**2-POST-LIFT**

***TW242E-230 / TW242E-230-G BASIC-Line***

*(Lifting capacity: 4200 kg)*

# TW242E & TW242E-G

# INSTALLATION, OPERATION AND MAINTENANCE MANUAL


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

## Table of contents

**Further attachment:**

- **EU Declaration of Conformity**

## Important Information:

### ASSEMBLY

You can find the assembly video for this lift on YouTube:
www.youtube.com/watch?v=wVufUl57zkA
or scan the QR code.


### PRODUCT PRESENTATION

You can find the product presentation video for this lift on YouTube:
www.youtube.com/watch?v=oPDXYQng7FU
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

## 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 BASIC-Line model series is probably the most comprehensive lifting platform series on the market. With their high lifting capacity of 4,200 kg and the very large swivelling range of the support arms, the model variants enable problem-free lifting of everything from small cars to SUVs, large saloons and sports cars. For lifting and working on very high vehicles, such as motorhomes with alcoves, we recommend the TW 260. The Profi-Line model series meets the high performance requirements of a professional workshop and has a very extensive range of standard equipment, such as a turntable and a flat drive-over plate (if not barrier-free).

## 2. Identification of the instructions for use

Operating instructions TW 242E & TW 242E-G

of the Twin Busch GmbH
Ampérestraße 1
D-64625 Bensheim

Phone: +49 6251-70585-0
Telefax: +49 6251-70585-29
Internet: www.twinbusch.de
Email: info@twinbusch.de

Twin Busch UK Ltd.
9, Linnell Way
Telford Way Industrial Estate
NN16 8PS, Kettering (Northants)

Phone: +44 (0) 1536 522 960
Internet: www.twinbusch.co.uk
Email: info@twinbusch.co.uk

Status: -03, 01.07.2024

File: TW242E_TW242E-G_2-post_lift_manual_en_03_20240701.pdf

## 3. Technical data

| | |
|---|---|
| Power supply | 230 V / 50 Hz |
| Protection | C 16A (slow) |
| Load capacity | 4,200 kg |
| Degree of protection | IP 54 |
| Lifting time | approx. 45 sec |
| Lowering time | approx. 30 sec |
| Net weight | 600 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, modifications, conversions and attachments of the lift and all its components that have not been agreed with the manufacturer are not permitted. The manufacturer accepts no liability for improper installation, operation or overloading. Improper use also invalidates the CE certification and the validity of the certificate.
If you require any changes, please contact your dealer or the expert staff at 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 due to personal negligence.

Unpack all parts and use the packing list to check that all components are present.

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.
- Uninvolved persons 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 an appropriate manner.***

## 5.2 Safety equipment

The lift is equipped with the following safety devices to ensure safe operation *):

- Safety catches
- Throttle valve in hydraulic line
- Limit switch
- Support arm lock
- Devices to prevent jamming and crushing (shaft protection, foot guard)
- Synchronisation cables

*) depending on the design and type of lift

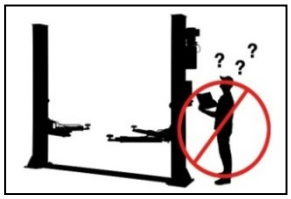
## 5.3 Monitoring and testing the safety equipment

| | |
|---|---|
| · Safety catches | Function test, when lowering the lift, safety catches must engage and stop the downward movement. |
| · Throttle valve | Fixed throttle, cannot be checked by the user. |
| · Limit switch | If the limit switch is pressed, the motor stops or cannot start. |
| · Support arm lock | When the support arms are raised, the support arm lock must engage and remain securely locked in place under lateral load. |
| · Equipment clamps etc. | The equipment must be in place, functional and not deformed. |
| · Synchronisation cables | Check condition. |

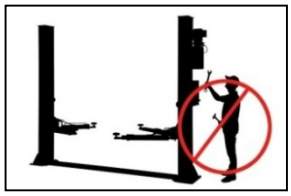
## 5.4 Warnings and symbols

All warnings are clearly visible on the lift to ensure that the user uses the device 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 use.

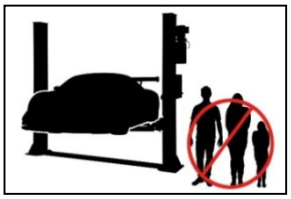
Read the instructions and safety instructions carefully before use!



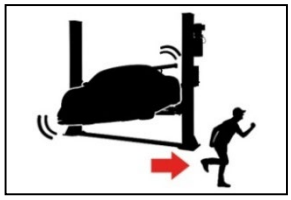
The lift may only be operated by qualified personnel!



Repairs and maintenance may only be carried out by specialised personnel, never put safety devices out of operation!

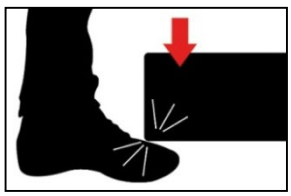


Specialist staff only permitted in the vicinity of the lifting platform!



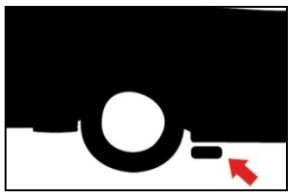
Escape routes always keep clear!

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

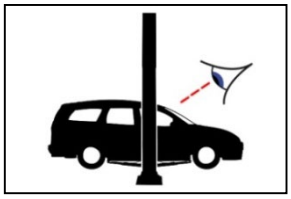


Pay attention to the Lift lowering on your feet! Crushing hazard!

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

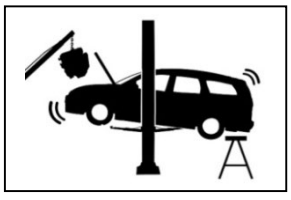


Observe the vehicle manufacturer's mounting points!

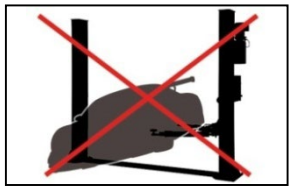


After briefly lifting the vehicle, check that it is securely seated!

Do not exceed the specified load capacity!

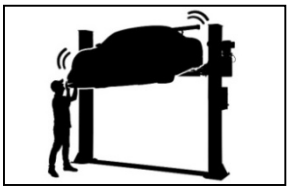


When installing or removing heavy parts the vehicle can tip off the ramp!



Never attempt to load only one side of the lift!

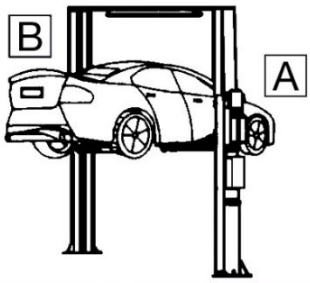
Protect the lift from moisture!
Electrical connections must be be dry!

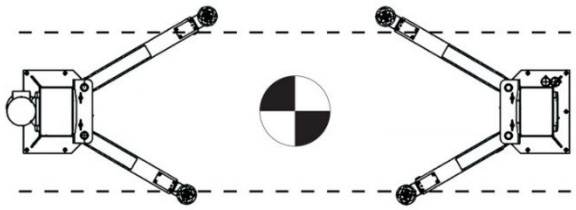


Strong shaking
Avoid damage to the vehicle.

CAUTION!
Electrical voltage!

### 5.5 Load distribution



center of gravity

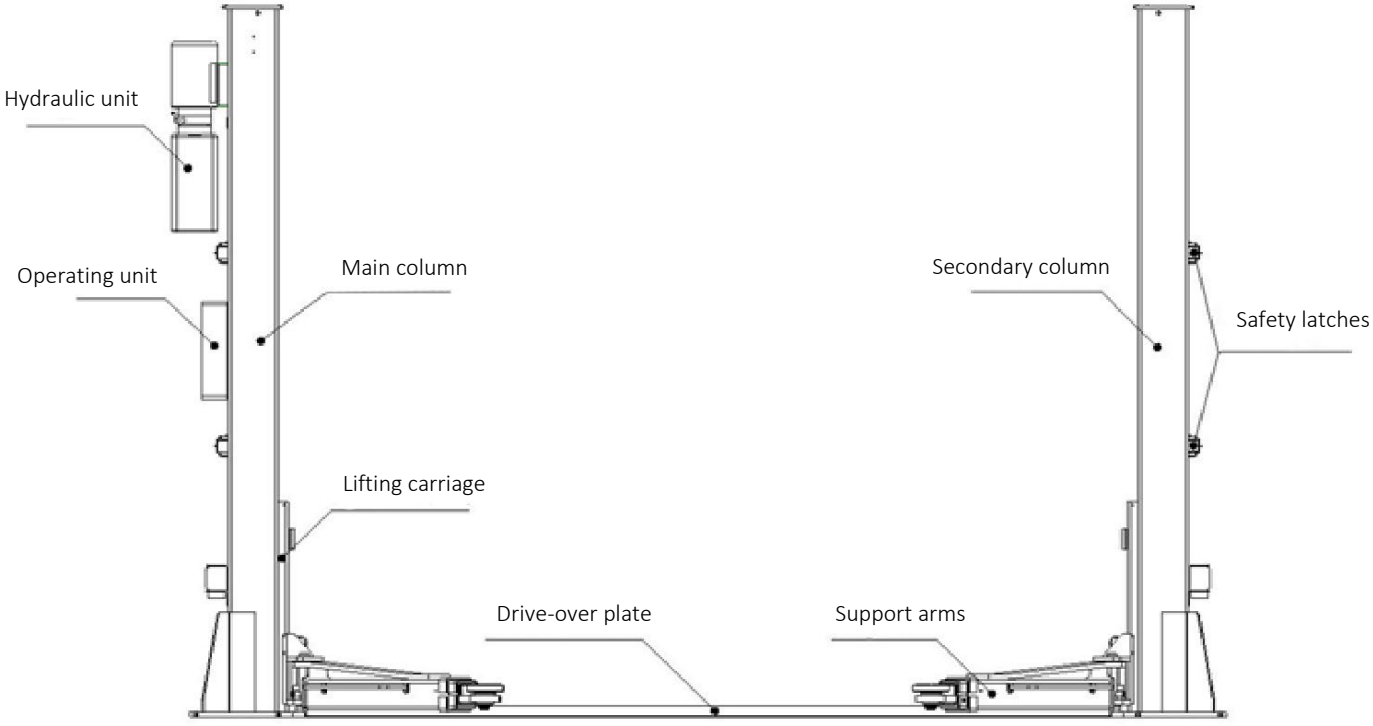
| Lifting Capacity | Load distribution | |
|---|---|---|
| | B | A |
| 3.6 T | 1.5 T | 2.1 T |
| 4.2 T | 1.9 T | 2.3 T |
| 5.0 T | 2.5 T | 2.5 T |
| 6.0 T | 3.0 T | 3.0 T |

## 6. Conformity with the product

The TW 242E / TW 242E-G 2-post lift is CE-certified and complies with the Machinery Directive 2006/42/EC, the standard for low voltage 2014/35/EU and fulfils the standards Lifting platforms EN 1493:2022, Safety of machinery EN 60204-1:2018 (see under: EU Declaration of Conformity, at the end of the instructions for use).

## 7. Technical specification

### 7.1 Machine description



# 8. Assembly of the lifting platform

## 8.1 Before installation

### 8.1.1 Tools and equipment required

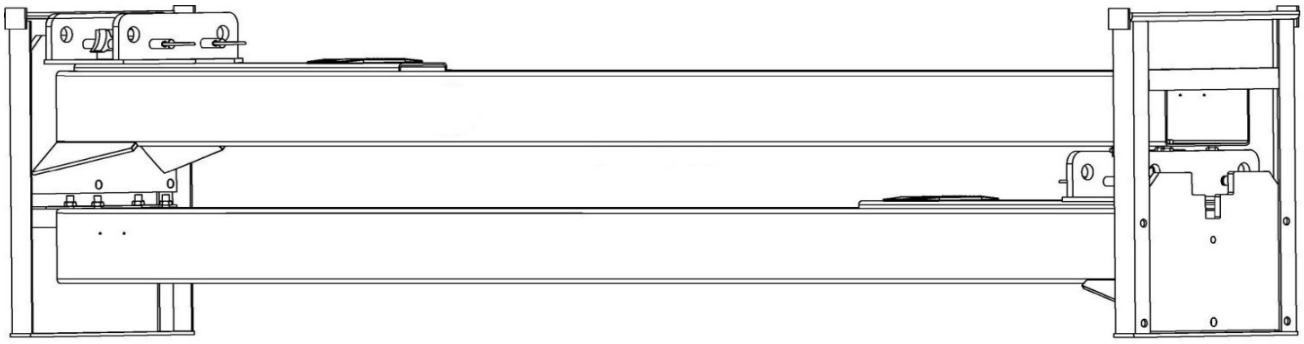
- Suitable lifting tool for bulky and heavy components
- Hammer, pliers
- Phillips and slotted screwdriver
- Set of Allen keys
- Spanner attachments and open-end spanners
- Impact drill
- Hydraulic oil HLP 32

## 8.2 Soil 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 200 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 before a lifting platform can be installed.

## 8.3 Assembly instructions



1) Remove the packaging and take out the box containing the accessories and cover plates. Read and understand the operating instructions before proceeding.

2) Firstly, you need to place a support between the two columns or lift one of the two columns using a crane. Then remove the nuts and bolts from the frame.

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

3) After you have removed the first column, place a support under the other column. Then remove the nuts and bolts from the transport rack.

4) Set up both columns. Align the main and secondary pillars with each other (outer edge of base plate to outer edge of base plate approx. 3436 mm)

   a) After unpacking, you must decide in which position (left or right in the direction of entry) you want to attach the main column with the power supply and the control unit.

   b) Set up a pillar, place the drive-over plate on this pillar and determine the exact distance by erecting the second pillar and placing it against the second side of the drive-over plate.

5) First attach the main pillar, then the secondary pillar.

   a) Drill the holes in the foundation for each ground anchor using a hammer drill. Drill perpendicular to the floor level.

   b) Remove dirt and dust carefully after drilling (vacuum and blow out if necessary).

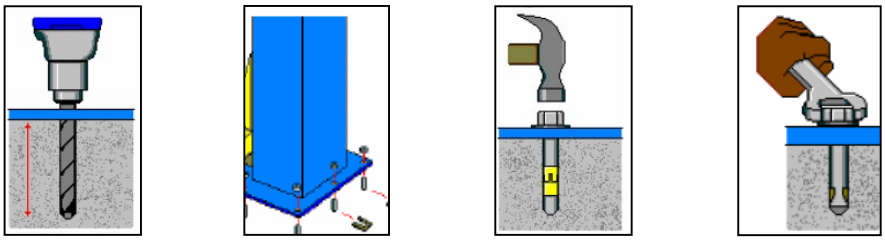
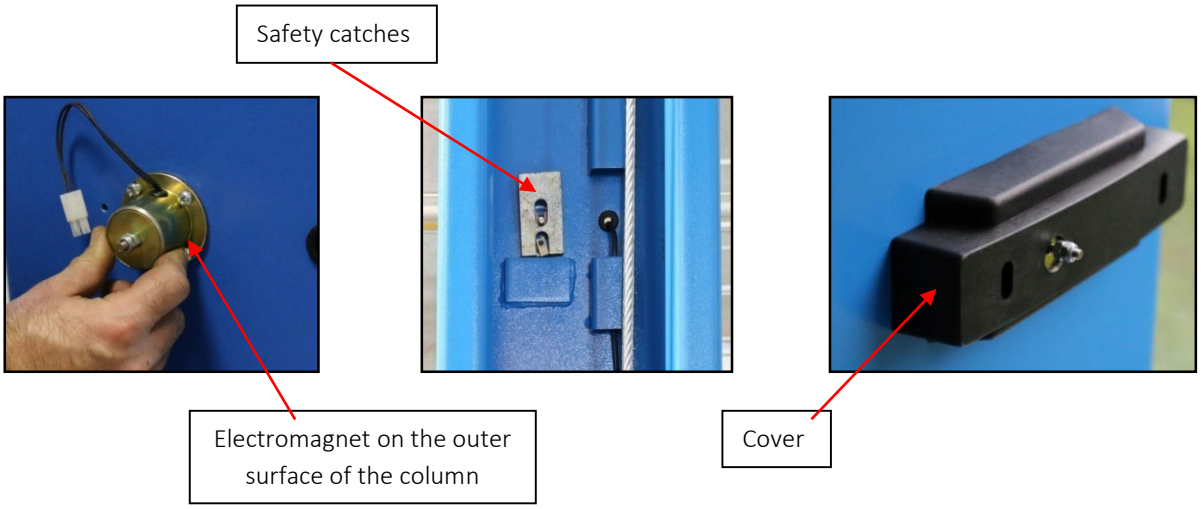


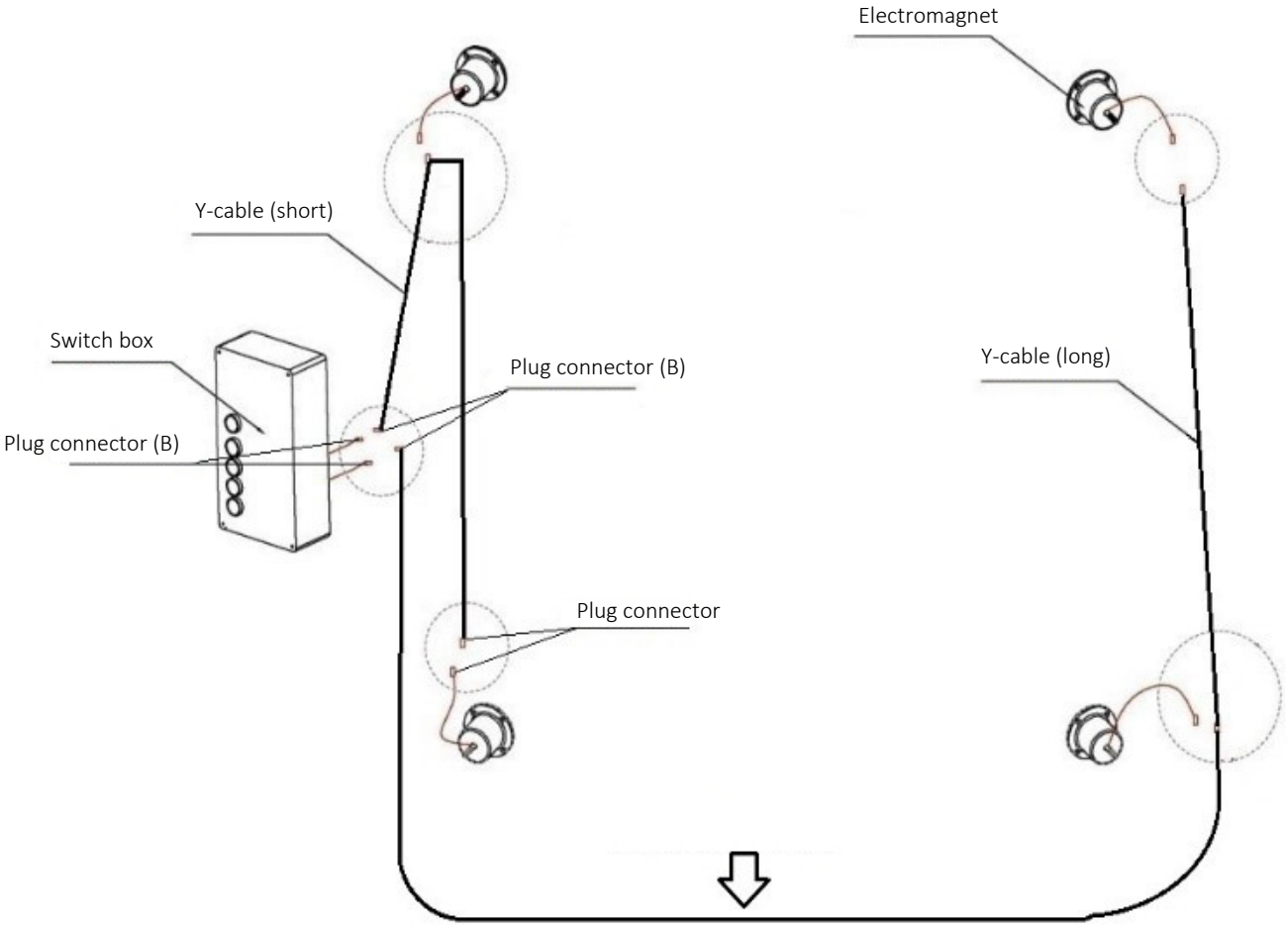
**Figure:** Work steps for fixing the pillars

6) Fit the safety catches, the four electromagnets and the corresponding covers.




Fit the control unit or control box to the main pillar.

Connect the electromagnet cables to the cable plugs (B) in the switch box.




(laid under the drive-over plate
Next to the hydraulic line)

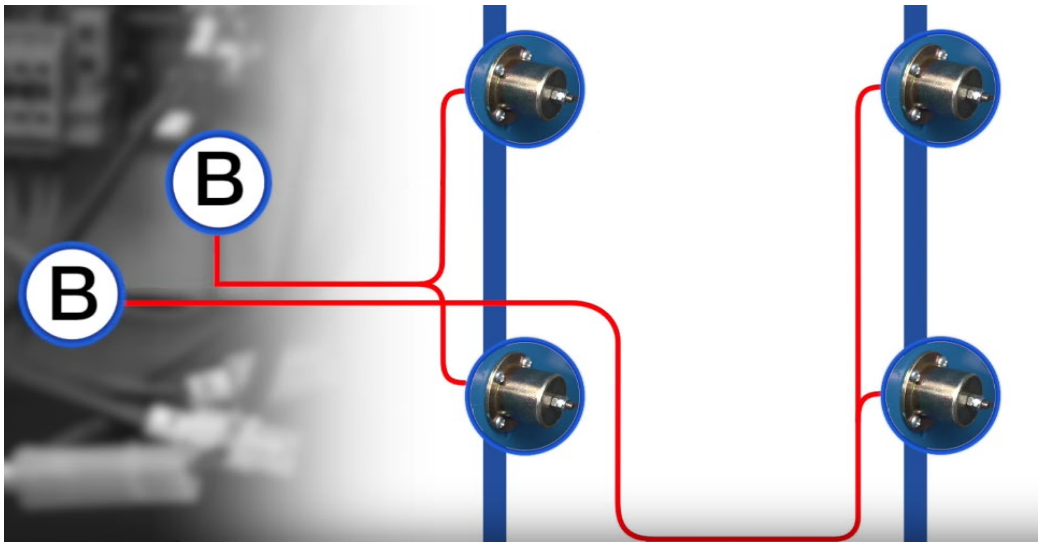



**Figure:** Electromagnet release connections

7) Mounting the motor unit.

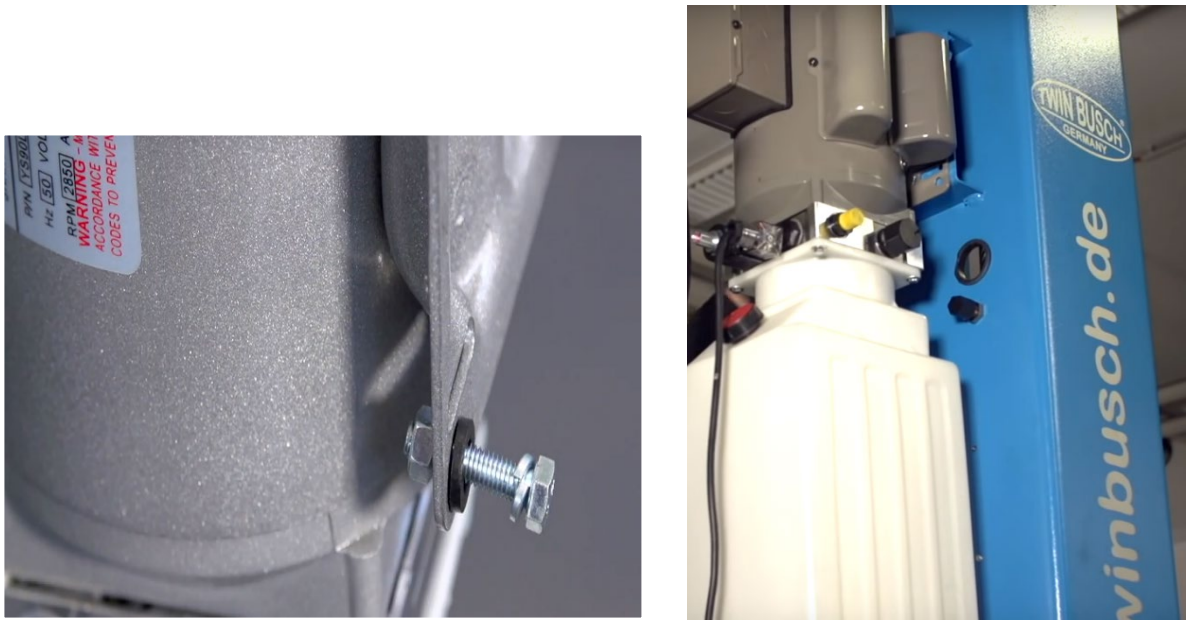



**Figure:** Mounting the motor unit

a) Make sure that all hose ends are clean and free of dirt.

b) Connect the hydraulic lines as shown in the following illustration or in the hydraulic circuit diagram.

c) Fit the two steel cables to secure the pressurised hydraulic hose so that it is not thrown around uncontrollably.

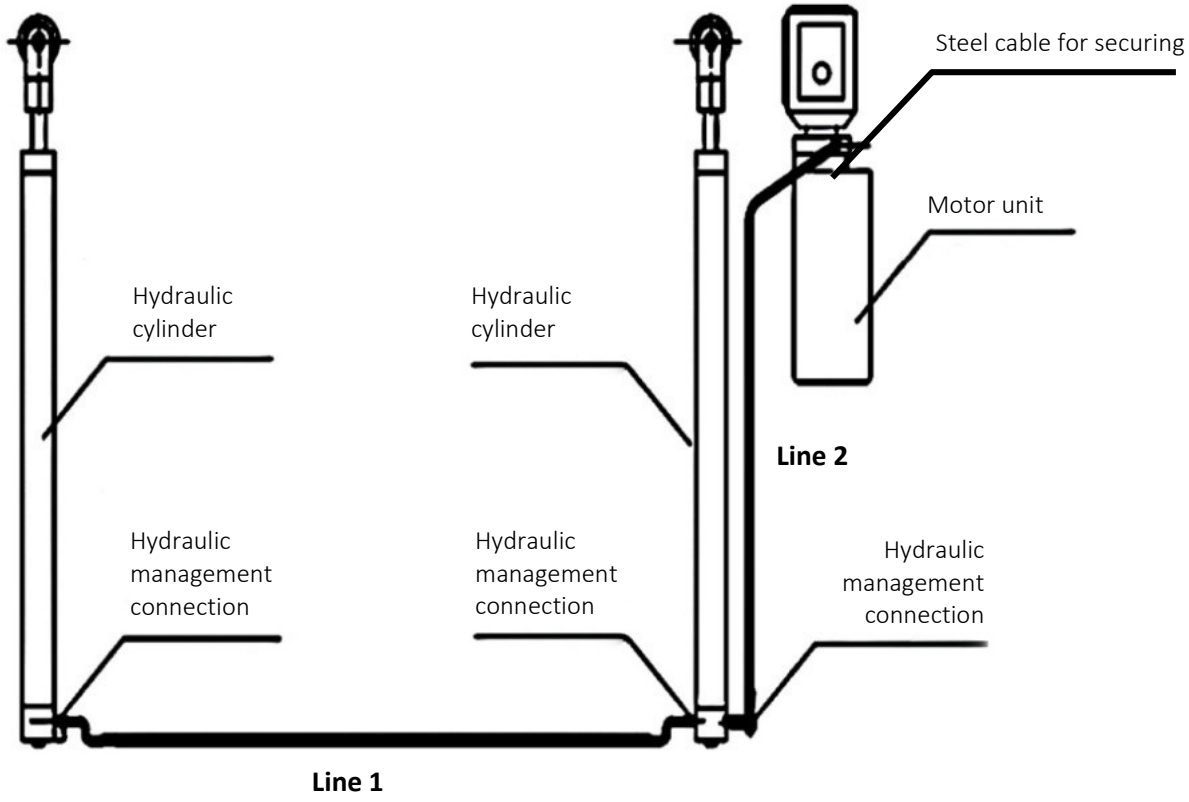
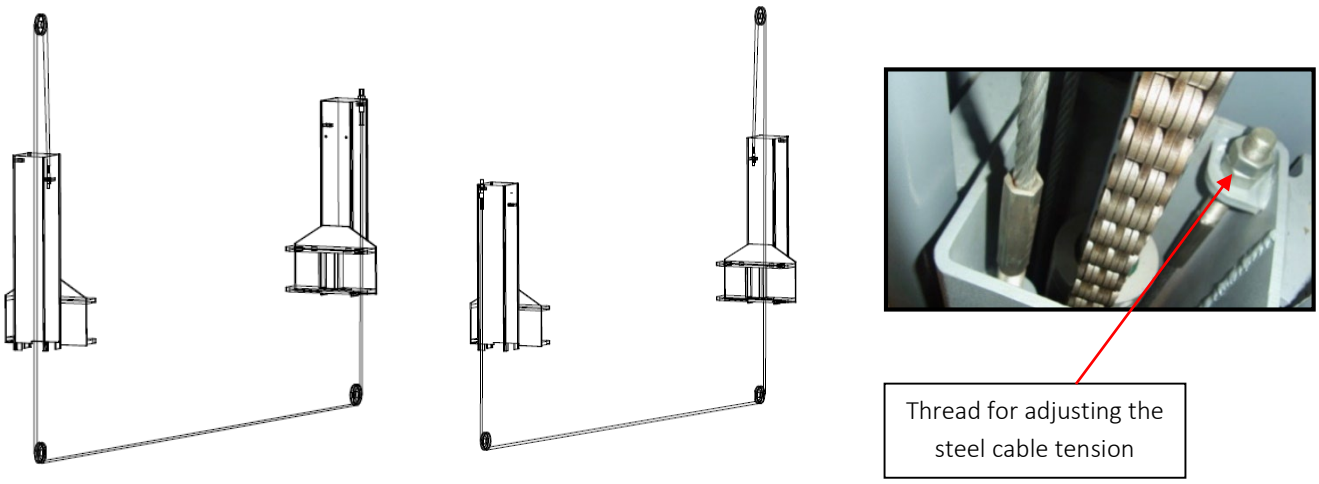




**Figure:** Installing the hydraulic line

8) After installing the safety catches, connect the carriages to the steel cable.

a) Align the carriages on both sides of the column approx. 800 mm above floor level
b) Ensure that the safety catches on both sides of the column are engaged before you start installing the steel cables
c) The carriages must be at the same height from the ground before you continue
d) Pull in the steel cables as shown in the following illustration
e) The steel cables must be set "tight" on both sides of the pillar. When doing this, make sure that you can hear the safety latches engage synchronously on both sides during the subsequent test run. If this is not the case, the steel cables or a steel cable must be re-tensioned.
f) The ropes must always be secured against unintentional loosening (locking) and lubricated with WD40 to ensure a long service life




**Caution: After adjusting the steel cable tension, the adjusting nuts on both sides of the column must be locked with another nut!**

9) Connect the power supply from the motor in the column to the control unit as shown in the following illustration.

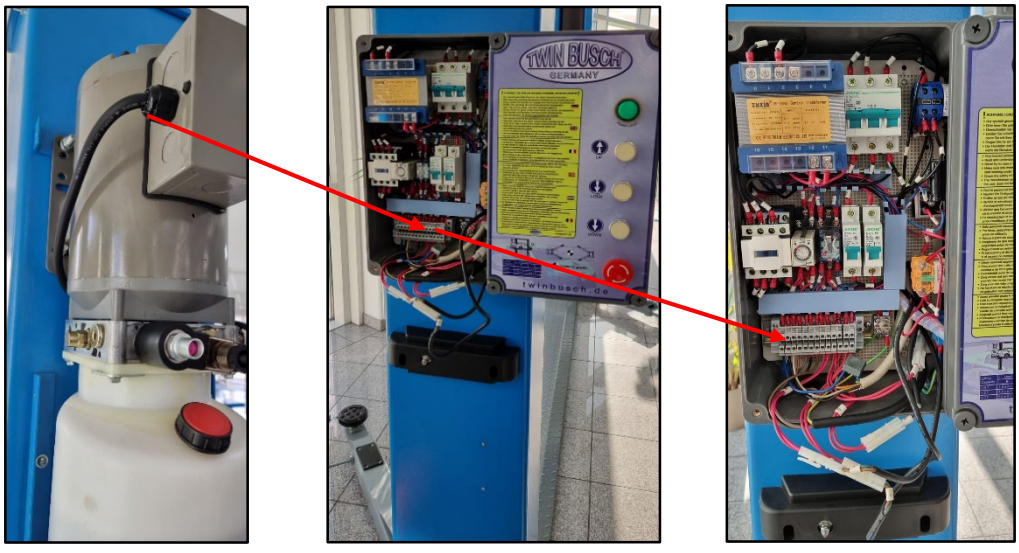


**Figure:** Connecting the power supply to the control unit

10) Fit the limit switch at the top of the main column as shown in the following illustration.

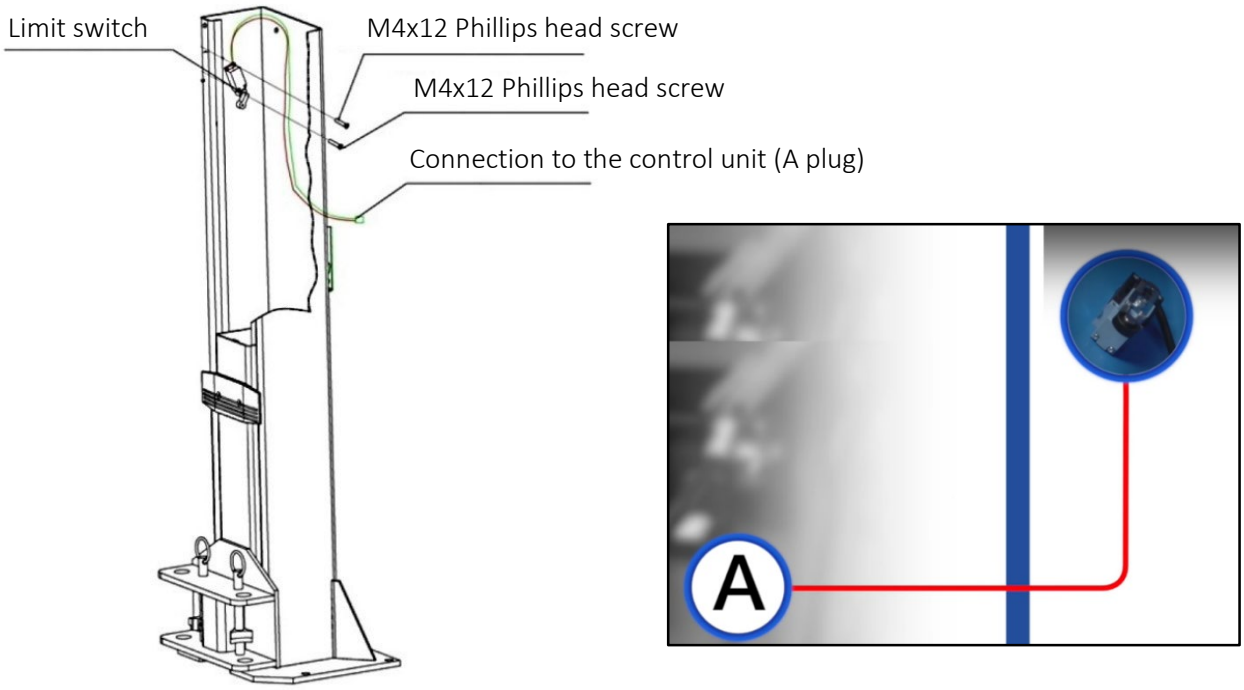
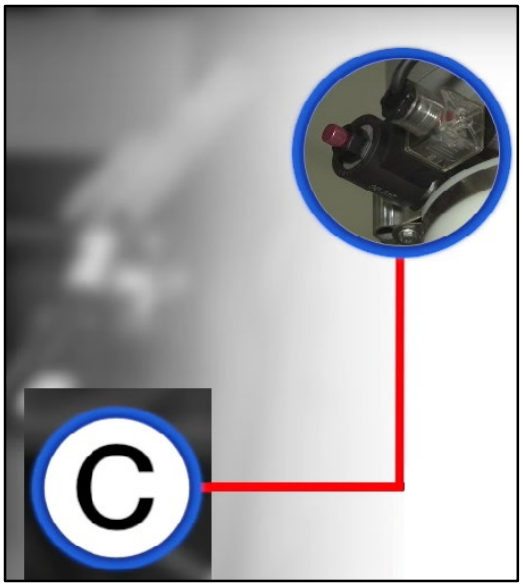


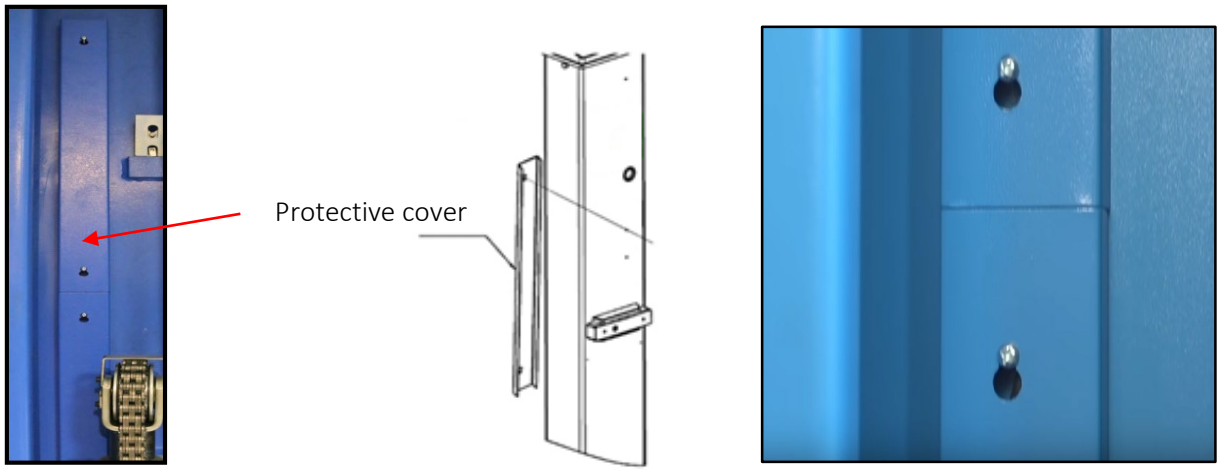

**Figure:** Mounting the limit switch

11) Fit the drain coil and connect the plug connection C (plug) in the switch box.




Connection to the control unit (A plug)

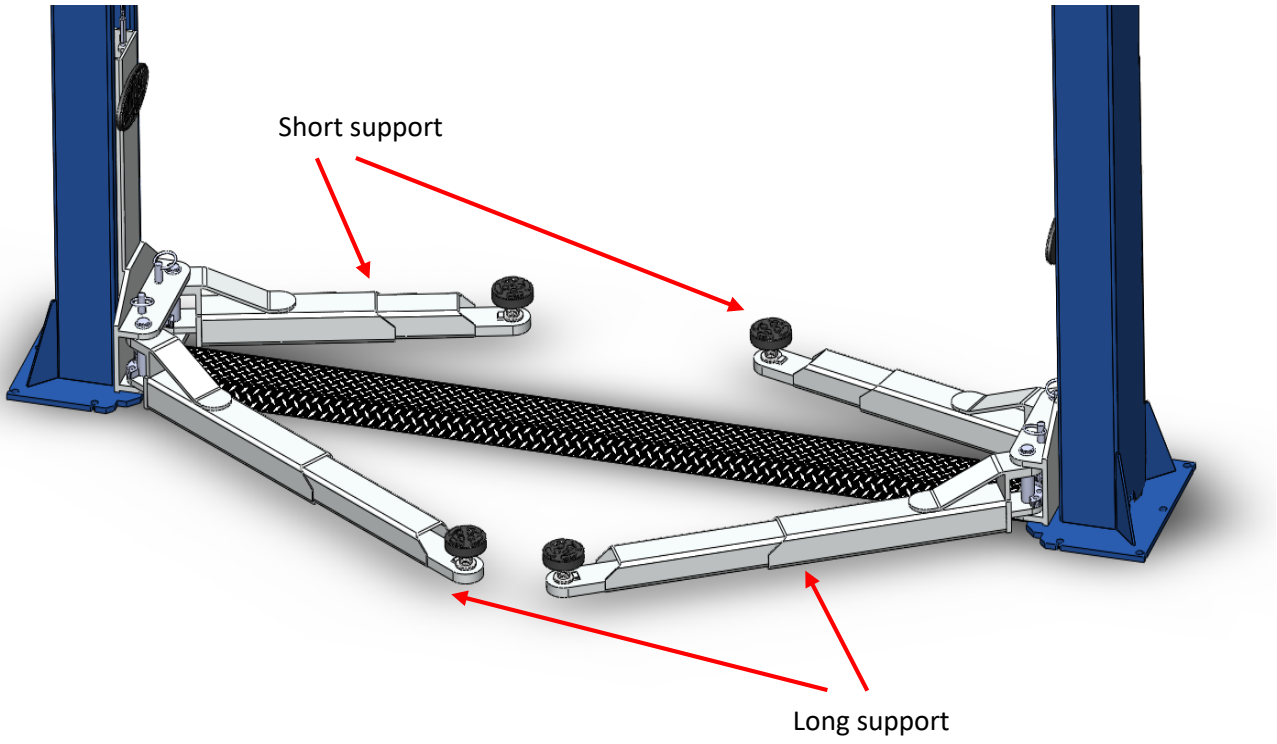
12) Fit the protective covers for the hydraulic lines from bottom to top, making sure that the narrow opening faces upwards.

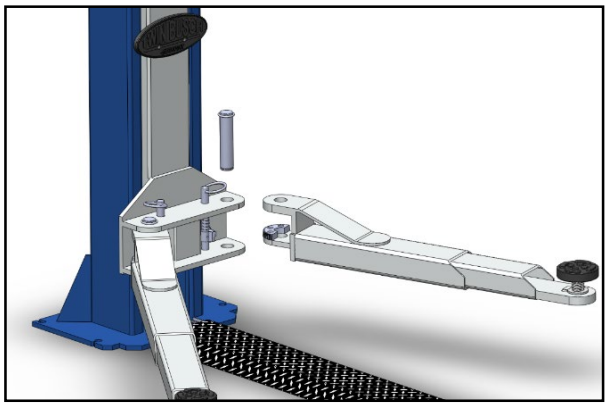


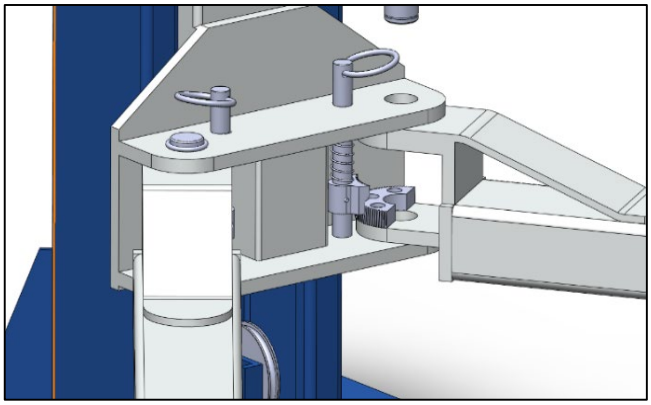

13) Fitting the support arms

a) Insert the support arms into the lifting carriages, paying attention to the interlocking of the anti-rotation blocks. Loosen the bolts attaching the half-moons to adjust them to mesh properly and then re-tighten.

b) Insert the support arm bolts into the holes provided, as shown in the following illustration shown.







14) Filling the hydraulic system.

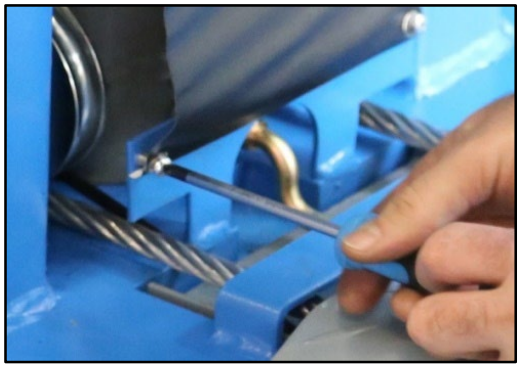
The hydraulic oil tank has a capacity of approx. 10 litres. To ensure that the lift functions correctly, you should fill the oil tank to 80 % with **hydraulic oil type: HLP 32.**

15) Test run.

a) Follow the procedure in the **9. operating instructions** and make absolutely sure that NO vehicle is on the lift during a test run.

b) **Before the test run, check all hydraulic lines and connections for correct functioning (strength)**

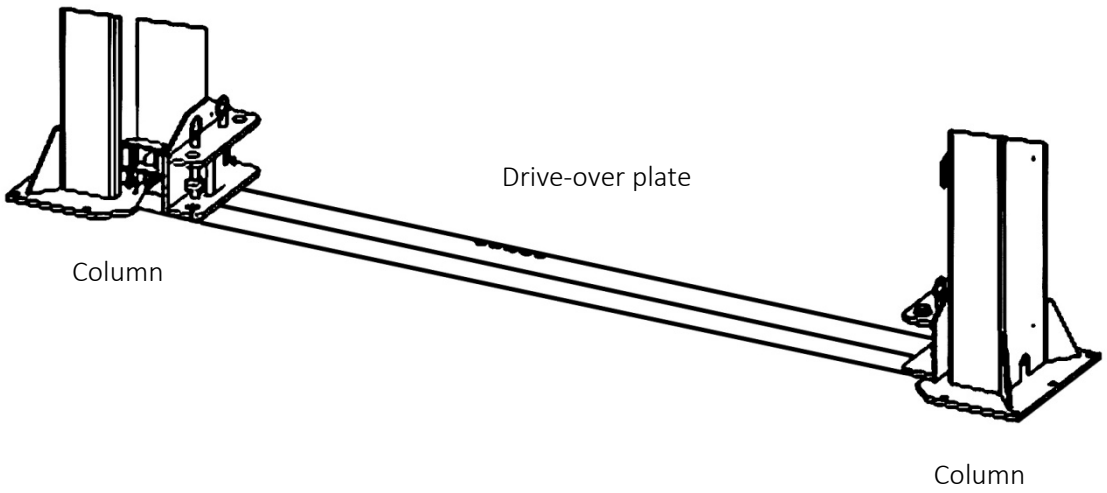
16) Fitting the chain and door stop protection.



Chain guard (optional)

Door stop protection

17) Fitting the drive-over plate.




18) Checkpoints after assembly.

| S/N | Check | Yes | No |
|---|---|---|---|
| 1 | Are the columns vertical to the floor? (90°) | | |
| 2 | Are the two columns parallel to each other? | | |
| 3 | Is the oil hose connected correctly? | | |
| 4 | Is the steel cable correctly and firmly connected? | | |
| 5 | Are all support arms correctly and firmly mounted? | | |
| 6 | Are the electrical connections correct? | | |
| 7 | Are the joints all screwed tight? | | |
| 8 | Have all parts that need to be greased been greased? | | |

# 9. Operating instructions

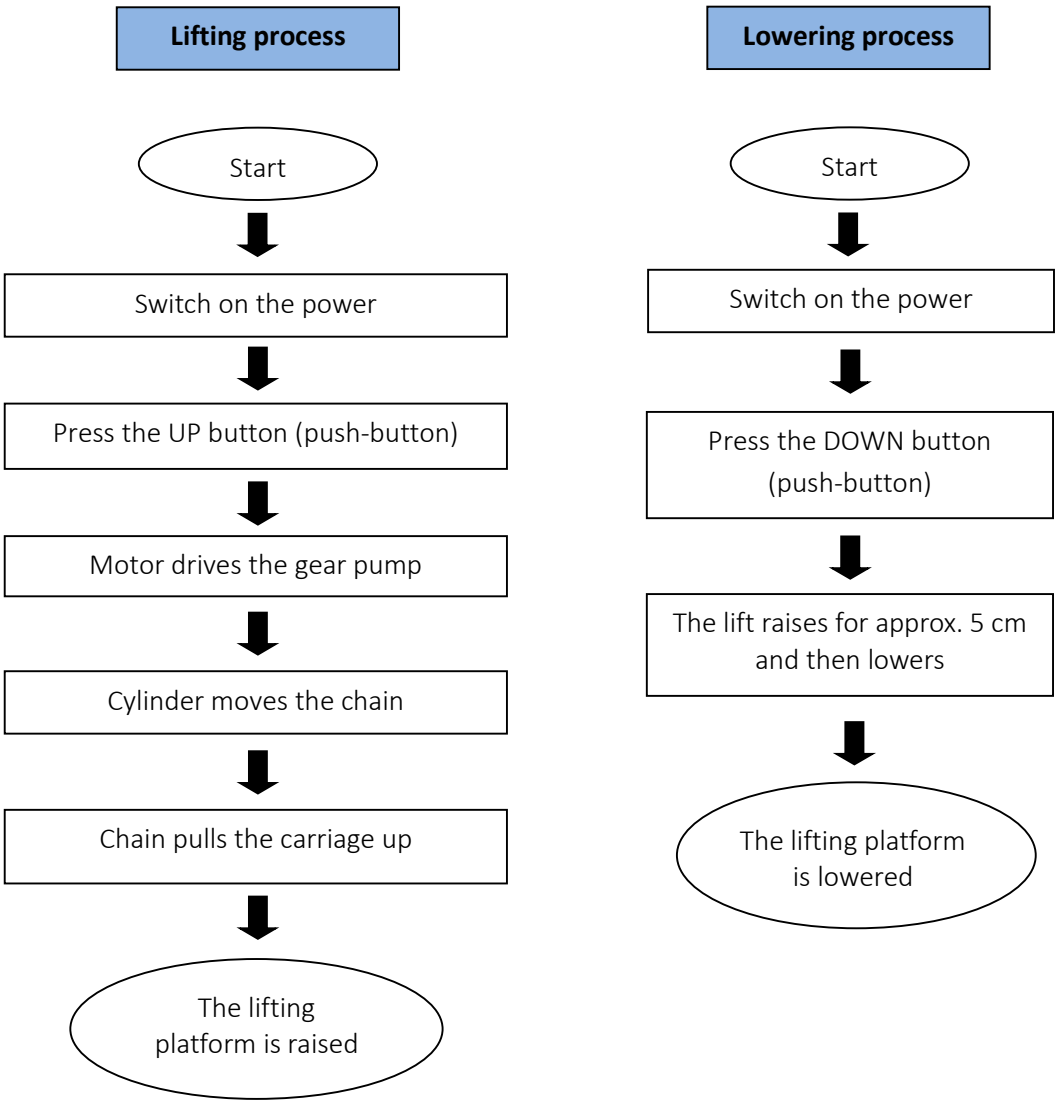
## 9.1 Safety precautions

- If the safety devices are defective or show abnormalities, the lift must not be put into operation under any circumstances!
- Check that all connections of the hydraulic lines are tight and functional. If there are no leaks, the lifting process 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.

## 9.2 Description of the control unit (control box)


| Description | Function |
|---|---|
| Main switch | Switch on or off |
| Operating light | Indicates whether there is a power supply |
| UP button (push-button) | Raising the lifting platform |
| Safety catches | Lowering into the safety catches |
| DOWN button (push-button) | Lowering the lifting platform |
| Emergency stop switch | Switches the system off in an emergency |

### 9.3 Flow chart of the control unit (control box)



## 9.4 Lifting and lowering process

***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 under the recommended lifting points of the car. Make sure that the vehicle is positioned correctly.
5. Switch on the lift and press the UP button on the control unit until the support arms touch the vehicle at the pick-up points specified by the vehicle manufacturer and the vehicle has been lifted approx. 10-15 cm. Stop the lifting process and make sure that the vehicle has been picked up correctly and safely.
6. After final alignment and checking, press the UP button again and hold it down until the desired lifting height is reached.
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.

***Lowering process:***

1. Connect the power supply and switch the main switch to ON.
2. Press the DOWN button on the control unit. The lifting carriages of the lifting platform will now raise by about 5 cm to release the locking mechanism of the safety catches. The electromagnetic release valve then opens and the lifting carriages lower.
3. As soon as the lifting carriages have reached the lowest position, the support arms can be swivelled out from under the vehicle.
4. The vehicle can now be removed.

## 9.5 Emergency drain in the event of a power failure

**1. When the lifting carriage is <u>NOT</u> sitting on the locks.**

a) Pull all electromagnets simultaneously and secure with cable ties to open the safety catches.

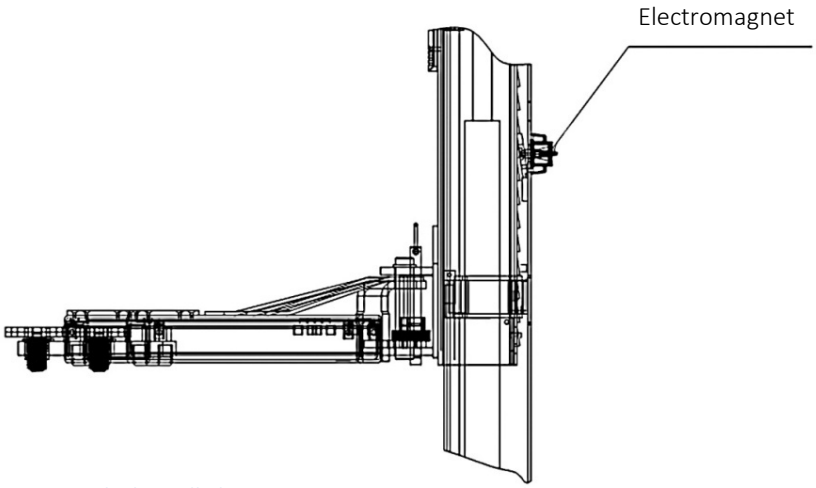



**Figure:** Unlocking all electromagnets

b) Actuate the manual drain (bayonet catch or twist lock)
(Push in the knurled screw and turn -> anti-clockwise: "Open", -> clockwise: "Close")

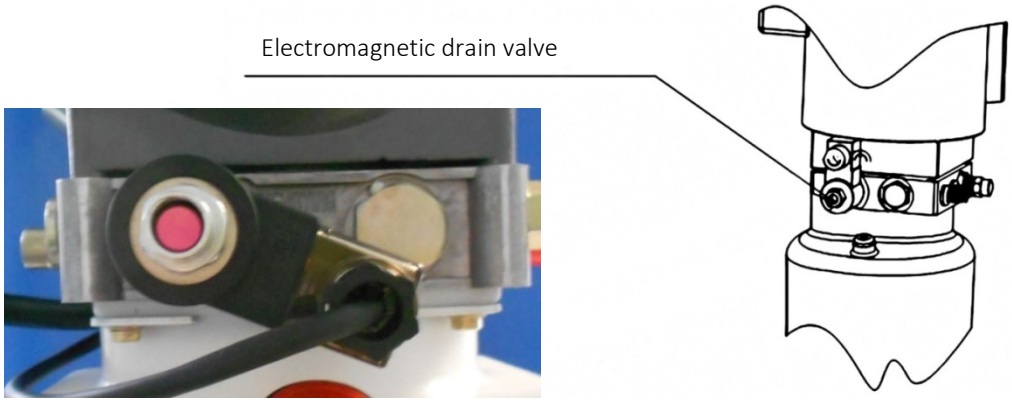



**Figure:** Drain valve

**2. With the lifting carriage sitting on the locks.**

a) Unscrew the sealing plug to be able to connect the manual hydraulic pump (not included in the scope of delivery).

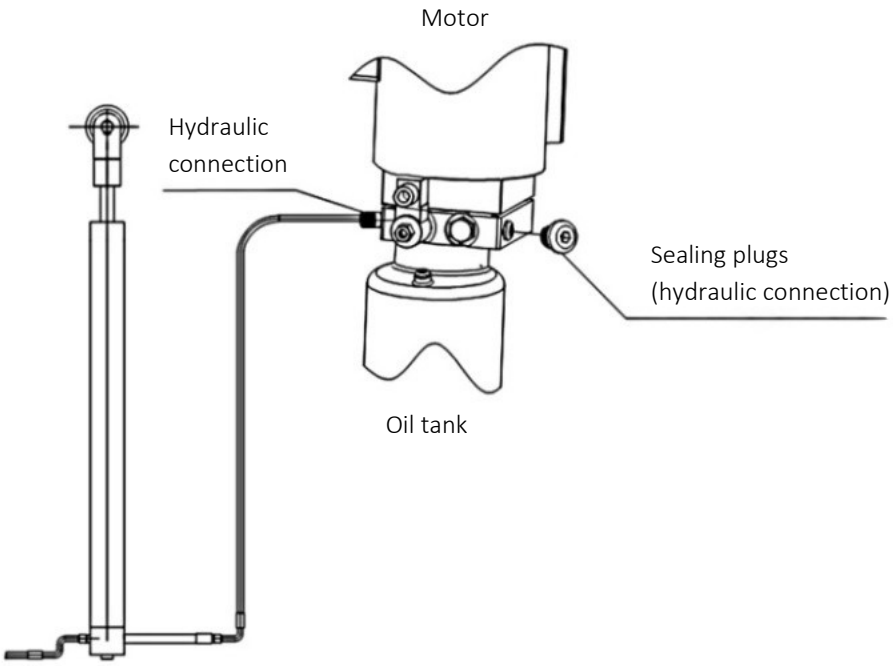
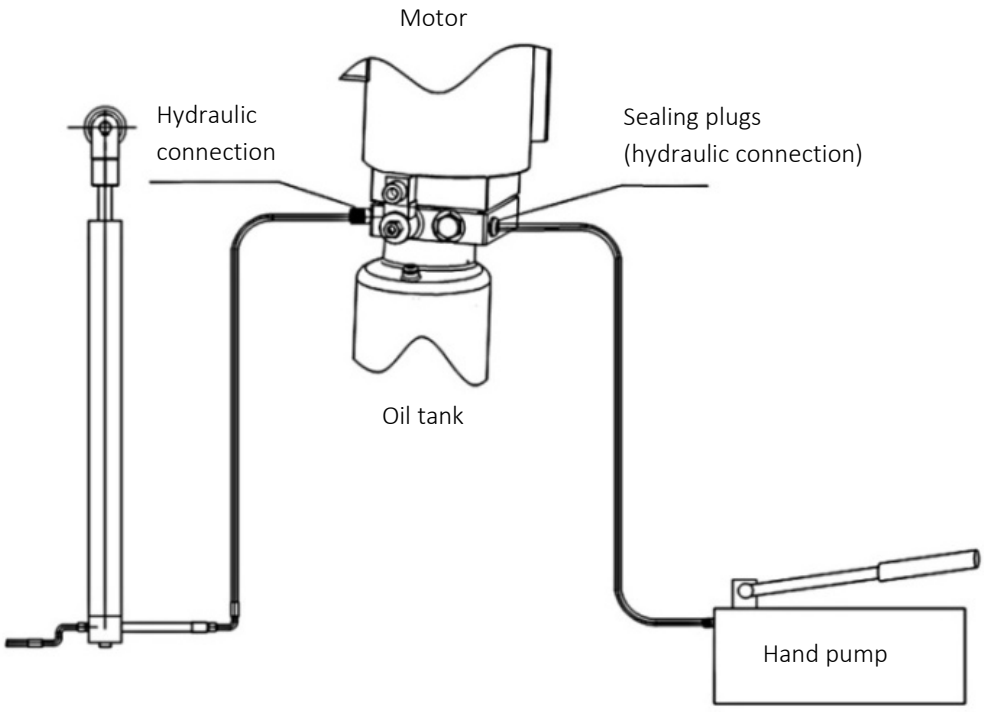



**Figure:** Sealing plug

b) Actuate the hand lever of the hydraulic pump to supply the cylinder with oil and release the lock.



## 10. Troubleshooting and rectification

**Please note:** Do not hesitate to contact the expert staff at Twin Busch GmbH if you are unable to rectify a fault yourself. We will be happy to help you solve the problem. In this case, please document the fault and send us pictures and a precise description of the fault so that we can identify and rectify the cause as quickly as possible.

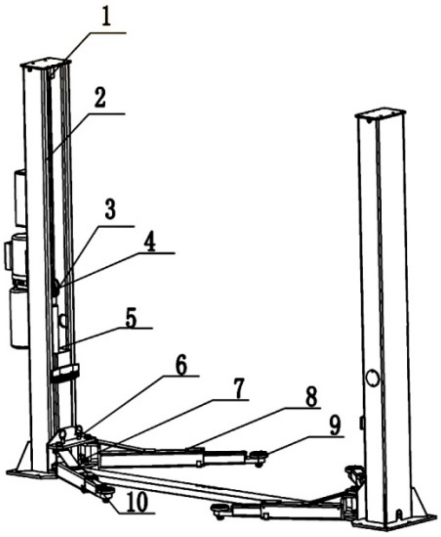
The following table lists possible errors, their cause and the associated troubleshooting for quicker identification and self-remedy.

| Problems | Cause | Solution |
|---|---|---|
| Unusual noise. | Wear on the inside of the pillars. | Grease the inside of the pillars. |
| | Contamination in the columns. | Remove the dirt. |
| The motor cannot be started, nor does the lift move 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 is running backwards/in the wrong direction of rotation. | Check the cable connection – swap two of the phases. |
| | 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. | Fasten or replace it. |
| | The damping valve is loose or jammed/blocked. | Clean or fasten it. |
| The beams lower slowly after they have been raised. | The oil hose is leaking. | Check or replace it. |
| | The oil cylinder/piston is leaking. | Replace the seal. |
| | 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 pressure relief valve is installed incorrectly. | Mount it correctly. |
| | The hydraulic oil is too hot. (over 45°C) | Change the oil. |
| | The cylinder seal is worn. | Replace the seal. |
| Lowering too slowly. | The throttle valve is jammed/dirty. | Clean or replace it. |
| | The hydraulic oil is contaminated. | Change the oil. |
| | The drain valve is blocked. | Clean it. |
| | The oil hose is damaged/kinked. | Replace it. |
| The steel cable is worn. | Not lubricated during installation or it is worn. | Replace it. |

## 11. Maintenance

Regular maintenance of your lift will ensure a long and safe service life. Suggestions for maintenance intervals and the activities to be carried out are listed below. How often you service your lift depends on the ambient conditions, the degree of soiling and, of course, the stress and load on the lift.

The following points must be lubricated:




| S/N | Description |
|---|---|
| 1 | Upper pulley |
| 2 | Steel cable |
| 3 | Sprocket wheel |
| 4 | Chain |
| 5 | Carriage |
| 6 | Pin |
| 7 | Safety block |
| 8 | Support arm |
| 9 | Threads |
| 10 | Lower pulley |

### 11.1 Daily inspection of parts before operation

A daily check of the safety-relevant components must be carried out before each start-up! This can save you a lot of time due to failure, major damage or even injury.

- Check that all connections and screw connections are tight.
- Check the hydraulic system for leaks and functionality.
- Check that the support arm locks are working correctly.
- Perform a test run (without the vehicle) to check whether the safety catches are functioning correctly.
- Clean heavily soiled lifting platform elements.
- Lubricate all lifting platform elements that are not well lubricated.

### 11.2 Weekly inspection of the parts

- Check the mobility of all adjustable and flexible lifting platform elements.
- Check the condition and correct functioning of all safety-relevant lifting platform elements.
- Check the fill level of the hydraulic oil. (lowered lifting carriage - high fill level, max. raised lifting carriage - low fill level).

### 11.3 Monthly inspection of the parts

- Check that all screw connections and joints are tight.
- Check the lifting carriage, the support arm bolts, the support arms and all other moving lift elements for wear and lubricate them.
- Check the condition of the steel cable for signs of wear and oil the steel cable with penetrating lubricating oil.

### 11.4 Annual inspection of the parts

- Empty and clean the hydraulic oil tank and replace the hydraulic oil
- Replace the oil filter

If you follow the above maintenance intervals and maintenance activities, your lift will remain in good condition and damage and accidents will continue to be avoided.

## 12. Behaviour in the event of a malfunction

If the lift malfunctions, simple faults may be the cause. Use the following list for troubleshooting *).
If the cause of the fault 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 equipment or electrical system components.***

*) Points depending on the design and type of lift.

**Work on electrical systems only by qualified electricians!**

Problem: Lift can neither be raised nor lowered.

| Possible causes | Remedy |
|---|---|
| No power supply available. | Check power supply. |
| Power supply interrupted. | Check power supply line. |
| Main switch not switched on or defective. | Check main switch. |
| Emergency stop pressed or defective. | Unlock emergency stop, check. |
| Fuse in the power connection has tripped or is defective. | Check fuse. |
| Fuse in the switch box has tripped or is defective. | Check fuse. |

Problem: Lifting platform cannot be raised.

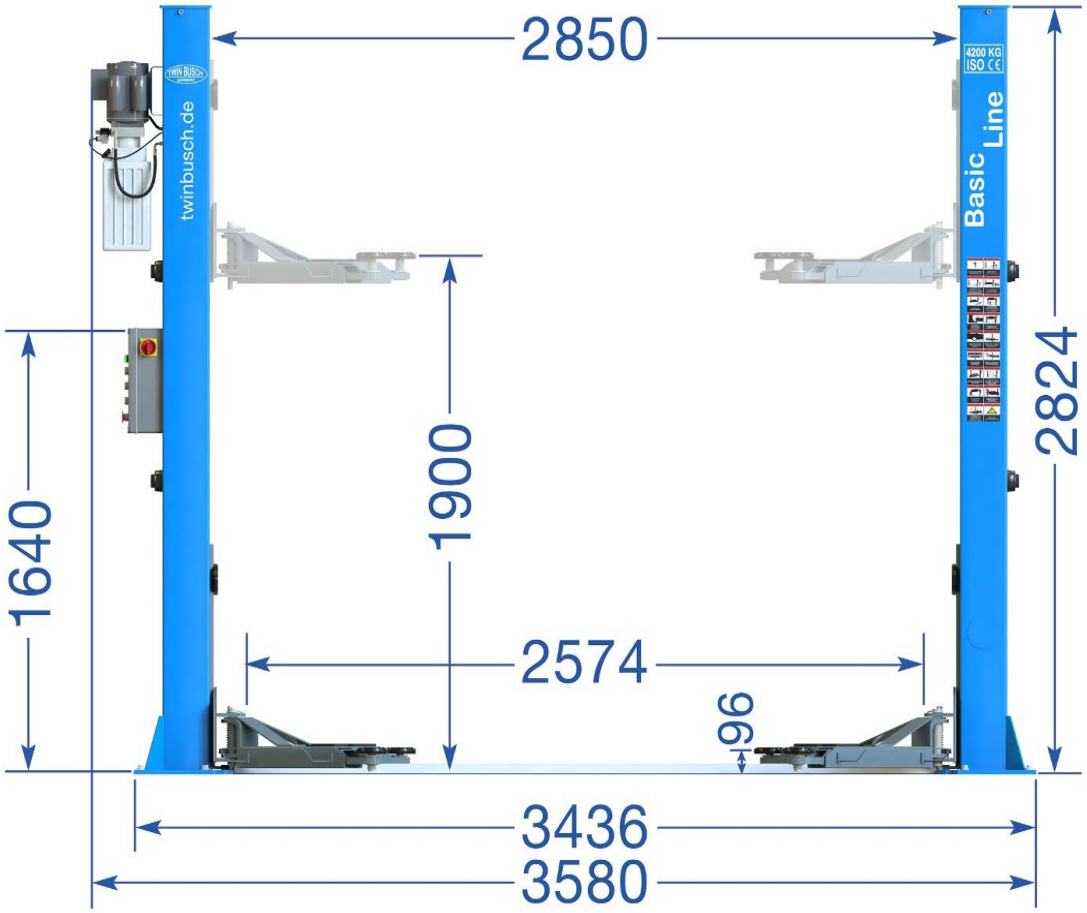
| Possible causes | Remedy |
|---|---|
| With three-phase current: one phase missing. | Check power supply. |
| With three-phase current: Direction of rotation of motor reversed. | Check direction of rotation, swap phase if necessary. |
| Oil pump defective. | Notify Twin Busch Service. |
| Emergency release open. | Close emergency release valve. |
| Motor is defective. | Notify Twin Busch Service. |
| Overload. | Overload valve has opened, reduce load. |

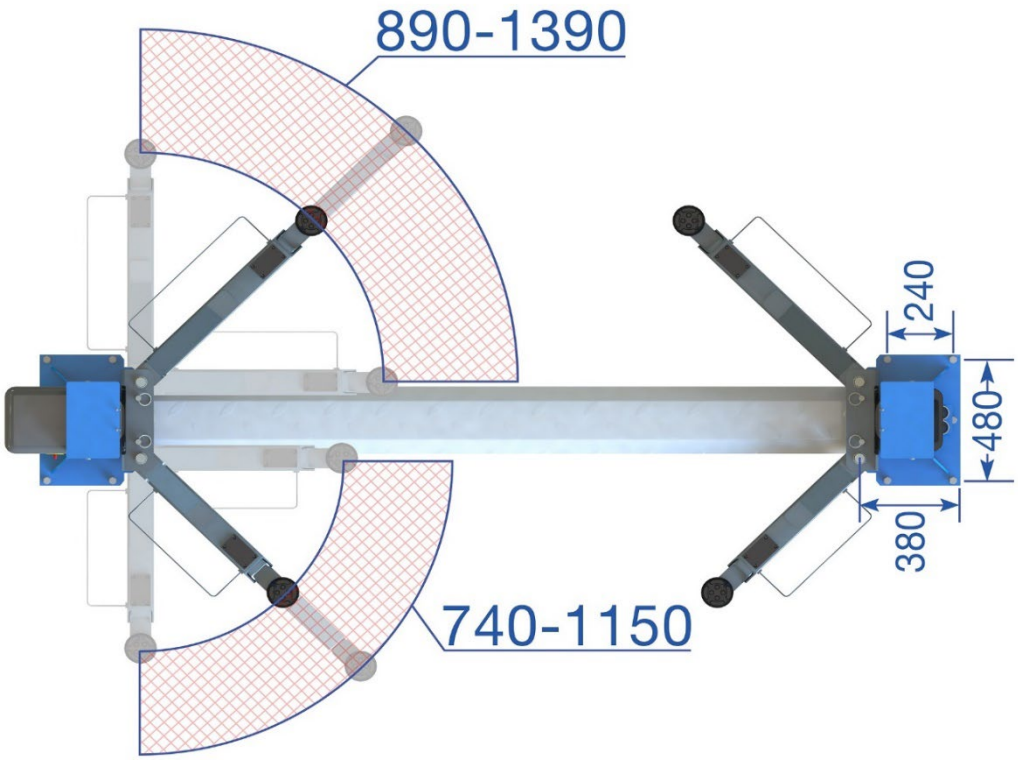
Problem: Lift cannot be lowered.

| Possible causes | Remedy |
|---|---|
| Lifting platform sits in safety catches. | Raise platform slightly, pull detents, lower. |
| Lift has run into limit switch. | If necessary, release limit switch, raise 1 cm and lower. |
| Motor is defective. | Open the safety latch and raise the lift lower emergency lowering. |
| Lift has been blocked during lowering. | Raise the lift again slightly and remove the obstacle. |

# 13. Appendix

## 13.1 Dimensions of the lift



## 13.2 Requirements of the foundation

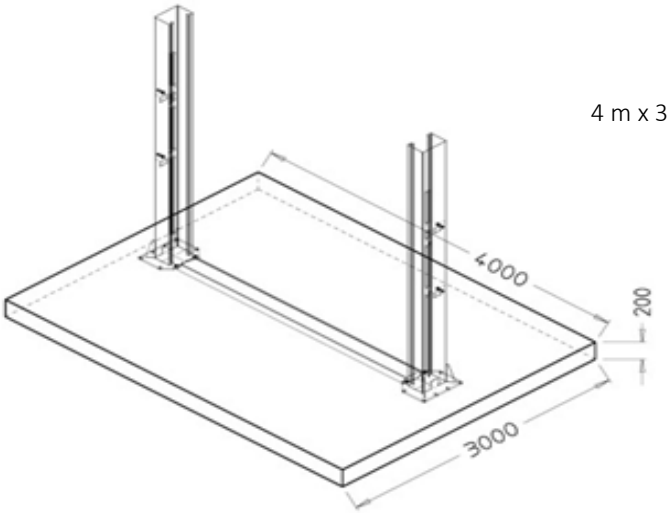
**Requirements for the concrete:**

- Concrete C20/25 according to DIN 1045-2 (previous designation: DIN 1045 concrete B25).
- 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:**

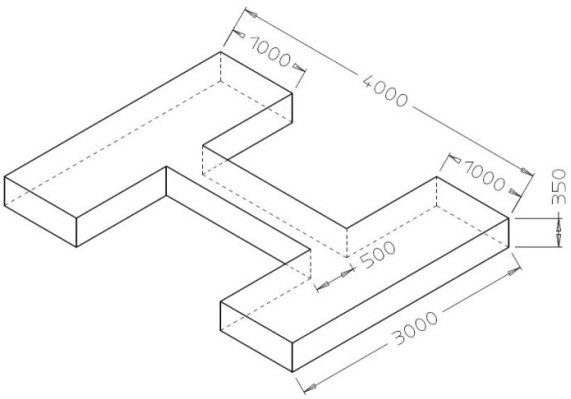
- Ideally, the entire hall floor should be made of C20/25 concrete with a thickness of at least 200 m.

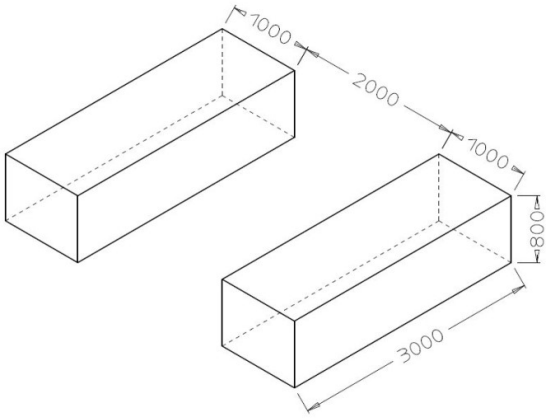
**Minimum dimensions of the foundation slab (lifting platform placed in the centre)**




4 m x 3 m x 0.20 m

**Alternatively, in H-shape or two blocks:**




**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 lift, but are recommended.
- If in doubt, the foundation should be determined and checked by a structural engineer

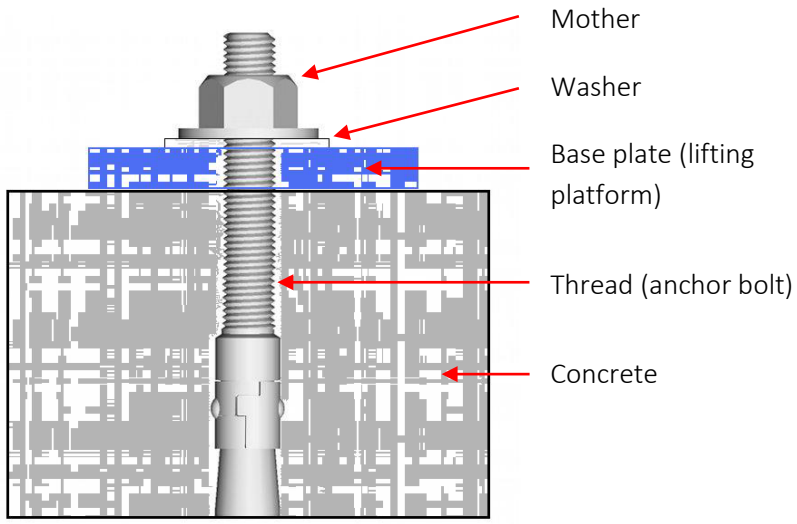
**The following must be observed for soil exposed to frost:**

In the case of frost exposure, the concrete must correspond to exposure class XF4, as dripping de-icing agent cannot be ruled out.
This results in the following minimum requirements for concrete under frost stress:

| | |
|---|---|
| Exposure class: | XF4 |
| Maximum w/c: | 0,45 |
| Minimum compressive strength: | C30/37 (instead of C20/25) |
| Minimum cement content: | 340 kg/m³ |
| Minimum air void content: | 4.0 % |

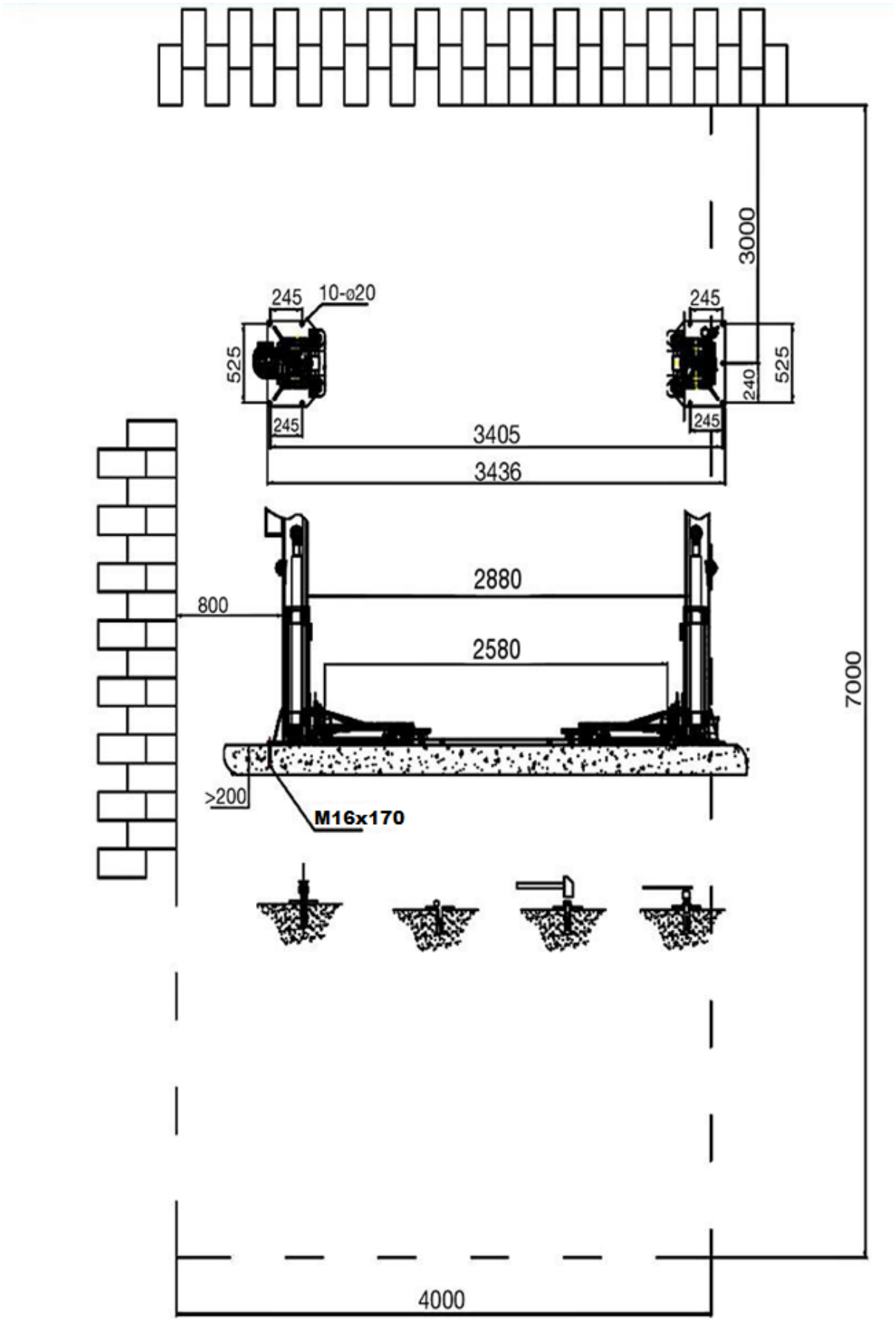
However, it must be noted that the lifts are not designed for outdoor use. Although the control box complies with IP54, the rest of the electrics, motors and limit switches have a maximum IP44 rating.

**Anchor bolt fastening:**

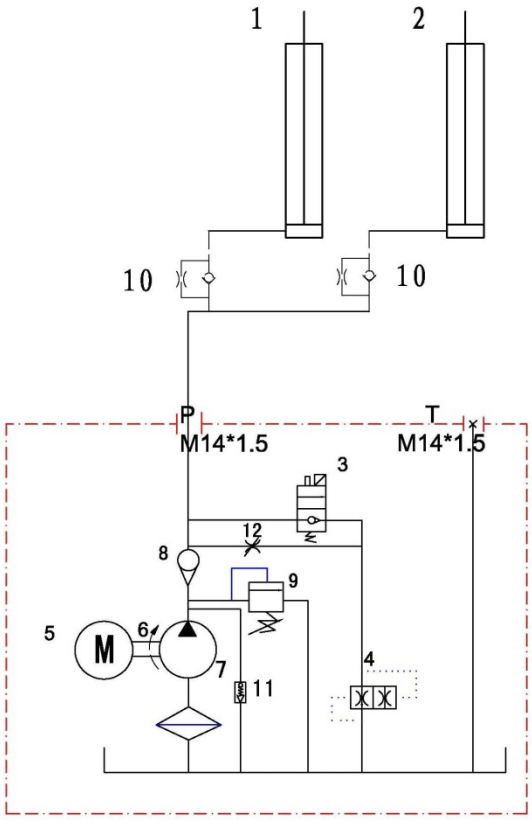



**Tightening torque of the anchor bolts is:**
**110 Nm**

### 13.3 Diagram for floor fastening / foundation plan

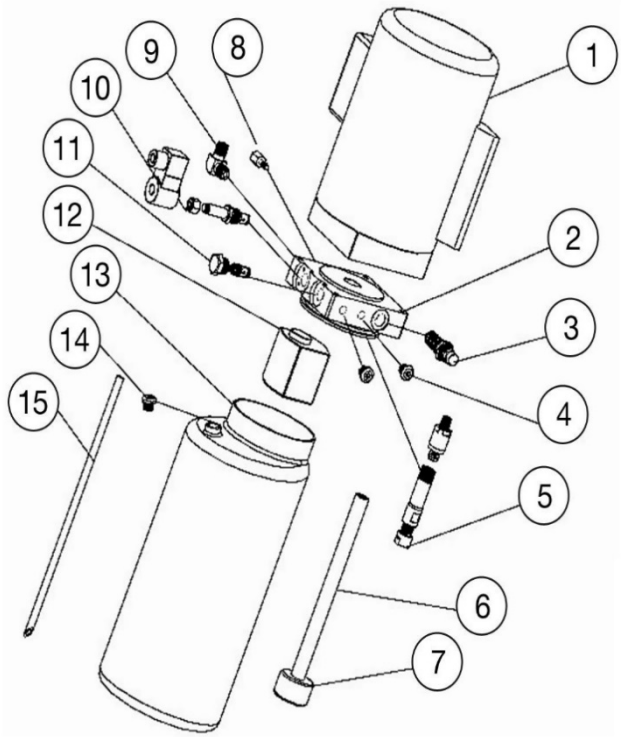


### 13.4 Hydraulic system



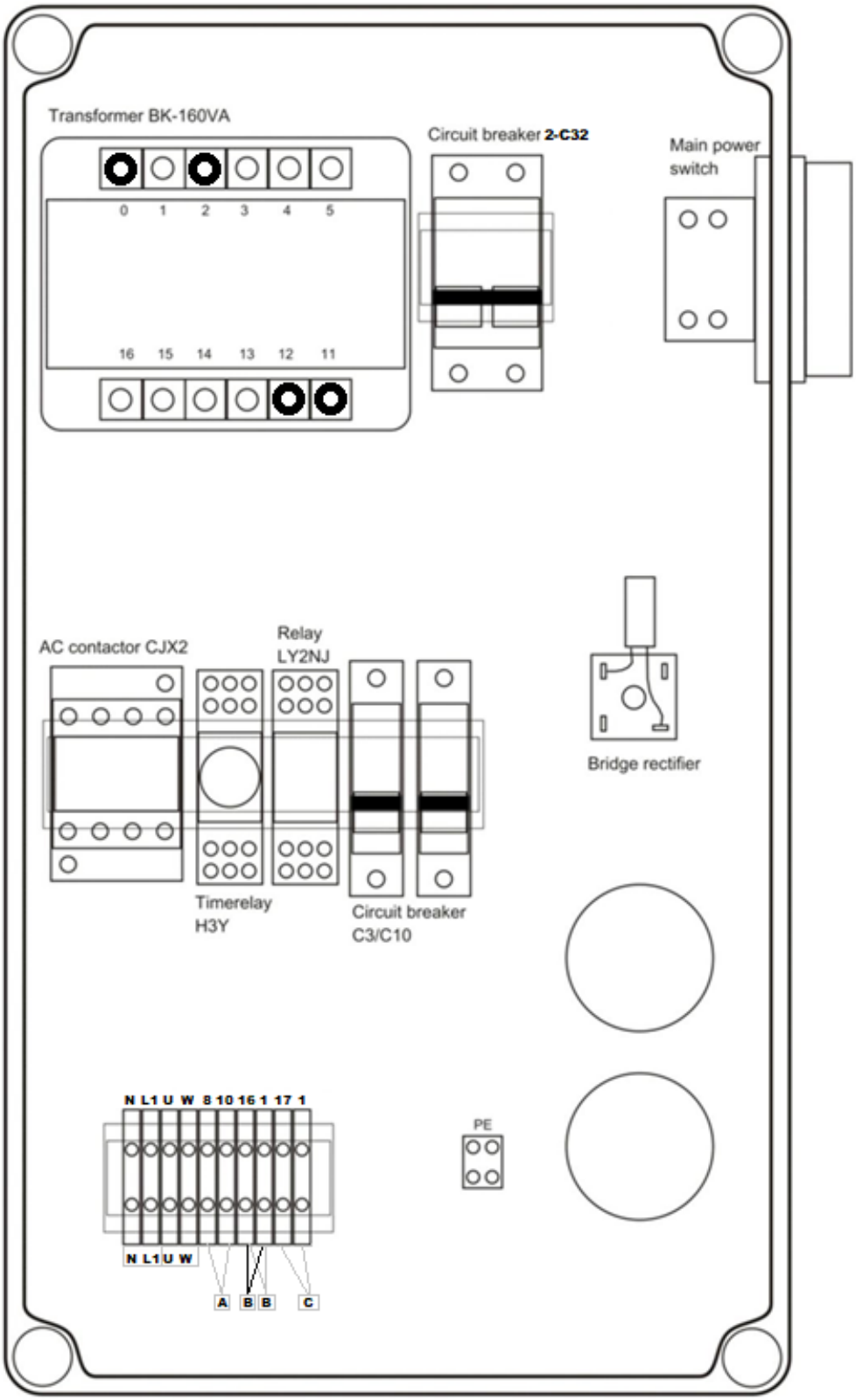

1. Master cylinder
2. Secondary cylinder
3. Electromagnetic drain valve
4. Throttle valve
5. Motor
6. Clutch
7. Gear pump
8. Non-return valve (one-way valve)
9. Pressure relief valve (max.: 19.4 Mpa)
10. Throttle check valve
11. Pressure control valve
12. Relief valve

10 litre oil tank

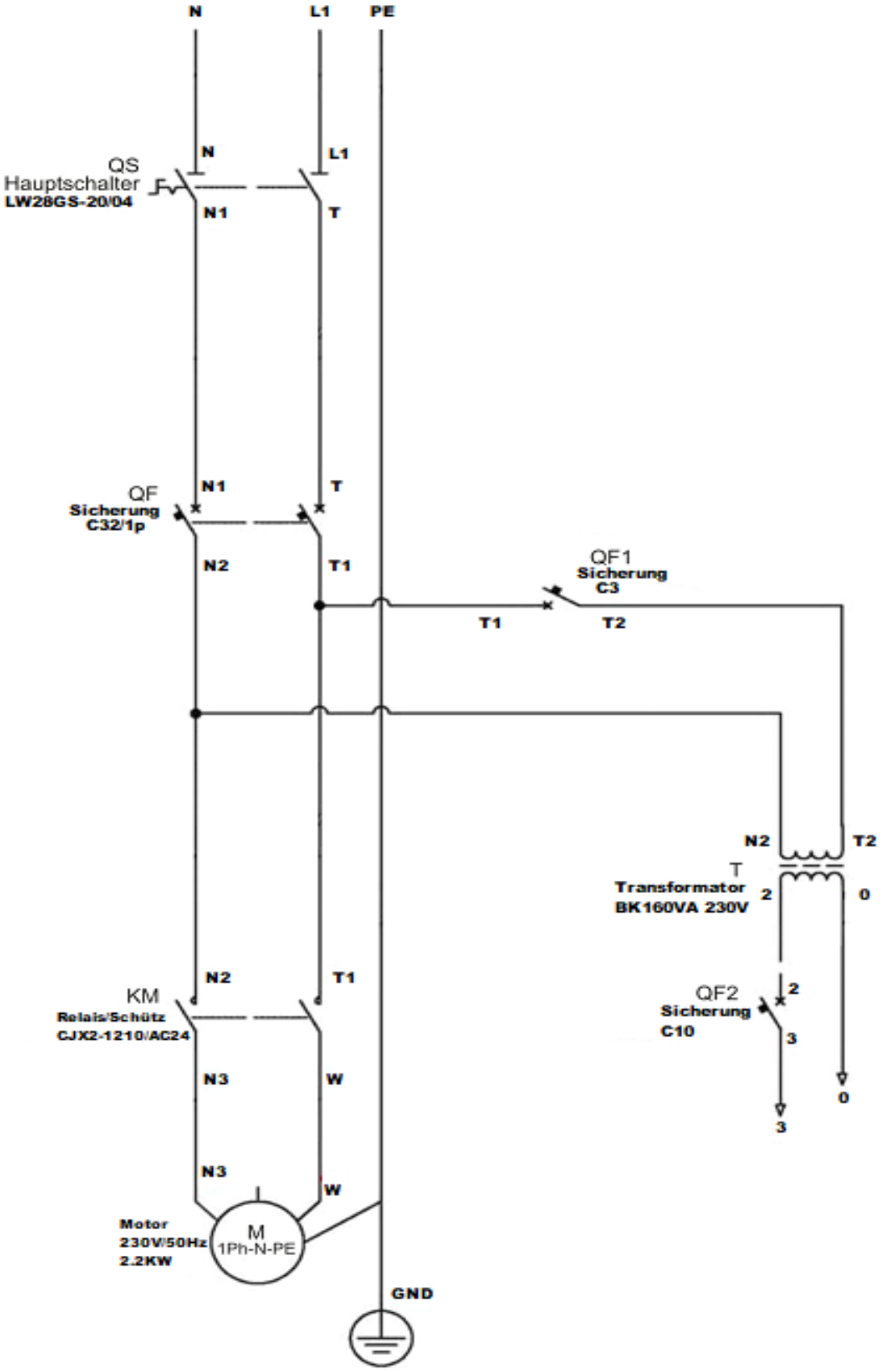


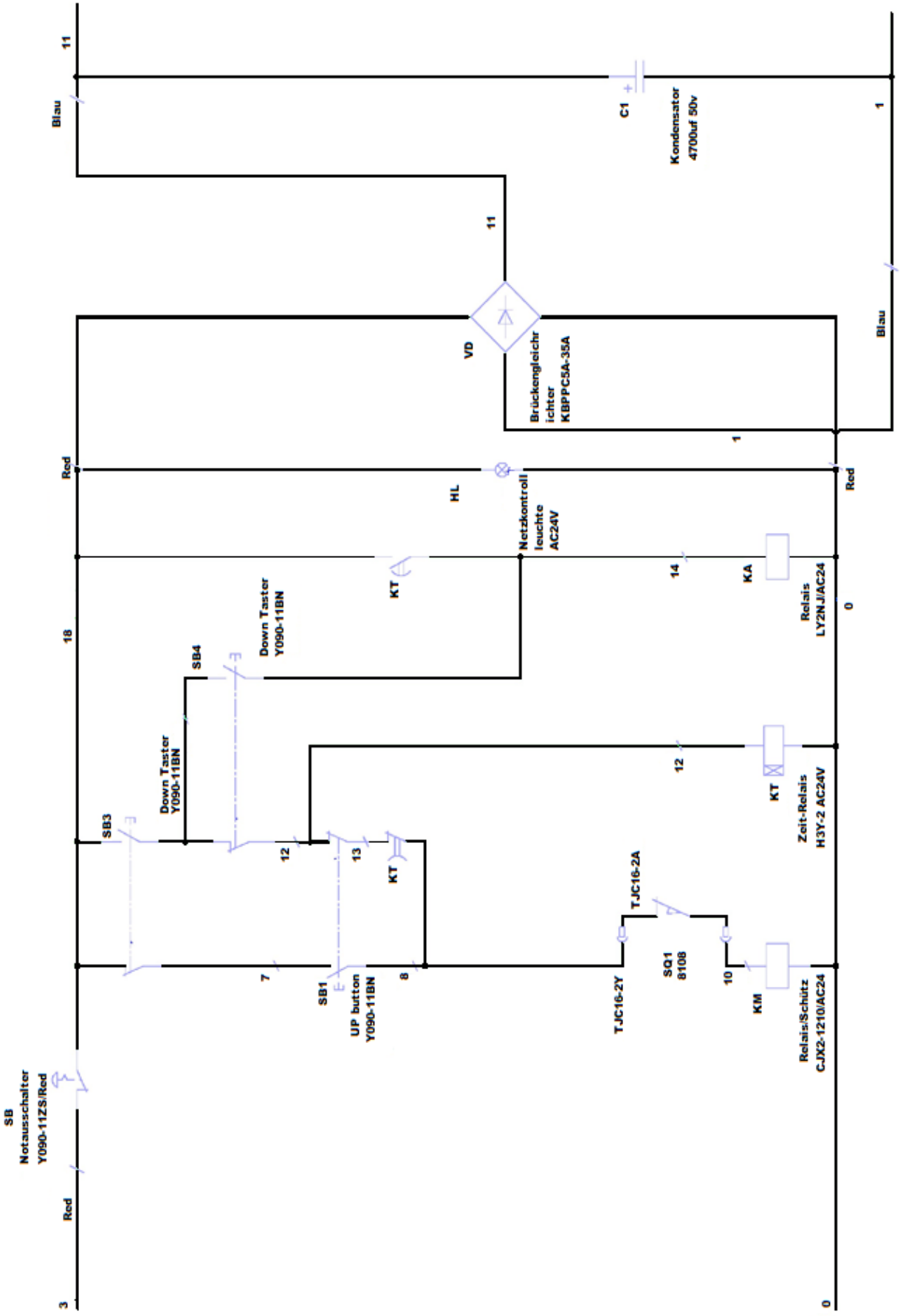

| S/N | Name | Qty. |
|---|---|---|
| 1 | Motor | 1 |
| 2 | Hydraulic block | 1 |
| 3 | Pressure relief valve | 1 |
| 4 | Screw plug | 2 |
| 5 | Pressure control valve | 1 |
| 6 | Oil intake pipe | 1 |
| 7 | Oil filter | 1 |
| 8 | Throttle valve | 1 |
| 9 | Connection link | 1 |
| 10 | Electromagnetic drain valve | 1 |
| 11 | Directional valve | 1 |
| 12 | Gear pump | 1 |
| 13 | Plastic oil tank | 1 |
| 14 | Oil tank plug | 1 |
| 15 | Oil return line | 1 |

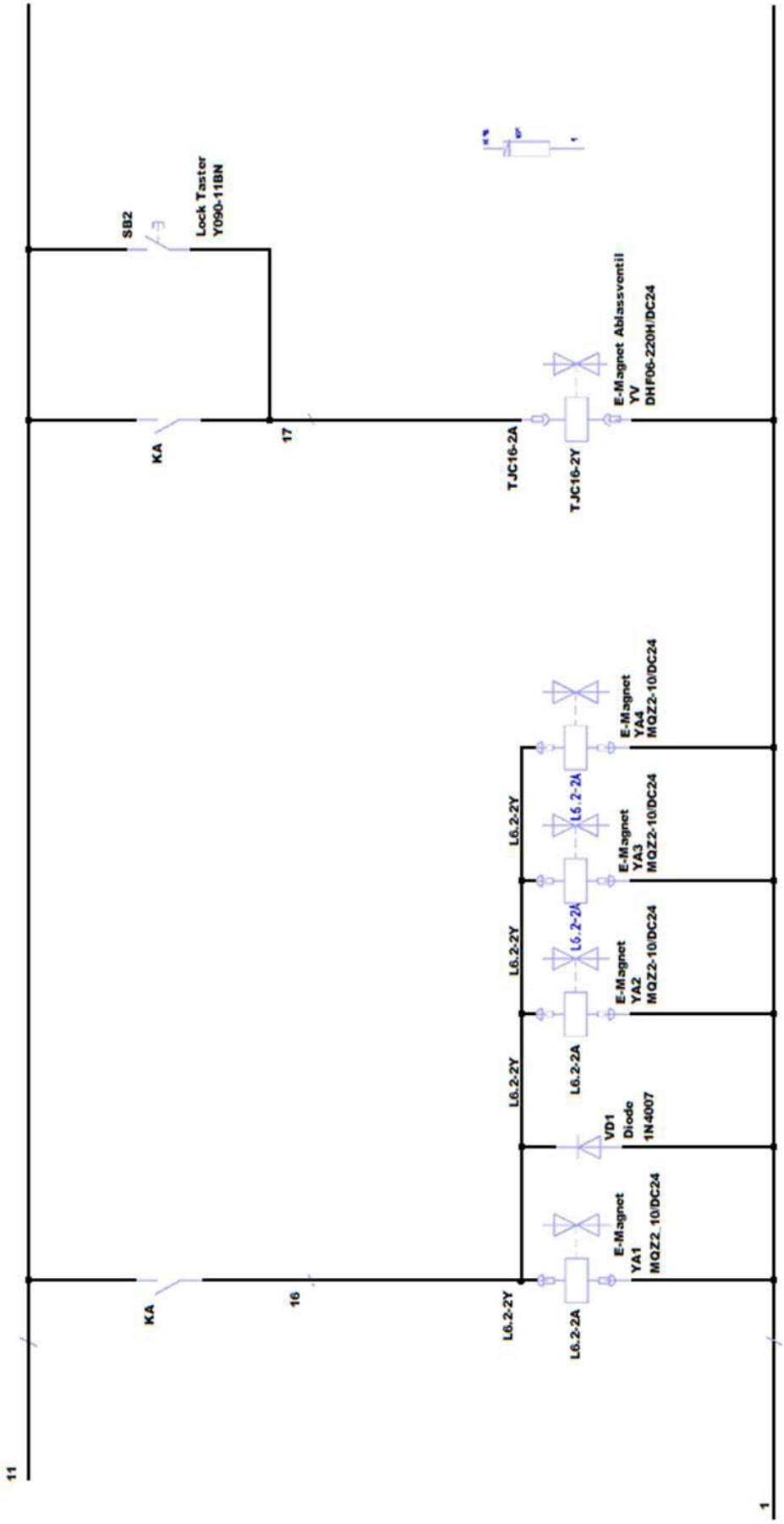
## 13.5 Control box (230 V)



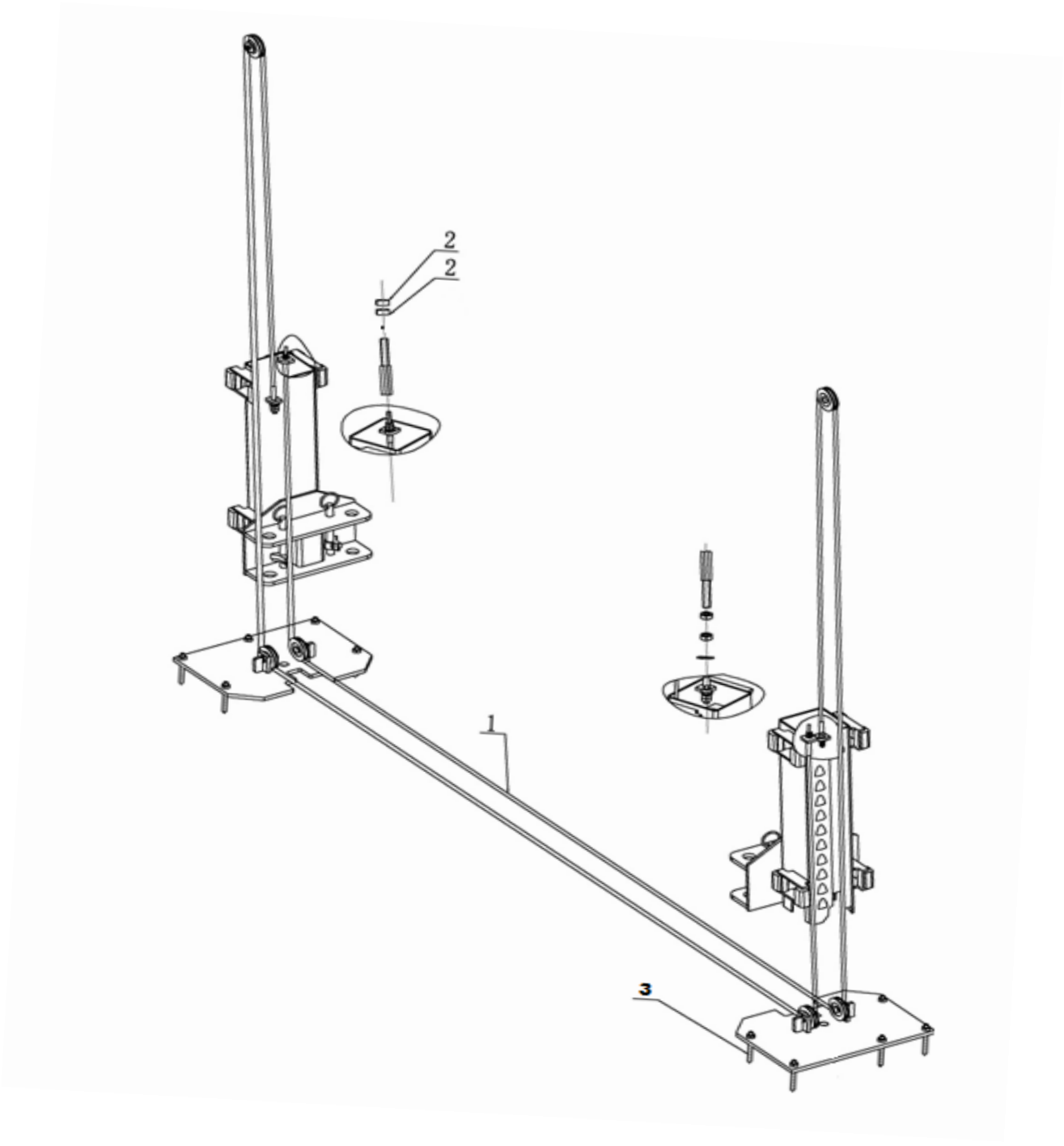
## 13.6 Circuit diagrams



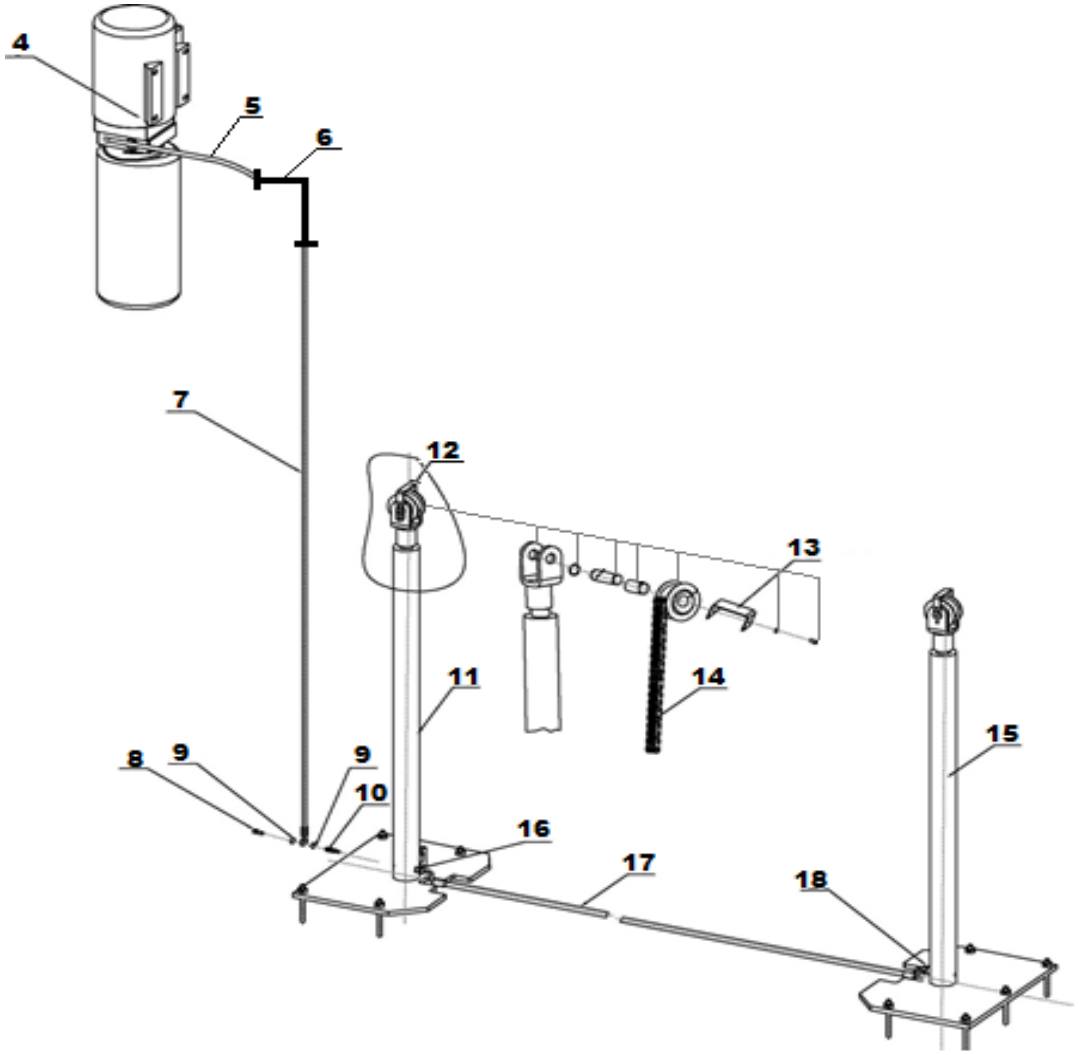

11
Blau
C1
Kondensator
4700uf 50v
1
11
VD
Brückengleichr
ichter
KBPPC5A-35A
Blau
1
Rod
HL
Netzkontroll
leuchte
AC24V
Rod
KT
14
KA
Relais
LY2NJ/AC24
0
18
SB4
Down Taster
Y090-11BN
Down Taster
Y090-11BN
SB3
12
KT
Zeit-Relais
H3Y-2 AC24V
12
13
KT
TJC16-2A
TJC16-2Y
SQ1
8108
10
KM
Relais:Schütz
CJX2-1210/AC24
7
SB1
UP button
Y090-11BN
8
SB
Notausschalter
Y090-11ZS/Red
Red
3
0


SB2
Lock Taster
Y090-11BN
KA
17
TJC16-2A
TJC16-2Y
E-Magnet Ablassventil
YV
DHF06-220H/DC24
L6.2-2Y
L6.2-2A
E-Magnet
YA4
MQZ2-10/DC24
E-Magnet
YA3
MQZ2-10/DC24
E-Magnet
YA2
MQZ2-10/DC24
VD1
Diode
1N4007
E-Magnet
YA1
MQZ2_10/DC24
KA
16
11
1

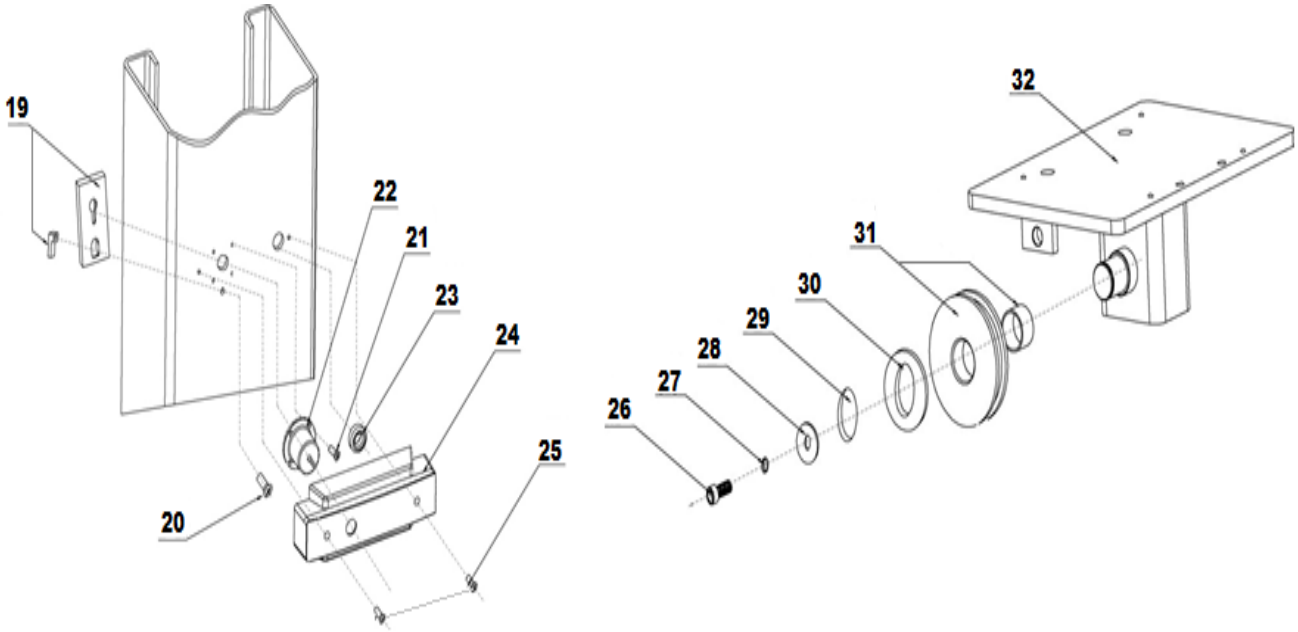
## 13.7 Detailed drawing and parts description of the lift



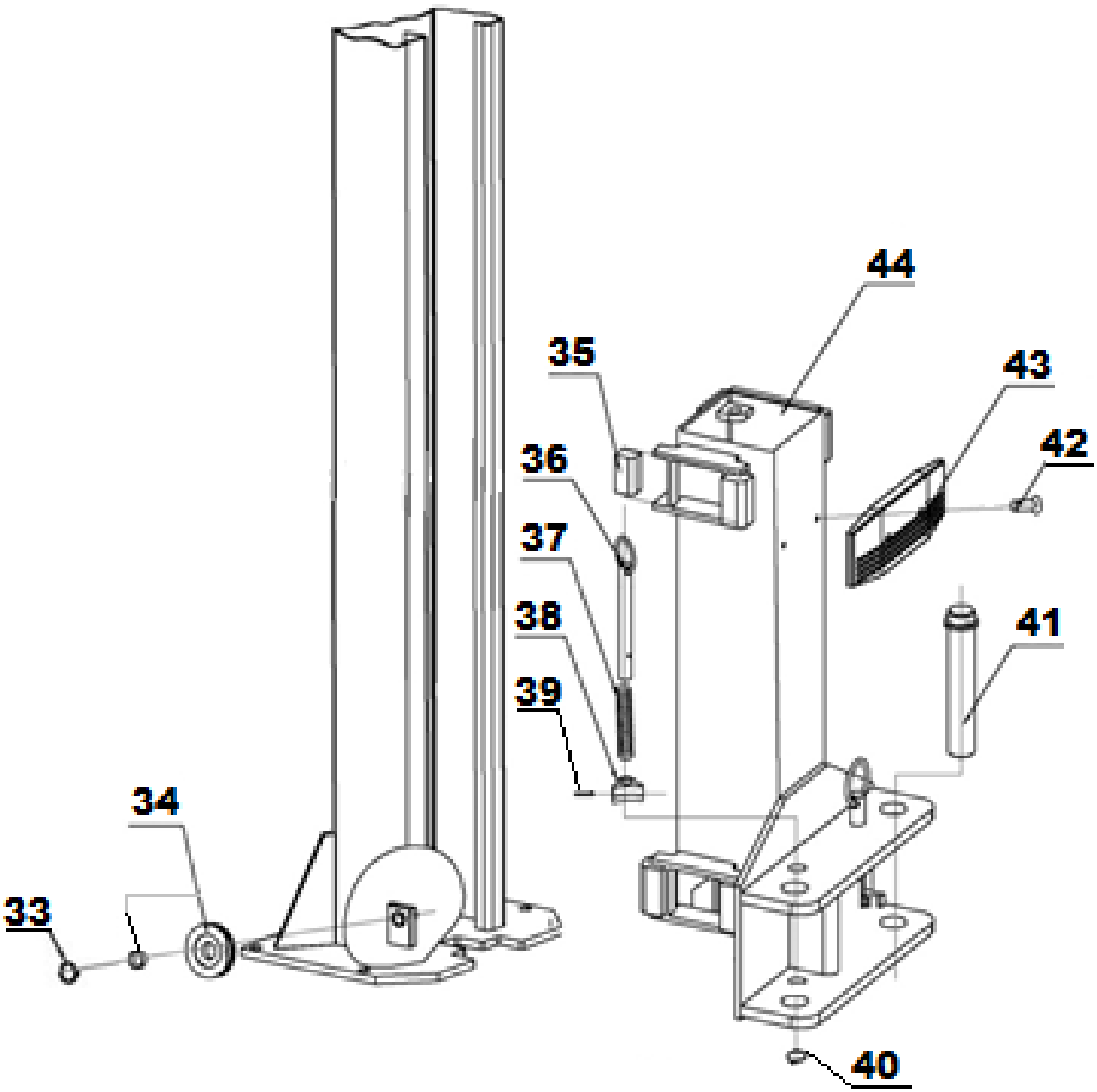

| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 1 | HEB0018 | Steel cable L=8820mm | FL8224-A6 | 2 | Assembly |
| 2 | | M16 hexagon nut | GB/T610-2000 | 8 | Standard |
| 3 | HEB0515 | M16*173 anchor bolt | *** | 10 | Standard |

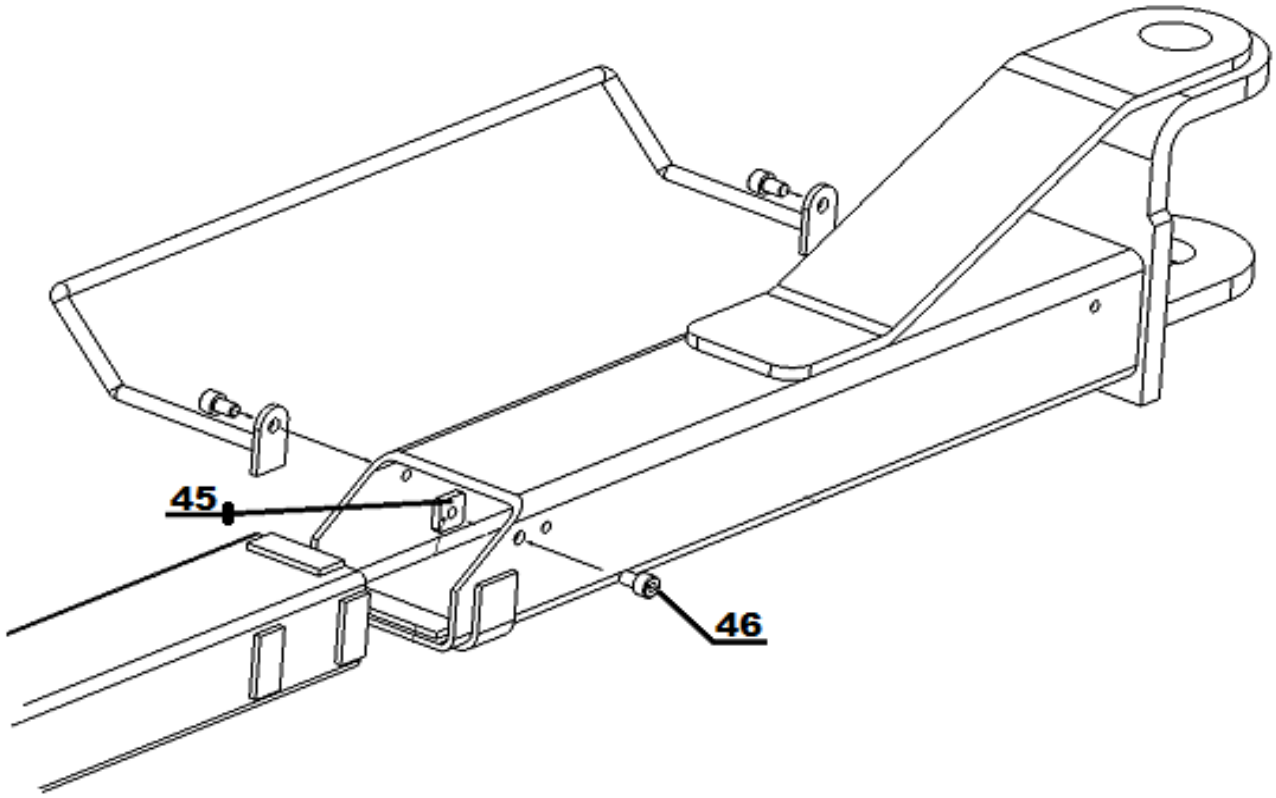



| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 4 | E-HEB0184 | Motor/hydraulic unit | | 1 | Assembly |
| 5 | E-HEB0099 | Oil line L=500 mm | | 1 | Assembly |
| 6 | E-HEB0064 | Hydraulic contra-angle | | 1 | Assembly |
| 7 | E-HEB0100 | Oil line L=2250 mm | | 1 | Assembly |
| 8 | E-HEB0066 | Cylinder connection (banjo) | | 1 | Assembly |
| 9 | | Sealing ring | | 2 | Standard |
| 10 | E-HEB0066 | Cylinder connection (banjo) | | 1 | Assembly |
| 11 | E-HEB0114 | Hydraulic cylinder (2-hole) | FL-8224-A4-B2 | 1 | Assembly |
| 12 | E-HEB0086 | Chain roller | FL-8224-A4-B9 | 2 | Welded |
| 13 | | Bracket chain roller | FL-8224-A4-B12 | 2 | Galvanised |
| 14 | E-HEB0461 | Chain to lifting carriage | LH1234-127LGB/6074-199 | 2 | Standard |
| 15 | E-HEB0113 | Hydraulic cylinder (1 hole) | FL-8224-A4-B3 | 1 | Assembly |
| 16 | E-HEB0165 | Screw-in nozzle | FL-8224-A4-B4 | 1 | Q235A |
| 17 | E-HEB0102 | Oil line L=2900 mm | | 1 | Assembly |
| 18 | E-HEB0166 | Screw-in nozzle | FL-8224-A4-B5 | 1 | Q235A |

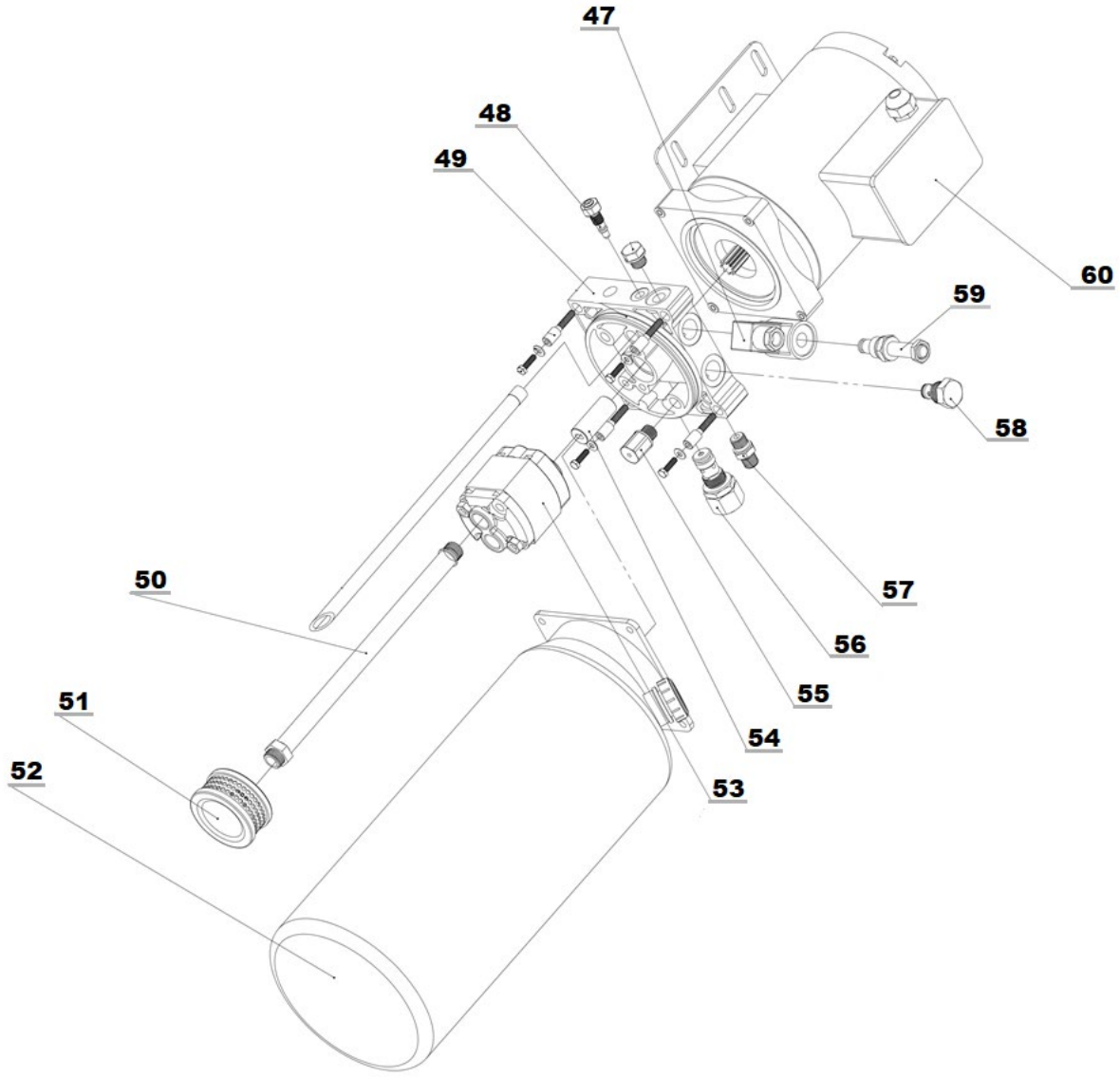



| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 19 | E-HEB0013 | Safety catch | 8224E-A1-B2 | 4 | Galvanised |
| 20 | E-HEB0013-3 | Screw to holder M6*16 | GB/T818-2000 | 4 | Standard |
| 21 | | M6*10 (cross recess) | GB/T818-2000 | 24 | Standard |
| 22 | E-HEB0014 | Electromagnet MQZ2-10 | 8224E-A1-B4 | 4 | Assembly |
| 23 | | Ø20 Cable bushing ring | 8224E-A1-B6 | 4 | Rubber |
| 24 | E-HEB0034 | Electromagnet cover | 8224E-A1-B5 | 4 | Plastic |
| 25 | | M5*10 | GB/T818-2000 | 8 | Standard |
| 26 | | M8*20 (hexagon socket screw) | GB/T70.2-2000 | 2 | Standard |
| 27 | | M8 (spring washer) | GB/T93-1987 | 2 | Standard |
| 28 | | Retaining ring | 8224-A1-B3-C2 | 2 | galvanised |
| 29 | | Type B Circlip 25 | GB/T894.2-1986 | 2 | Standard |
| 30 | | Washer | 8224-A1-B3-C2 | 2 | galvanised |
| 31 | E-HEB0382 | Idler pulley (top) | 8224-A1-B2 | 2 | galvanised |
| 32 | Enquiry | Column cover | | 2 | Welded |

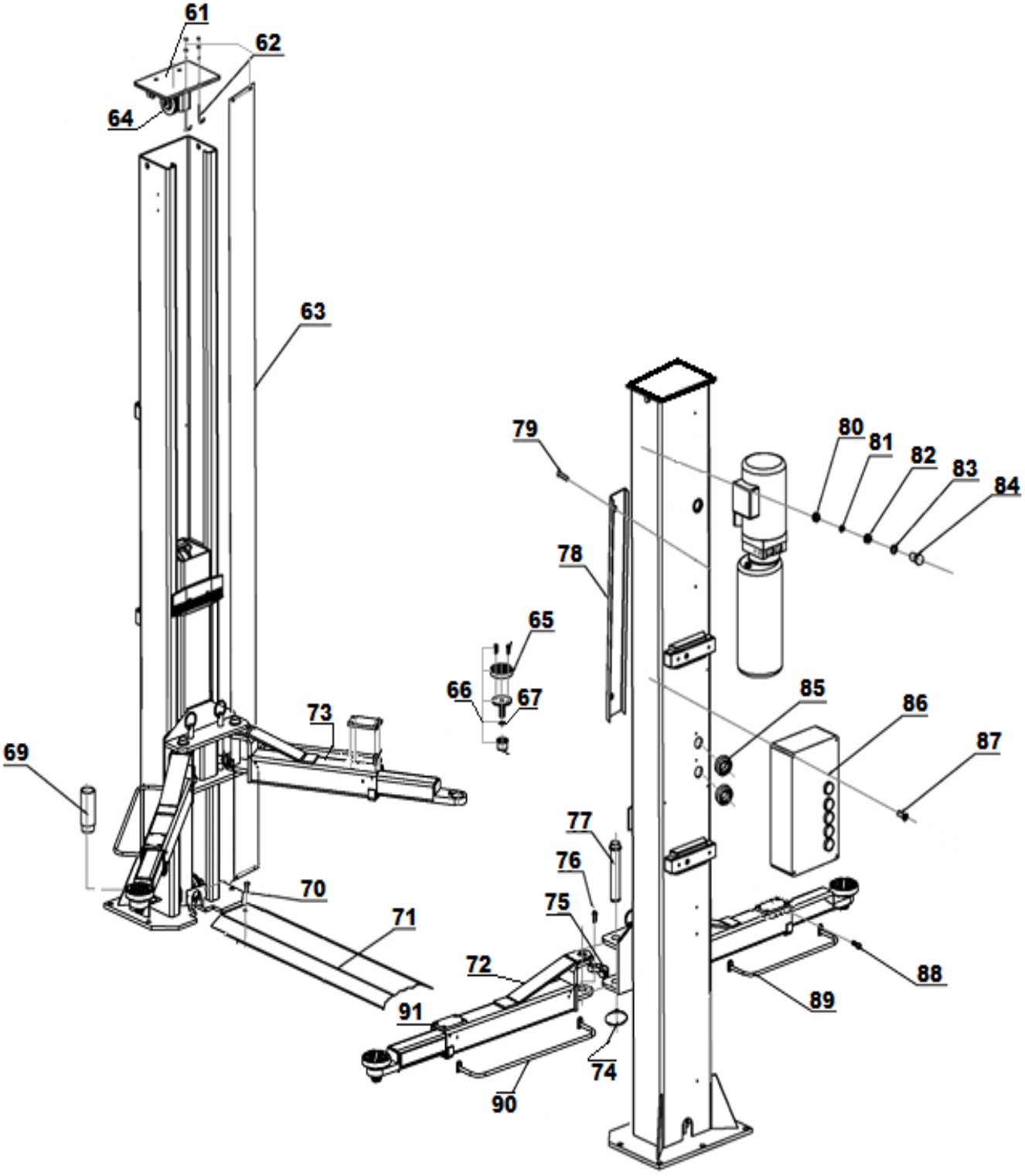

44
35
43
42
36
37
38
41
39
34
33
40




| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 33 | | Snap ring | | 4 | Standard |
| 34 | E-HEB0382 | Idler pulley (bottom) | FL-8224-A1-B2 | 4 | galvanised |
| 35 | E-HEB0080 | Lifting carriage guide | FL-8224-A3-B6 | 16 | Nylon |
| 36 | E-HEB0538 | Unlocking rod Tooth piece | FL-8224-A3-B2 | 4 | galvanised |
| 37 | E-HEB0539 | Pressure spring unlocking rod | FL-8224-A3-B5 | 4 | galvanised |
| 38 | E-HEB0056 | Tooth piece support arm locking | FL-8224-A3-B6 | 4 | galvanised |
| 39 | E-HEB0444 | Parallel key pin 5*35 | GB/T879.1-2000 | 4 | Standard |
| 40 | Enquiry | Type B Circlip 22 | GB/T894.2-1986 | 4 | Standard |
| 41 | E-HEB0074 | Support arm bolts | FL-8224E-A12 | 4 | galvanised |
| 42 | | M8*16 countersunk head screw | GB/T819.1-2000 | 4 | Standard |
| 43 | E-HEB0029 | Door stop protection | FL-8224-A3-B7 | 2 | Rubber |
| 44 | Enquiry | Lifting carriage | FL-8224-A3-B1 | 2 | Welded |
| 45 | E-HEB0327 | Pull-out limiter plate | | 4 | Standard |
| 46 | E-HEB0442 | Screw closed<br>Pull-out limiter plate | | 4 | Standard |



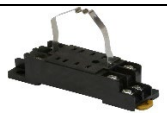

| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 47 | E-HEB0008 | Solenoid coil for Drain valve DC/24V | | 1 | Standard |
| 48 | E-HEB0326 | Lowering speed valve | | 1 | Standard |
| 49 | E-HEB0090 | Hydraulic pump block | | 1 | Standard |
| 50 | E-HEB0134-2 | Oil suction pipe to oil tank (round) | | 1 | Plastic |
| 51 | E-HEB0012 | Oil filter | | 1 | Standard |
| 52 | E-HEB0149 | Oil tank (round) | | 1 | Plastic |
| 53 | E-HEB0127-1 | Oil pump | | 1 | Assembly |
| 54 | E-HEB0082 | Clutch shaft | | 1 | galvanised |
| 55 | E-HEB0487 | Soft start valve | | 1 | Standard |
| 56 | E-HEB0054 | Pump pressure control valve | | 1 | Assembly |
| 57 | E-HEB0067 | Screw-in socket | | 1 | Standard |
| 58 | E-HEB0068 | Directional valve | | 1 | Standard |
| 59 | E-HEB0016 | Drain valve | | 1 | Standard |
| 60 | E-HEB0095 | Electric motor 230 V | | 1 | Assembly |


61
62
64
63
79
80
81
82
83
84
78
65
66
67
73
85
86
87
69
77
76
75
70
71
72
88
89
91
74
90

| S/N | Spare part no. | Name | Specification | Qty. | Feature |
|---|---|---|---|---|---|
| 61 | Enquiry | Cover plate | 8225E-A1-B3 | 2 | Assembly |
| 62 | TW SAK | Threaded hooks/nuts/column protection cover (set) OPTIONAL | 8224-A13 | 1 | Standard |
| 63 | E-HEB0035 | Column protection cover OPTIONAL | 2700*140 | 2 | Fabric |
| 64 | E-HEB0382 | Rope deflection pulley incl. bearing | | 2 | Standard |
| 65 | E-HEB0051 | Mounting rubber D12cm | | 4 | Rubber |
| 66 | E-HEB0042 | Turntable with single thread | | 4 | Assembly |
| 67 | E-HEB0345 | Circlip 26 mm | GB/T895.2-1986 | 4 | Standard |
| 69 | TW 235 AD09 | Plug-in adapter extension. OPTIONAL | | 4 | galvanised |
| 70 | Enquiry | M12*16 countersunk head screw | GB/T70.3-2000 | 2 | Standard |
| 71 | E-HEB0532 | Single drive-over plate | FL-8224-A10 | 1 | Welded |
| 72 | TW242-ARM-L | Support arm long (1 pair) 890-1390 | | 2 | Welded |
| 73 | TW242-ARM-K | Support arm short (1 pair) - 740-1150 | | 2 | Welded |
| 74 | Enquiry | Circlip 38 | GB/T894.2-1986 | 4 | Standard |
| 75 | E-HEB0059 | Semicircular tooth piece | FL-8224-A7-B5 | 4 | Standard |
| 76 | Enquiry | M10*35 hexagon socket screw | GB/T70.1-2000 | 12 | Standard |
| 77 | E-HEB0074 | Support arm bolts | 8224-A12 | 4 | galvanised |
| 78 | E-HEB0290 | Cover plate blue | 8224E-A1-B8 | 6 | Q235A |
| 79 | Enquiry | M6*25 Phillips head screw | GB/T818-2000 | 12 | Standard |
| 80 | | M10 nut | GB/T6170-2000 | 4 | Standard |
| 81 | | M10 spring washer | GB/T93-1987 | 4 | Standard |
| 82 | | Washer | 8224-A14 | 4 | Rubber |
| 83 | | M10 washer | GB/T95-1985 | 4 | Standard |
| 84 | | M10*35 hexagon head screw | GB/T5781-2000 | 4 | Standard |
| 85 | Enquiry | Ø 40 Cable bushing | FL-8224-A1-B7 | 2 | Rubber |
| 86 | E-HEB0098-1 | Switch box complete (230 V) | | 1 | Assembly |
| 87 | E-HEB0027 | M6 switch box screw | | 4 | Plastic |
| 88 | Enquiry | M8*12 hexagon socket screw | GB/T70.2-2000 | 8 | Standard |
| 89 | E-HEB0168 | Foot guard 33 cm | FL-8224-A18-B4 | 2 | Welded |
| 90 | E-HEB0170 | Foot protection bar 60 cm | FL-8224-A7-B4 | 2 | Welded |
| 91 | E-HEB0053 | Rectangular rubber holder | | 4 | Rubber |

### 13.8 Spare parts list

| S/N | Spare part no. | Name | Specification | Qty. | Picture |
|---|---|---|---|---|---|
| 1 | E-HEB0002 | Main switch | LW26GS-20/04 | 1 |  |
| 2 | E-HEB0071-1 | Pushbutton UP | Y090-11BN | 1 |  |
| 3 | E-HEB0071-3 | Pushbutton Lock | Y090-11BN | 1 |  |
| 4 | E-HEB0071-1 | Pushbutton Down | Y090-11BN | 1 |  |
| 5 | E-HEB0011 | Power indicator light | AD17-22G-AC24 | 1 |  |
| 6 | E-HEB0072-6 | Transformer | BK-160VA / Voltage: 230V - 24V | 1 |  |
| 7 | E-HEB0003 | Motor contactor CJX2-1210/AC24 | CJX2-1210/AC24 | 1 |  |
| 8 | E-HEB0076-C32 | Automatic circuit breaker 2-fold C32 | DZ47-63 C32/2P | 1 |  |
| 9 | E-HEB0075-C03 | Automatic fuse 1-fold C3 | DZ47-63 C3/1P | 1 |  |
| 10 | E-HEB0075-C010 | Automatic fuse 1-fold C10 | DZ47-63 C10/1P | 1 |  |
| 11 | E-HEB0010 | Limit switch | TZ8108 | 1 |  |
| 12 | E-HEB0001 | Emergency stop switch | Y090-11ZS/RED | 1 |  |
| 13 | E-HEB0043 | Bridge rectifier with capacitor | KBPC5A-35A 4700UF/50A | 1 |  |

| S/N | Spare part no. | Name | Specification | Qty. | Picture |
|---|---|---|---|---|---|
| 14 | E-HEB0004-AC8 | Switching relay LY2NJ/AC24, red LED, 8-pin | LY2NJ/AC24V | 1 |  |
| 15 | E-HEB0005-8 | Relay base for switching relay | PTF-08A | 1 |  |
| 16 | E-HEB0006 | Time relay | ST6PA-5S/AC24V | 1 |  |
| 17 | E-HEB0006a | Socket for timing relay | PYF-08AE | 1 |  |
| 18 | E-HEB0097-2 | Empty switch box | | 1 |  |
| 19 | E-HEB0346 | Switch box sticker | | 1 |  |
| 20 | E-HEB0146 | Piston seal hydraulic cylinder | 63-48-10 | 2 |  |

## Modifications and major repairs

| Kind | Date / Name |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

## Notes

## Notes

# EC-declaration of conformity

CE

TWIN BUSCH® GERMANY

The company

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

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

**TW242E-400, TW242E-230, TW242A-400, TW242A-230,**
**TW242GE-400, TW242GE-230, TW236E-400, TW236E-230**
**3.600 kg, 4.200 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** |
| **2014/35/EU** | **Low Voltage** |

Applied harmonized standards and regulations

| | |
|---|---|
| **EN 1493:2022** | **Vehicle Lifts** |
| **EN 60204-1:2018** | **Safety of Machinery – Electrical Equipment of Machines** |

CE Certificate

| | | |
|---|---|---|
| M6A 087411 0039 Rev. 01 | date of issue: | 31.05.2023 |
| N8MA 087411 0040 Rev. 01 | place of issue: | München |
| | technical file no.: | 646642302001 |

Certification body

TÜV SÜD Product Service GmbH,
Ridlerstraße 65,
D-80339 München
Notified Body Appointment No.: 0123

**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)

TWIN BUSCH® GERMANY
TWIN BUSCH GmbH
Amperestr. 1 · 64625 Bensheim
Tel. 06251 / 70585-0 · Fax: 70585-29

Authorized signatory: Michael Glade
Bensheim, 07.11.2023 Qualitätsmanagement


*You can find more products at:*

**twinbusch.co.uk**

**Twin Busch UK LTD**
Kettering
Northants NN16 8PS

Tel.: +44 (0) 1536 522 960
E-Mail: info@twinbusch.co.uk
Web: www.twinbusch.co.uk