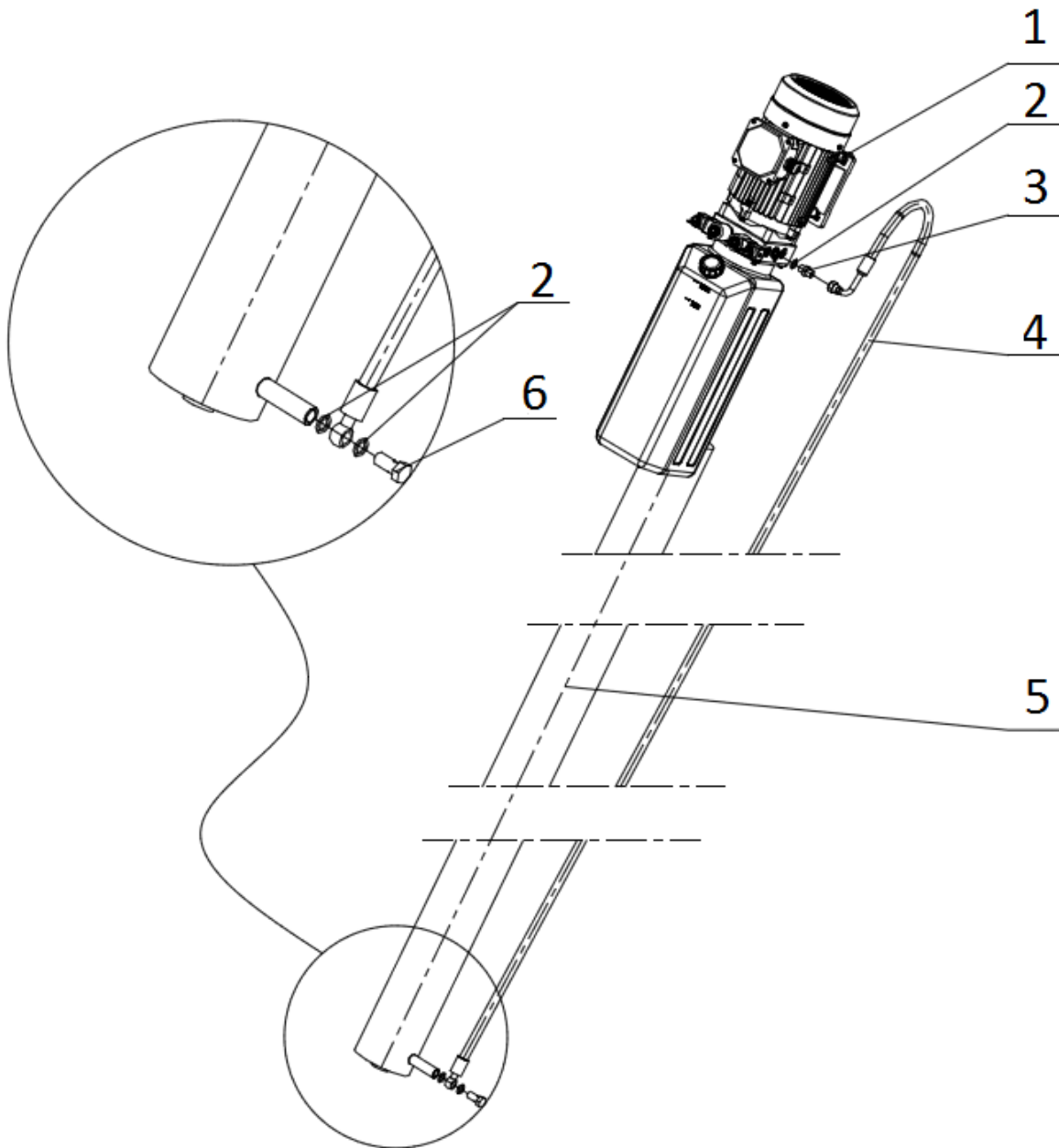


13.5 Control box

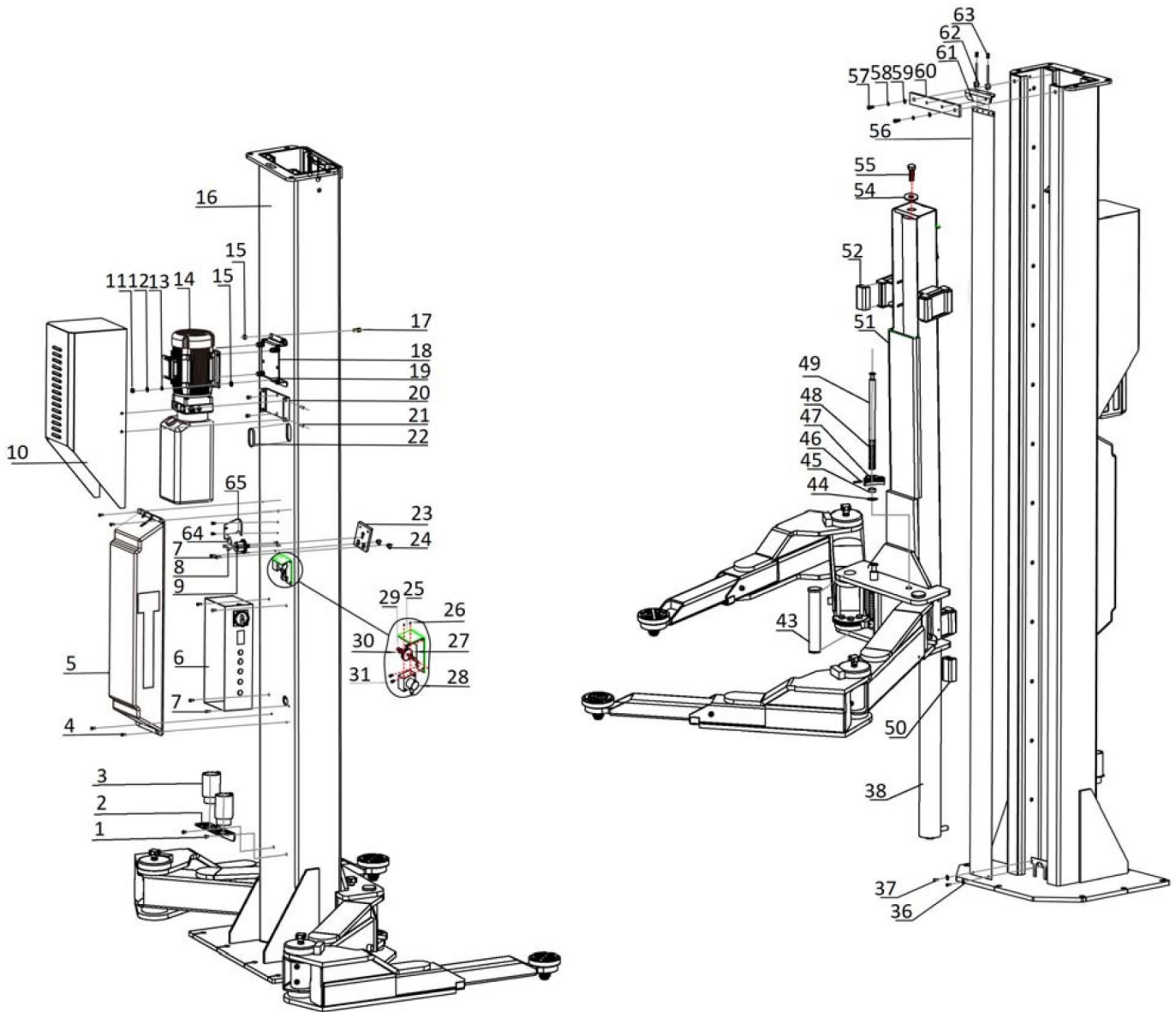


Code in the system	P-code	Name of the component	Specification	Quantity
HMI	321500005	Touchscreen	TJC3224K024_011R	2
QF1	320801003	Circuit breaker (3Ph)	CDB6iC25/3P (CB-60A C25)	2
	320802001	Circuit breaker (1Ph)	CDB6iC32/2P (CB-60A C32)	2
SQ1	320301011	Limit switch	TZ8108	2
QF2	320803005	Circuit breaker	CDB6iC6/1P(CB-60A C6)	2
KM	320902009	Contactora	NC1-1810Z	2
FA	321202001	Alarm	AD118-22SM/R/AC/DC/24V	2
QA	320304001	Main switch	LW26GS-20-04	2
SB1,SB2,SB3	320401042	Button	NP2-EA11 (CDLA6H-EA11)	6
U	321004142	Schaltnetzteil (380V/400V/415V)	DHR-120-24 320V-440VAC	2
	321103414	Schaltnetzteil (220V/230V/240V)	DHR-120-24 100-120VAC/200-240VAC	2
PG	321004119	Rope sensor	2000mm/WF50-E-02	2
YA1	330310005	Electromagnet	6254E-A14	2
-	321301028	Printed circuit board	915	2
-	321004145	Switch off the device	AC/DC 24V-48V	2
SQ2	320301026	Microswitch (DQ)	CMV101D	2

13.6 Detailed drawing and parts description of the lifting platform



Pos.	Code	Name of the component	Specification	Quantity
1	622034381	Aggregate	380V-400V-2.2KW-3PH-50HZ-20MPa-8L	1
2	207103025	Composite disc	13_7X20X1_5	3
3	310101008	Connection	M14*1.5-G1/4	1
4	624002157	Oil hose	Ø8, L=2620	1
5	615068128	Oil cylinder	YG63-73-45-1846	1
6	410901094	Connection with throttle valve	LR40-3	1

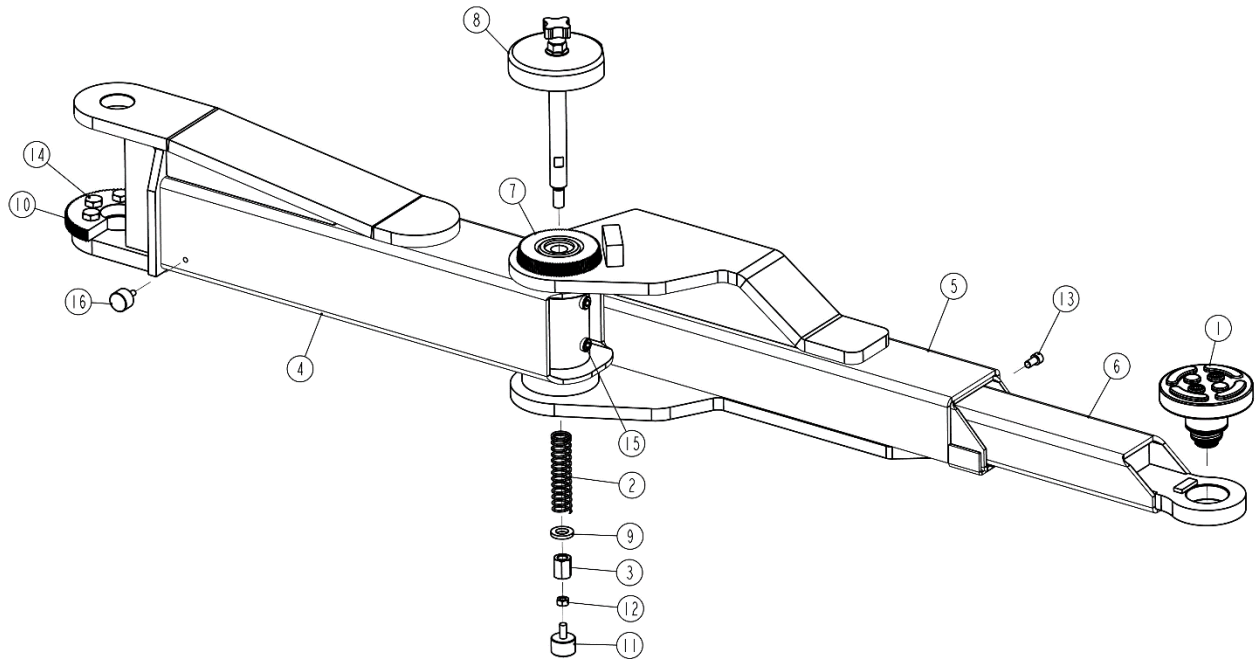


Pos.	Code	Description	Specification	Quantity
1	202110004	Hexagon socket button head screw	M8X12-GB70_2	8
2	410901744	Bracket for height adapter	6254E-A1-B1-C6-V0	2
3	612013002	Height adapter	6214EKZ-A4-B5	4
4	202109019	He Cheese head screw with hexagon socket	M6X12-GB70_1	8
5	420680132	Cover	E25-A1-B3-1	2
6	614901773	Frame of the control unit	E28-A15-B1-3	2
7	202109020	He Allen screw with hexagon socket	M6X15-GB70_1	4
8	202109018	He Cheese head screw with hexagon socket	M6X10-GB70_1	6
9	330310005	Electromagnet	6254E-A14	2
10	614004829B	Mounting the motor housing	62-A22-B1	2
11	203101006	Hexagon nut	M10-GB6170	14

Pos.	Code	Description	Specification	Quantity
12	204101006	Spring washer	D10-GB95	7
13	204201005	Washer	D10-GB93	7
14		Hydraulic power unit	2.2kW-20MPa- 8L	2
15	420040010	Anti-shock cushion	6254E-A23	8
16	614901828	Welded post assembly	E28-A1-B1-1	2
17	202109041	He Cheese head screw with hexagon socket	M10X20-GB70_1	6
18	410901745	Bracket for power pack	6254E-A1-B1-C10-V0	2
19	201103004	Hexagon head fully threaded bolt	M10X35-GB5783	8
20	410047003	Holder for motor housing	62B-A22-B2	2
21	202110005	Hexagon socket button head screw	M8X20-GB70_2	8
22	420250050B	Protective cover	6604B-A17	2
23	410901132	Safety locking plate	HDM84-A1-B4	2
24	410040071	Orientation block	6254E-A17	4
25	614901013	Guide wheel	HDM84-A13-B1	2
26	202103008	Flat head screw with cross recess	M5X10	4
27	420080020	Idler pulley	6214DS-A8	4
28	321004119	Draw-wire displacement sensor	2000mm/WF50-E-02	2
29	204301001	Circlip	D10-GB894_1	2
30	204101006	Washer	D10-GB95	4
31	202109017	He Allen screw with hexagon socket	M6X8	8
36	204101004	Washer	D6-GB95	8
37	202101027	Cheese head screw with hexagon socket	M6X8-GB818	4
38	615068128	Hydraulic cylinder	E28-YG63-73-1850	2
43	410901646	Swivelling shaft	E28-A12	4
44	204301009	Circlip	D25-GB894_2	4
45	410901645	Tie rod sheath	E28-A3-B10	4
46	206102008	Elastic cylindrical pin	D5X50-GB879_4	4
47	410911189	Small tooth block	E28-A3-B4-1	4
48	410580371	Pressure spring	C18-A3-B5	4
49	410911188	Tie rod	E28-A3-B5-C1-1	4
50	202101021	Sliding block	M5X10-GB818	4
51	614901829	Carriage	E28-A3-B1-2	2

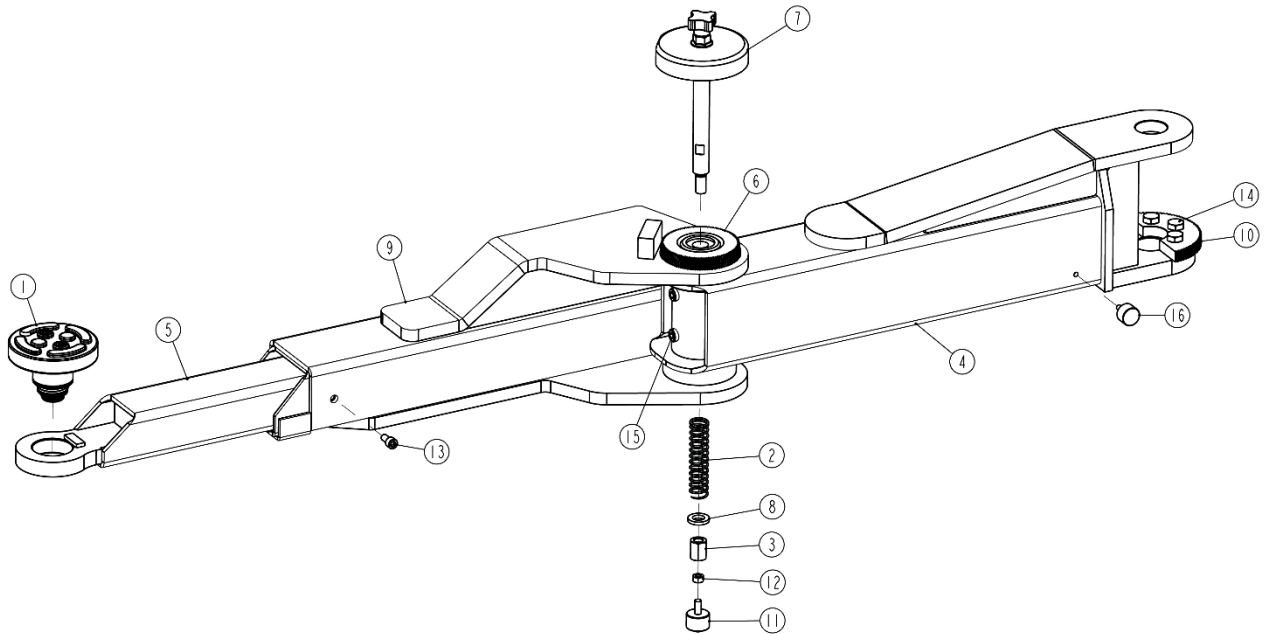
Pos.	Code	Description	Specification	Quantity
52	420680114	Sliding block	HDM84-A3-B8-1	12
54	410901134	Washing machine	HDM104-A4	2
55	201103006	Hexagon head fully threaded bolt	M20*60	2
56	615068527	Safety curtain	E28-A1-B8	2
57	202109055	Allen screw with hexagon socket	M12*45	4
58	204201006	Spring washer	M12	4
59	204101007	Washer	M12	4
60	410911004	Pull plate	E28-A1-B7	2
61	410911003	Mounting plate for pillar curtain	E28-A1-B6	2
62	410010051	Mounting rod for pillar curtain	6254E-A1-B5	4
63	203101004	Hexagon nut	M6-GB6170	8
64	320301026	Microswitch	CMV101D	2
65	410911801	Holder for the microswitch	E25-A1-B10-C1-1	2

Folding arm A:

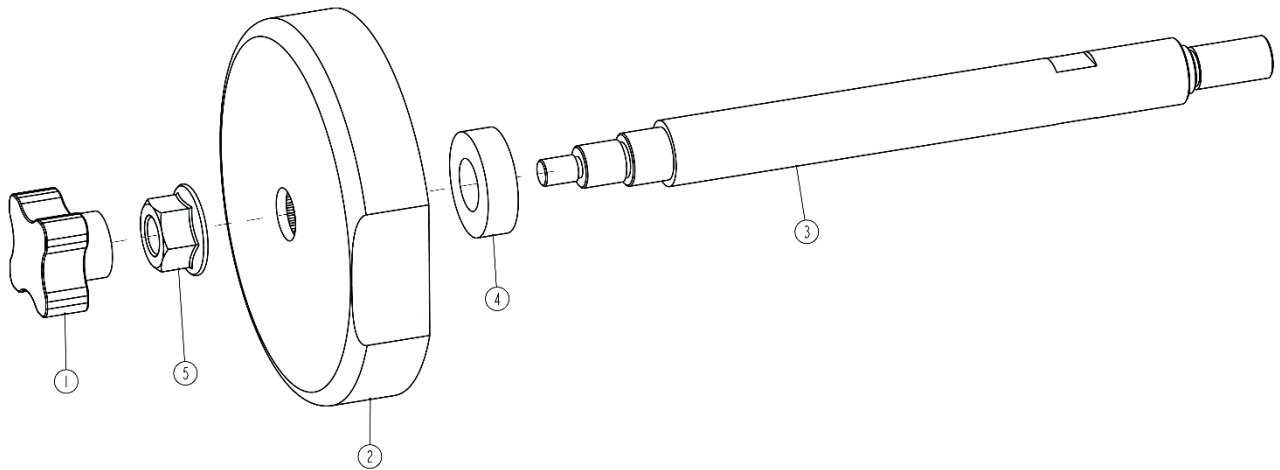


Pos.	Code	Description	Specification	Quantity
1	615035022	Round adapter assembly	6214EKZ-A4-B4-V0	1
2	410150121	Pressure spring	6254E-A2-B4	1
3	203204106	Hexagon nut with long head	CLM-M16X30	1
4	614901612	1st section of the arm assembly	E28-A20-B1	1
5	614901613	2nd section of the arm assembly	E28-A20-B2	1
6	614901614	3rd section of the arm assembly	E28-A20-B3	1
7	612901610	Shaft unit with gear wheel	E28-A20-B4	1
8	615068555	Internally toothed wheel unit	E28-A20-B6	1
9	410911154	Washer	E28-A20-B7	1
10	410550321	Tooth lock	E28-A4-B4	1
11	205201016	Universal ball bearing	KSM-22FL	1
12	203101006	Hexagon nut	M10-GB6170	1
13	202109041	Allen screw with hexagon socket	M10X20-GB70_1	1
14	201102040	Hexagon head fully threaded bolt	M16X30-GB5783	3
15	202208011	Cylinder head sheet metal screw with hexagon socket	M20X30-GB79	2
16	202309001	Lower adjusting screw	M8X22	1

Folding arm B:



Pos.	Code	Description	Specification	Quantity
1	615035022	Assembly of the lifting platform	6214EKZ-A4-B4-V0	1
2	410150121	Pressure spring	6254E-A2-B4	1
3	203204106	Hexagon nut with long head	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 gear wheel	E28-A20-B4	1
7	615068555	Internally toothed wheel unit	E28-A20-B6	1
8	410911154	Round guide disc	E28-A20-B7	1
9	614901615	2nd section of the arm assembly	E28-A21-B2 (in contrast to the corresponding part on articulated arm A)	1
10	410550321	Tooth lock	E28-A4-B4	1
11	205201016	Universal ball bearing	KSM-22FL	1
12	203101006	Hexagon nut	M10-GB6170	1
13	202109041	Allen screw with hexagon socket	M10X20-GB70_1	1
14	201102040	Hexagon head fully threaded bolt	M16X30-GB5783	3
15	202208011	Cylinder head sheet metal screw with hexagon socket	M20X30-GB79	2
16	202309001	Lower adjusting screw	M8X22	1



Pos.	Code	Description	Specification	Quantity
1	203204011	Button	50XM10	1
2	410911121	Gear wheel	E28-A20-B6-C1	1
3	410911153	Guide shaft	E28-A20-B6-C2	1
4	410911152	Round chip	E28-A20-B6-C3	1
5	203204107	Hexagon flange nut	M16-GB6177_1	1



The company

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

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

TW250W (EE-E25) | 5.000 kg

TW280W (EE-E28) | 8.000 kg

Serial number:

in these 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 (adress as below)



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