TWIN BUSCH GERMANY

**4-POST-LIFT**
**TW436P-230 / TW436P-230-G**
*(Lifting capacity: 3600 kg)*

# TW436P & TW436P-G

# INSTALLATION, OPERATION AND MAINTENANCE MANUAL


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

## Table of contents

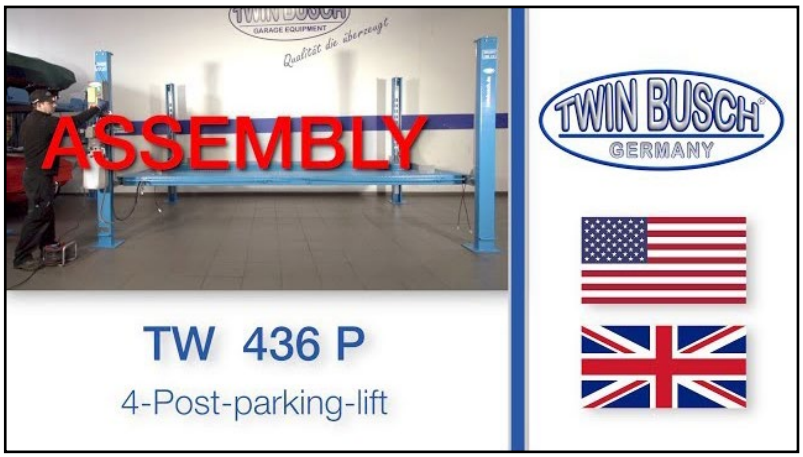
**Further attachment:**

- **EU Declaration of Conformity**

## Important information:

### ASSEMBLY

You can find the assembly video for this lift on YouTube: **https://youtu.be/ID3WAlbF7YY**
or scan the QR code.




### PRODUCT PRESENTATION

You can find the product presentation video for this lift on YouTube:
**https://youtu.be/i8-ZDY8okJ8**
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/4-post-lifts/4-post-lift-Park-lift-GREY-Line::261.html#horizontalTab4

## 24/7 Service Center:


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

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

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

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

## 1. General information

The TW 436P / TW 436P-G 4-post parking lift was designed and developed for parking two vehicles on a small footprint. Using the optionally available TW436P-VP offset plates, it is possible to offset the hydraulic unit and the control unit by 90° in order to save additional space and provide convenient, frontal access to the control unit. Thanks to its timeless design, the parking lift is also ideal for displaying vehicles in both private and commercial applications. Thanks to the optionally available TW436P-RK mobile kit, the parking lift is not tied to a specific location and can be set up anywhere in the room.
The 4-post car park lift is CE-certified by TÜV Süd and complies with the current standards and guidelines for the safe operation of car lifts.

## 2. Identification of the instructions for use

Operating instructions TW 436P & TW 436P-G

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Status: -01, 04.03.25

File: TW436P_TW436P-G_4-Post_Lifts_Manual_uk_01_20250304.pdf

## 3. Technical data

| | |
|---|---|
| Power supply | 230 V |
| Fuse protection | 16A (C/sluggish) |
| Lifting capacity CE | 3,600 kg |
| Degree of protection | IP 54 |
| Lifting time | approx. 45 sec. |
| Lowering time | approx. 30 sec. |
| Weight | 830 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 due to 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 under any circumstances leave the control panel when the lift is in motion.
- Keep your hands and feet away from moving parts. Pay particular attention to your feet when lowering.
- The lifting platform is to be operated by trained personnel only.
- Uninvolved persons are not allowed near the lifting platform.
- Wear suitable work clothing.
- The area around the lifting platform should always be kept free of obstructing objects.
- The lift is designed for lifting motor vehicles that do not exceed the maximum permissible weight.
- Always ensure that all safety precautions are taken before working near or under the vehicle.

Never remove safety-relevant components from the lifting platform. Do not use the lifting platform if safety-relevant components are missing or damaged.

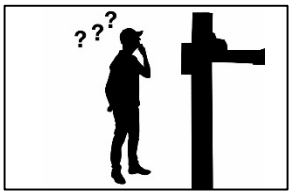
- Do not under any circumstances move the vehicle or remove heavy objects from the vehicle that could cause significant weight differences while the vehicle is on the lift.
- Always check the mobility of the lift to guarantee its performance. Ensure regular maintenance. If any irregularity occurs, stop working with the lift immediately and contact your dealer.
- Lower the lift completely when not in use. Do not forget to disconnect the power supply.
- If you do not use the lift for a longer period of time, then:
    a. Disconnect the lift from the power source
    b. Empty the oil tank
    c. Lubricate the moving parts with lubricating oil/grease

Caution: To protect the environment, dispose of the oil that is no longer used in the prescribed manner.

### 5.2 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!

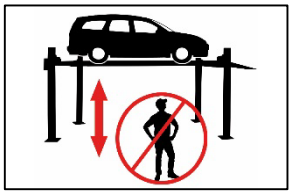


Operation of the lifting platform only by qualified personnel!

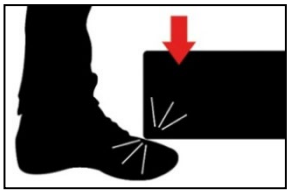
Repairs and maintenance only by qualified personnel, never disable safety devices!

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

Always keep escape routes clear!

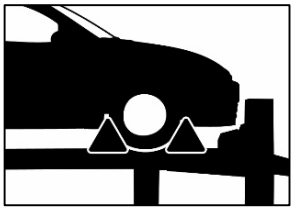


It is forbidden for persons to stand under the lift (when lifting or lowering)!



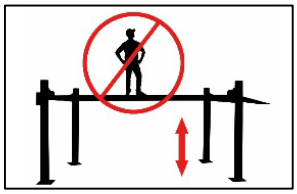
Watch your feet when lowering!
Danger of crushing!

Risk of crushing when lifting or lowering!

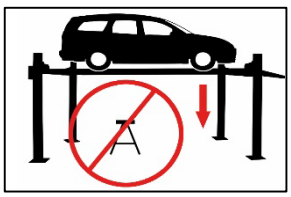


Secure the vehicle against rolling away!

Damaged lifts must not be put into operation!



Do not stand on the carriageways (when lifting or lowering)!



No objects under the lifting platform when lowering!

Do not manoeuvre the lift with the vehicle!

Use only on level ground!

CAUTION!
Electrical voltage!

### 5.3 Safety equipment

For safe operation of the lifting platform, it is equipped with the following safety devices *):

- Safety detents
- Throttle valve in hydraulic line
- Limit switch
- Lifting carriage lock
- Devices to prevent jamming and crushing (shaft protection, foot deflector)

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

### 5.4 Monitoring and testing of the safety equipment

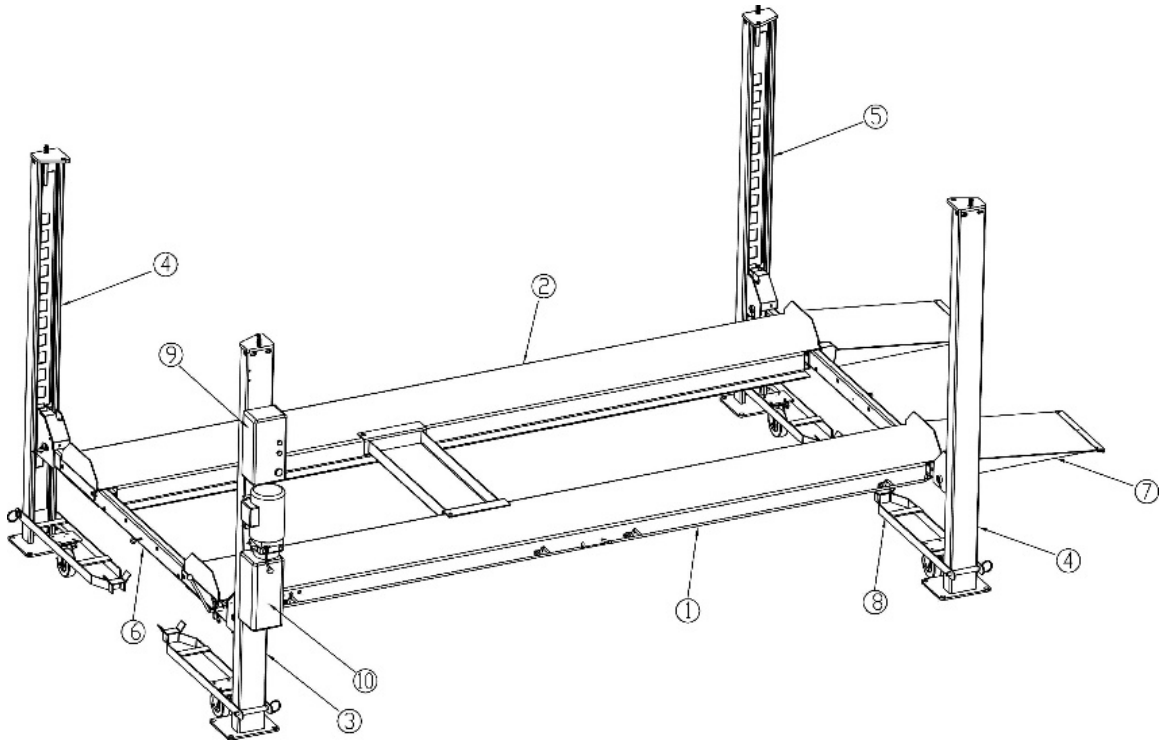
| | |
|---|---|
| - Safety catch | Function test, when lowering the lift, safety catches must engage simultaneously and stop the downward movement. |
| - Throttle valve | Fixed throttle, checking by user not possible. |
| - Limit switch | When the limit switch is pressed, the motor stops or cannot start. |
| - Lifting carriage lock | When the carriageway is raised, the lifting carriage lock must engage and remain securely engaged under lateral load. |
| - Equipment, clamps etc. | The equipment must be attached, ready for use and must not be deformed or damaged. |
| - Synchronisation cable | Check steel cables regularly. |

## 6. Conformity with the product

The TW436P / TW436P-G 4-post lift is CE-certified and compliant with the Machinery Directive 2006/42/EC fulfilling the standards EN 1493:2022, EN 60204-1:2018 (look at: EU Declaration of Conformity, at the end of the user manual).

## 7. Technical specification

### 7.1 Machine description




1 Main carriageway
2 Secondary carriageway
3 Main column
4 Secondary column 1
5 Secondary column 2
6 Traverse
7 Drive on ramps
8 Mobile-kit (optional)
9 Control unit
10 Motor unit

# 8. Structure of lifting platform

## 8.1 Before installation

Tools and equipment required:

- Suitable lifting tool for bulky and heavy components
- Hammer, pliers
- Phillips and slotted screwdriver
- Set of Allen spanners
- Spanner attachments and open-end spanners
- Impact drill
- 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 150 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. At the top is the particularly heavy main track with the hydraulic cylinder. Underneath are the small parts, columns and the lighter second track. Read and understand the operating instructions before proceeding.

2) Firstly, the upper track must be removed in order to access the small parts and the boxes. To do this, hang the main track in the centre of the motorised crane and pull the retaining rope slightly. You can now detach the track from the transport frame.

3) Once you have removed the 4 retaining bolts, you can lift out the track.

   Attention: Make sure that the loose cables under the carriageway are not damaged during transport.

4) Pull the transport strap on the rear side upwards to create a slight incline when lifting the track. This makes it easier to remove the track from the transport frame. You do not need this track for the time being, so pull it to the side and set it down on three trestles for the time being to make room for further work.

5) Remove the oil drip pans and all other parts stored between the pillars (ramps and foot protection bars).

6) Now unscrew the pillars from the transport frames and put them to one side.
   This column is the main column.

7) After removing the remaining packaging, the next step is to turn the lower track. To do this, place wood underneath and then remove the retaining screws. The track can now be turned by two people.

8) Then lift the carriageway with the motorised crane and place it on the two remaining work trestles.

9) First place the 4 pillars roughly where they are to be erected later.

Caution: Please note that the main column with the brackets for the engine block and switch box must be positioned on the front right or rear left when viewing the lift from the front.

10) Mounting the traverse

a) The cables of the crossbar are located on the side of the main pillar. You insert the crossbar into the pillars up to the centre.

b) Then follow the ladders for the safety catches. To do this, first unscrew the first nut at the end of the ladder and remove the washer. Now insert the ladder into the guide provided in the crossbar. Apply a little pressure to overcome the inner catch and allow the ladder to slide into the crossbar.

Note: It is not necessary to guide the ladder particularly deep into the traverse 2 to 3 locking positions are sufficient. (If you push the ladder too deep into the traverse, it will have to be lowered manually again later for assembly with the runways).

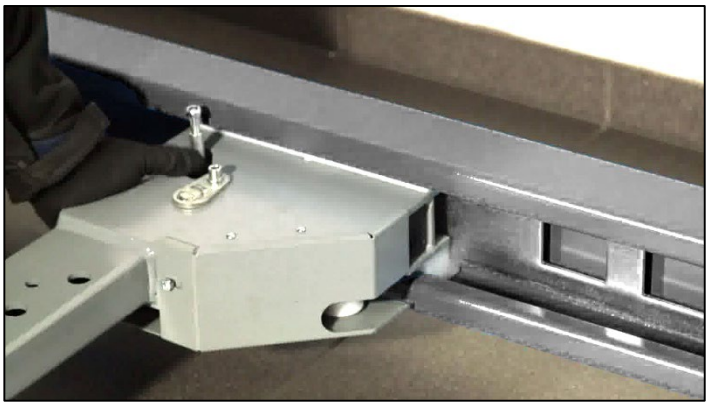


**Figure:** Ladders for the safety catches

11) Fitting the column cover

a) First remove all nuts and bolts from the column cover and place it on the top end of the column. Then screw all the nuts and bolts back on.

b) Make sure that you place the correct column covers on the corresponding columns.
When erected, the internal free holes for the steel cables must later point inwards towards the centre of the lift. Alternatively, you can also use the opening for the steel cable in the truss as a guide.

c) Once the correct cover has been fitted, the free hole for fitting the steel cable should be located directly above the opening in the crossbar.

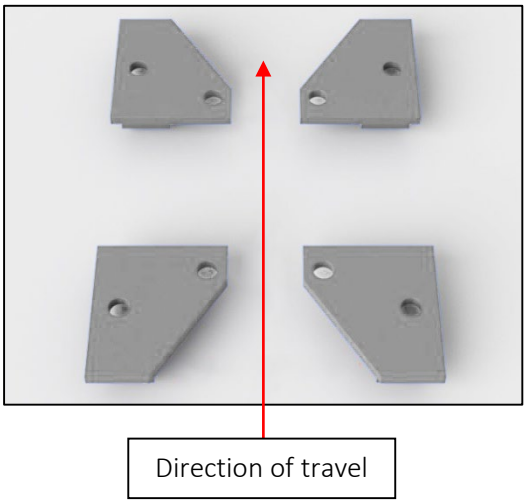



**Figure:** Column cover assembly

d) Insert a bolt from the outside and a washer and nut from the inside. Once you have reinserted the 4 screws, place the washer and nut on the threaded rod of the ladder.

e) This completes the first column. Repeat the process with the ladder and the column cover on the opposite side.

12) When you have finished with this, the two rear pillars now follow in the same way. Align the columns, insert the crossbar, insert the ladders and fit the cover. (see step 10 and step 11)

**Caution: The crossbars should be engaged at the same locking height on both sides so that the columns can be erected later without any problems.**

13) Place the two tracks together with your work trestles between the two pairs of columns. Make sure that the track without hydraulics is at the rear as seen from us and the track with hydraulics is at the front.

14) Next, cut the cable ties that secure the cables inside the front track. This is necessary as the steel cables must be led out of the front track before the next steps.

a) Once you have removed all the cable ties, the next step is to guide the cable ends out of the track. To do this, however, you must first unscrew the nuts from the cable ends. To do this, insert the short cable end, threaded rod first, through the opening at the front right into the front track.

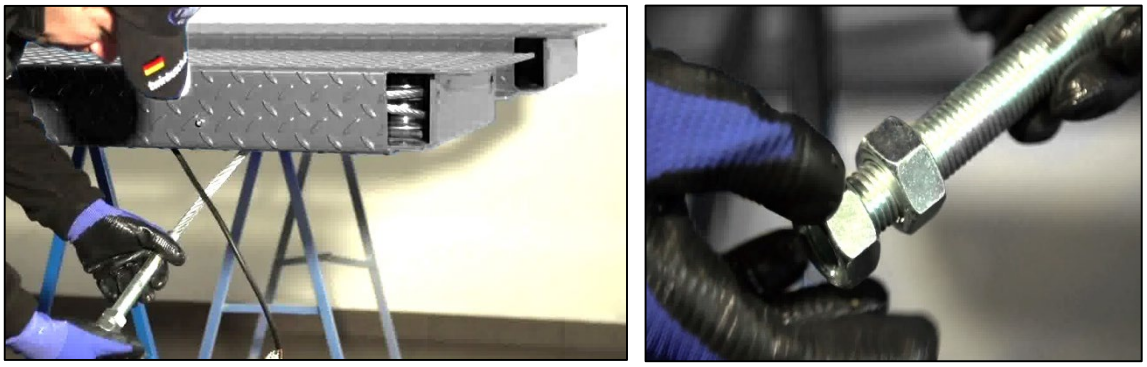


**Figure:** Cable end

b) Then repeat this process with the long cable end, unscrew the nuts.
Look for the correct cable with the cable end and guide it outwards like the previous one with the threaded rod first.

c) Then repeat the process at the left-hand end of the carriageway with the steel cable ends there.

15) Erect the columns and bolt them to the carriageways.

**Caution: If the crossbar is too high to slide under the carriageways, you must first lift them a little again.**

a) Remove the protective caps from the cable mechanism on the crossbar.

b) Using a mounting iron, push the white plastic roller towards the pillar and at the same time pull the release mechanism on the other side.

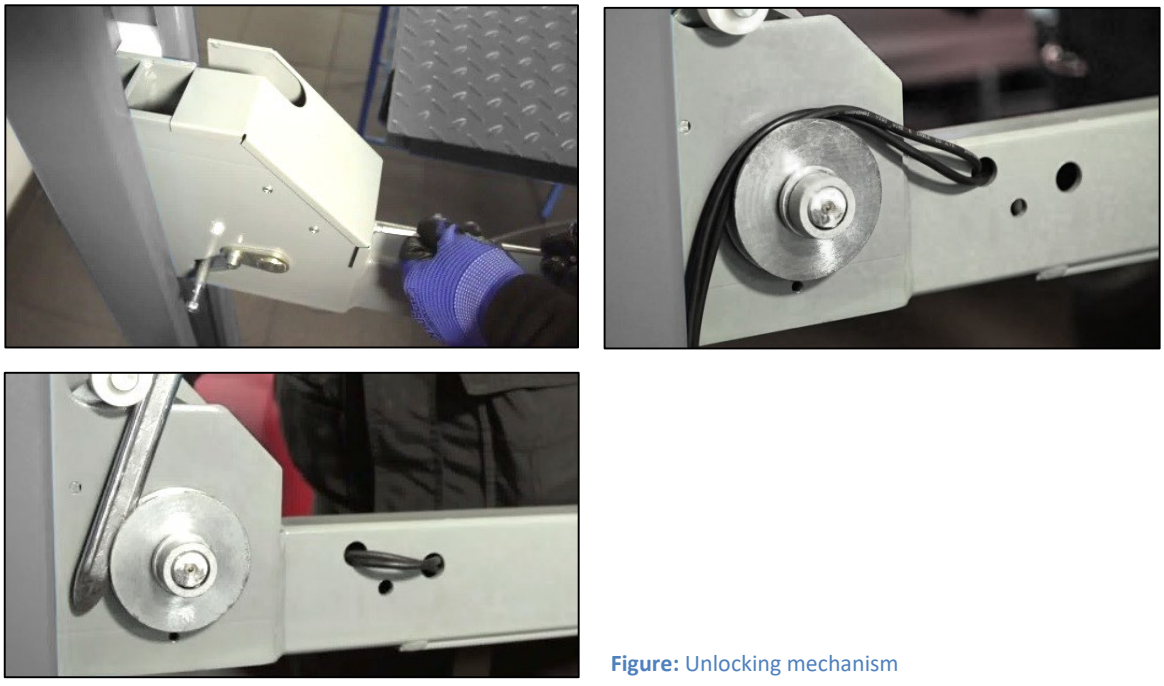


**Figure:** Unlocking mechanism

c) Remove the pre-assembled cable ends for the cable slack protection switches from the crossbars.

d) Align the crossbar with the rear track, as this will be bolted on first. Raise it slightly with a motorised jack and lower it after you have removed the tresle.

e) Insert two screws with the end plate into the crossbar and screw them to the track. To do this, place a washer, a snap ring and a nut on the inside of each bolt. The same applies to the other side.

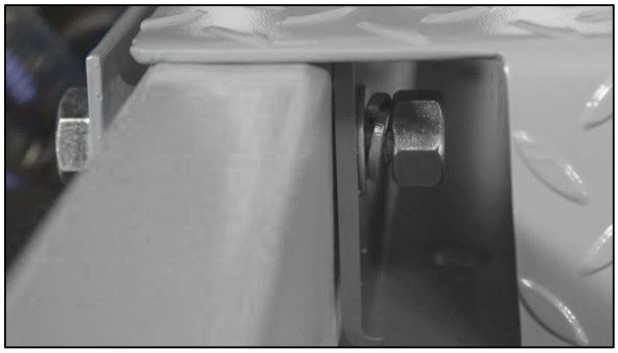


**Figure:** Connection crossbar and end plate

f) Once you have loosely tightened the nuts, you can now lower the second track onto the crossbar. The crossbar is lifted in the centre and can be precisely aligned.

g) Screw them together as already explained in step 15 a) - e).

h) Now set up the pillars on the right-hand side. Again, first remove the covers and lower the crossbar by one notch so that you can slide it under the tracks later. (see step 11)

i) Remove the pre-laid cables and align the traverse. Also screw it in place as previously explained in steps 15 d) - e).

j) Tighten all screws.

16) Laying the steel cables

a) Remove the protective cap from the hydraulic connection on the main track.

b) Use a tyre iron to loosen the cylinder under the main track so that you can pull the ropes out of the platform more easily.

c) Thread the steel cable into the deflection pulley at the front right and into the pulley for the cable slack protection.

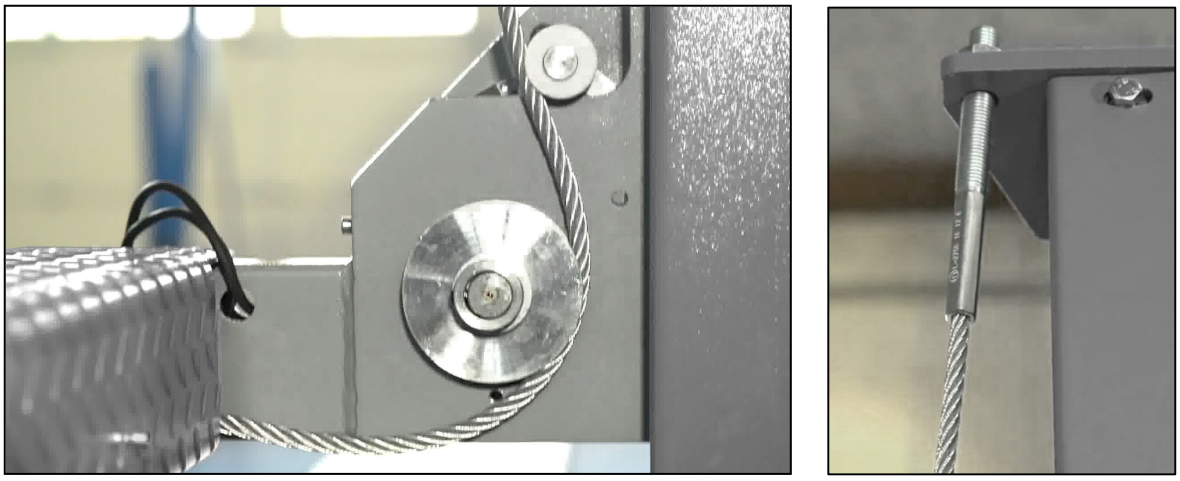


**Figure:** Rope slack protection

d) At the tip, insert the end of the cable into the hole provided and secure it with a nut. Insert the bolt under the pulley to secure the steel cable and secure it again with a lock nut on the inside.

e) Thread the steel cable on the other side as explained in step 16 c) - d) and repeat this process on the other two columns.

17) Mounting the release

a) Remove the spacer and snap ring and nut from the release lever. Then remove the nut and the snap ring from the threaded rod on the left under the carriageway and replace the nut directly. Then remove the snap ring and the spacer from the release lever.

b) Now insert the release lever into the hole provided and add the nut from the inside first and then the second snap ring. The long threaded rod can now be screwed to the unlocking lever via the connecting piece.

c) You can also fit the opposite side of the release as described in step 17 a) - b).

**Note:** **After you have put the nut and the snap ring back onto the thread of the end piece screw the intermediate piece onto the end piece first and then screw the end piece onto the intermediate piece. Later, connect the intermediate piece to the threaded rod inside the carriageway.**

d) Remove the screwed-on ball element on one side of the linkage next to the foot protection strips. When threading it in, check that it is turned out far enough. The rod should not be bent during subsequent operation and should be easy to move.

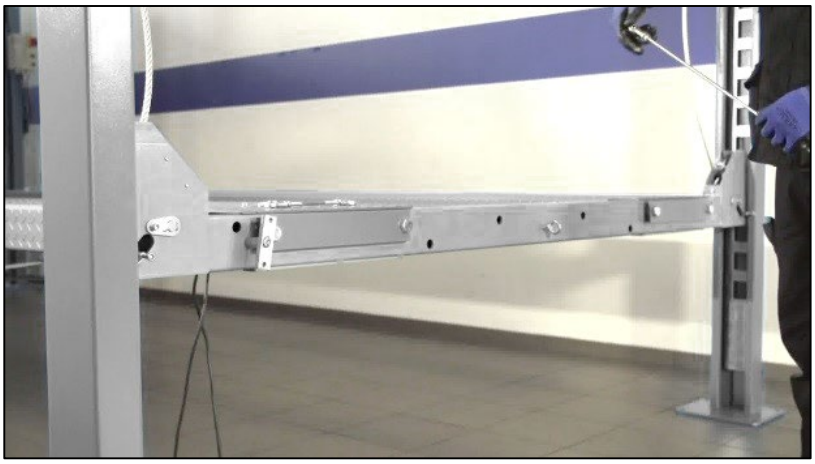
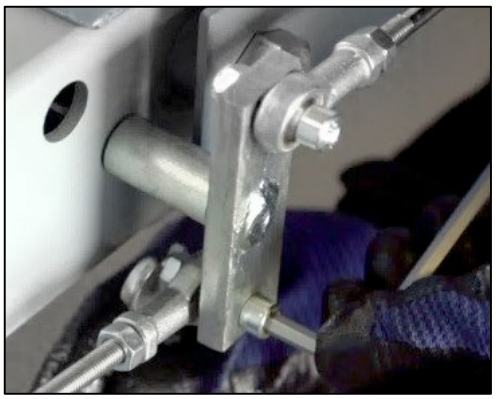


**Figure:** Linkage with ball element

e) The ball element is now screwed back on and then attached to the locking lever on the crossbar.

f) On the opposite side, unscrew the ball element to ensure that it remains as vertical as possible during the subsequent assembly on the unlocking mechanism. The ball joint can then be screwed to the release mechanism.

g) Then comes the short unlocking rod. Here too, make sure that the rod is long enough so that the locking mechanism is not distorted. Make sure that the short unlocking rod is attached to the back of the upper unlocking mechanism. Then tighten all screw connections securely.



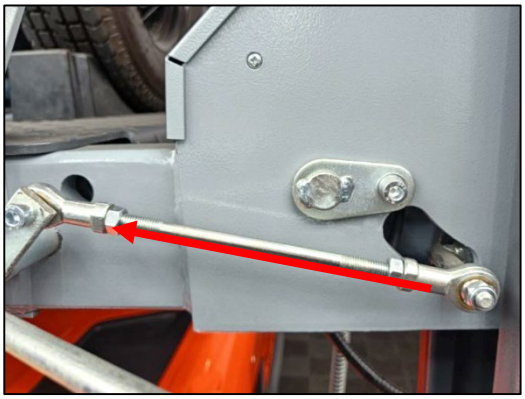


**Figure:** Short unlocking bar

h) Repeat steps 17 d) - g) on the opposite side.


**Figure:** Long unlocking bar

18) Mounting the switch box

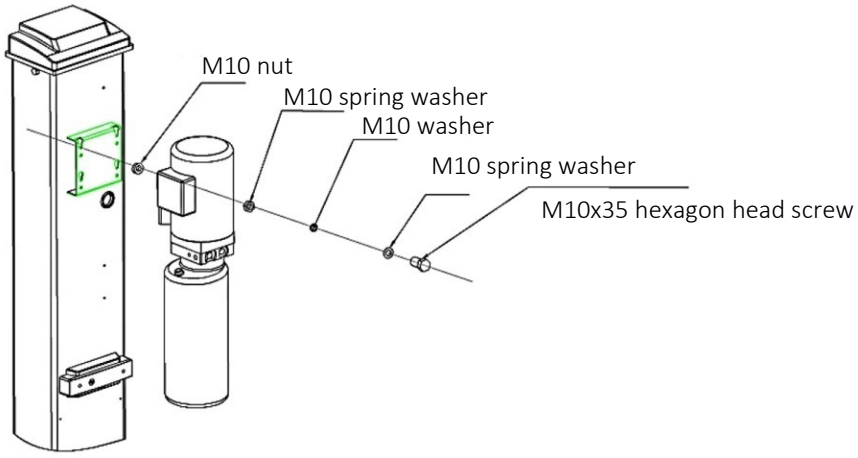
a) Carefully remove the bag with the multi-cable and the limit switch. Unscrew the switch box and remove the mounting screws and cable ties.
Now open the bag with the multi-cable and the limit switch. Screw the switch box to the main pillar.

b) Before installing the limit switch, it must be adjusted accordingly. Open the screw for adjusting the sensing arm length and slide the sensing arm forwards by about two-thirds of the total length. Tighten the screw again and open the screw to adjust the rotation. Turn the feeler arm upwards by 90 degrees and fix it in this position. Then unscrew the fixing screws on the back and fit the limit switch to the top of the main column.

c) Route the cable of the limit switch through the upper hole in the direction of the switch box. Connect the corresponding cable according to numbering. (see **wiring diagram**)

**Figure:** Limit switch

19) Fit the motor unit



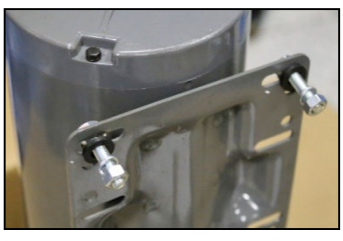



**Figure:** Motor unit

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

b) Tighten the nut on the motor unit securely.

c) Fit the breather pipe to the engine and cylinder.

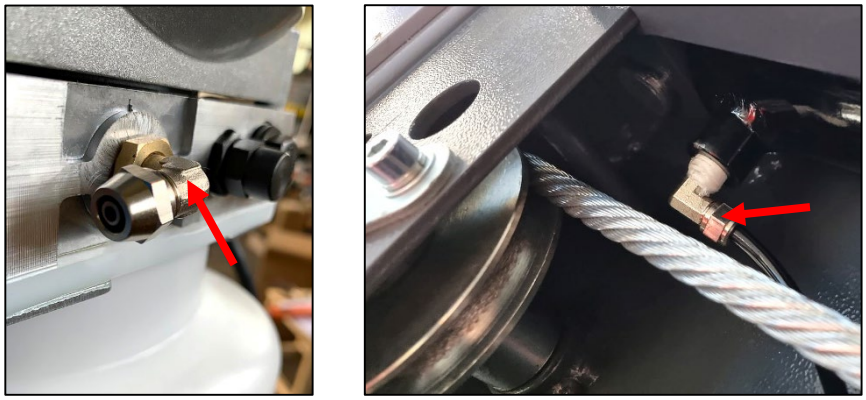


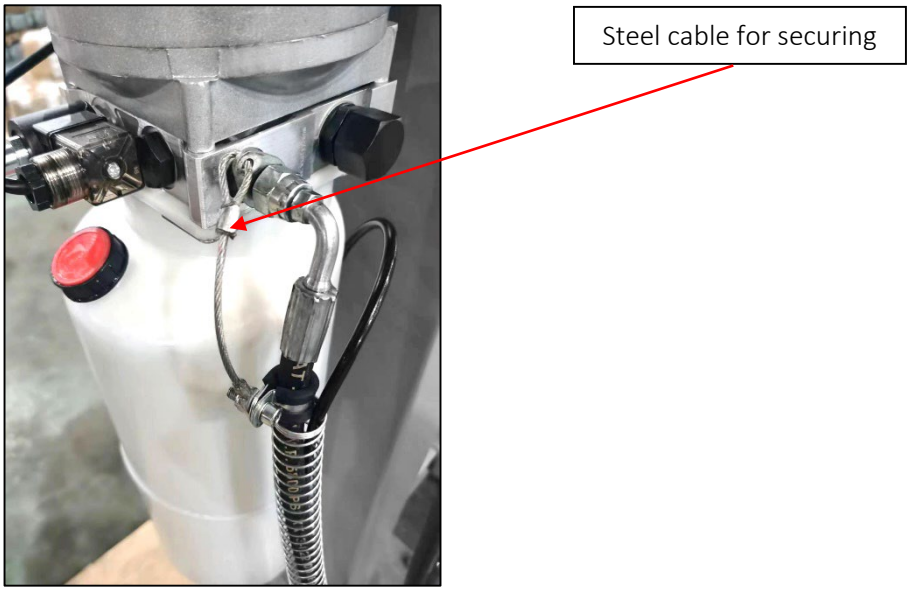
**Figure:** Vent pipe

20) Fit the oil hose.

a) Remove the nut from the hose leading to the cylinder and fit it firmly in the hole provided using the washers.

b) Screw the oil hose tight.

d) Fit the two steel cables to secure the pressurised hydraulic hose. This is a safety feature to prevent the hose being tugged on.




e) Lay the cable for the magnetic drain valve. (see **wiring diagram**)

f) Connect the motor cable.

| **Attention:** | **This cable consists of three connections that are not numbered!** |
|---|---|

The blue and brown cables are the power supply for the motor and are connected to the cables with the letters W and U.
The yellow-green cable with the round connection is the earthing cable, which must be screwed to the earthing strip.

21) Electromagnetic drain valve

Take the opportunity to check that the drain valve is properly closed. If it is open, close it by pushing it in and turning it clockwise. Then open the lid of the oil tank and fill the tank with up to 10 litres of hydraulic oil. Hydraulic oil type: HLP 32 After filling, carefully close the tank again and replace the electromagnetic drain valve.

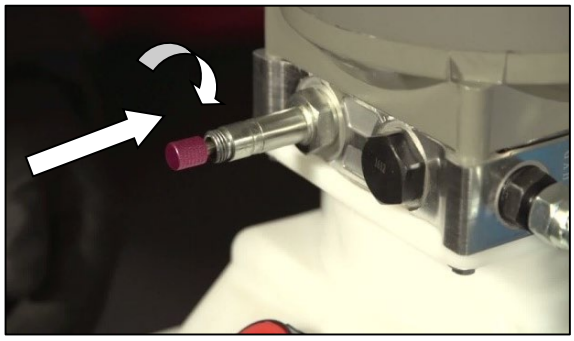


**Figure:** Drain valve

22) Fitting foot guard and roll-off protection.

a) Make sure that the brackets are fitted the right way round so that they point upwards.

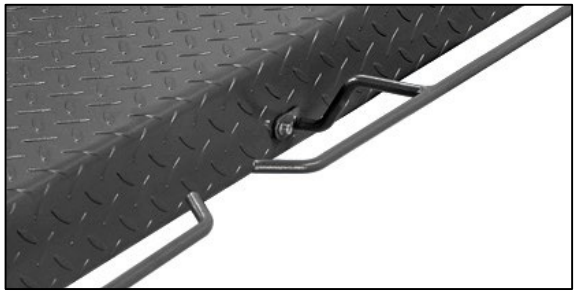


**Figure:** Foot guard

b) Bolt the two roll-off protection flaps at the front and the two roll-off protection plates at the rear directly to the crossbar with track. These automatically ensure roll-off protection as soon as the carriageway is raised.

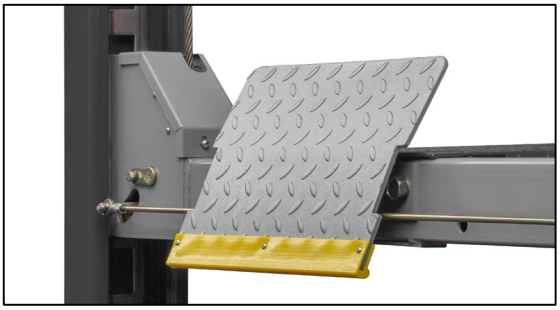


**Figure:** Front roll-off protection flap

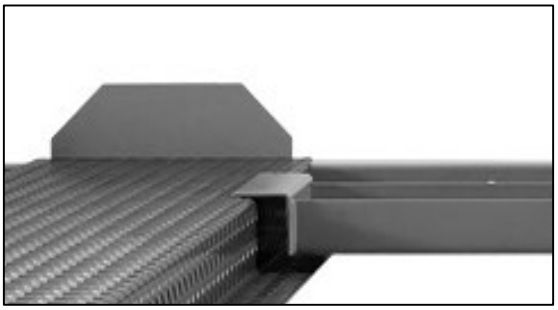


**Figure:** Rear mudguards

23) Electrical connections

a) To do this, connect the multi-cable to the switch box. This cable is used to connect the cable slack protection switches to the switch box.
At the other end of the multi-cable, remove the mounting nut and pull it over the electrical connections.
The electrical connections can then be pushed individually into the hole provided in the front track.

b) The electrical connections are now fed back through the mounting nut of the multi-cable and screwed on from the inside.

c) You can now connect the lift to the power supply and start it up for the first time. To do this, set the main switch to ON and check that the emergency stop button is not triggered and then press the-UP button together with the button on the side to ignore the slack rope protection.
This is necessary because the rope slack protection switches are not yet connected to the control box. When the platform is raised for the first time, it takes a while for it to react because the air in the hydraulic cylinder must first be compressed.

d) Now screw the rod of the manual release from below. Remember that the levers at the start and end of the unlocking rod must not be twisted. Therefore, always secure the unlocking rod against unintentional twisting with an open-end spanner during all screwing work.

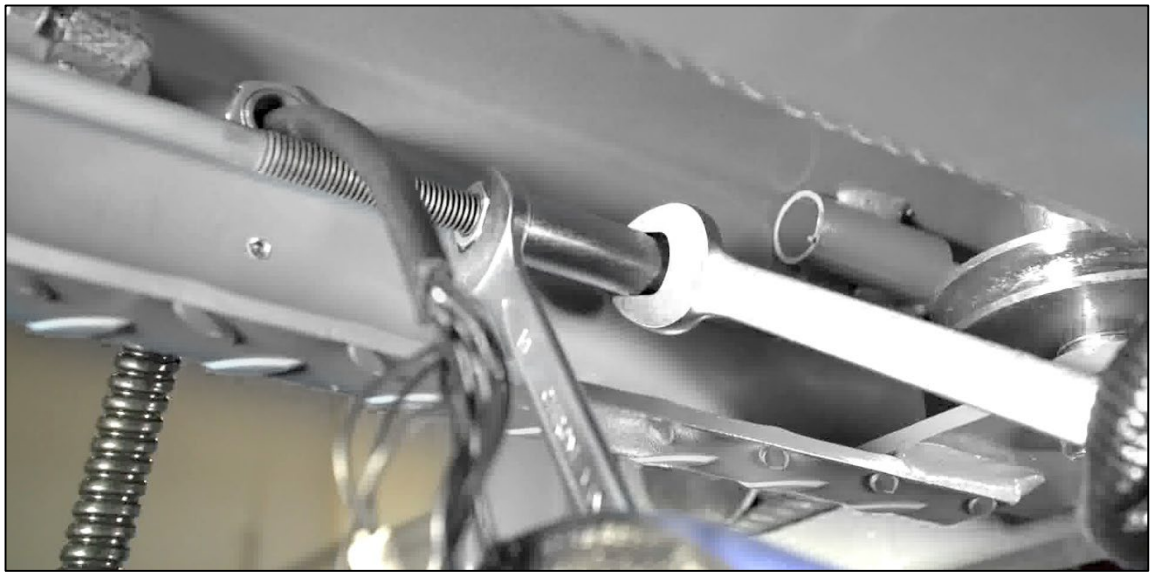


**Figure:** Unlocking bar

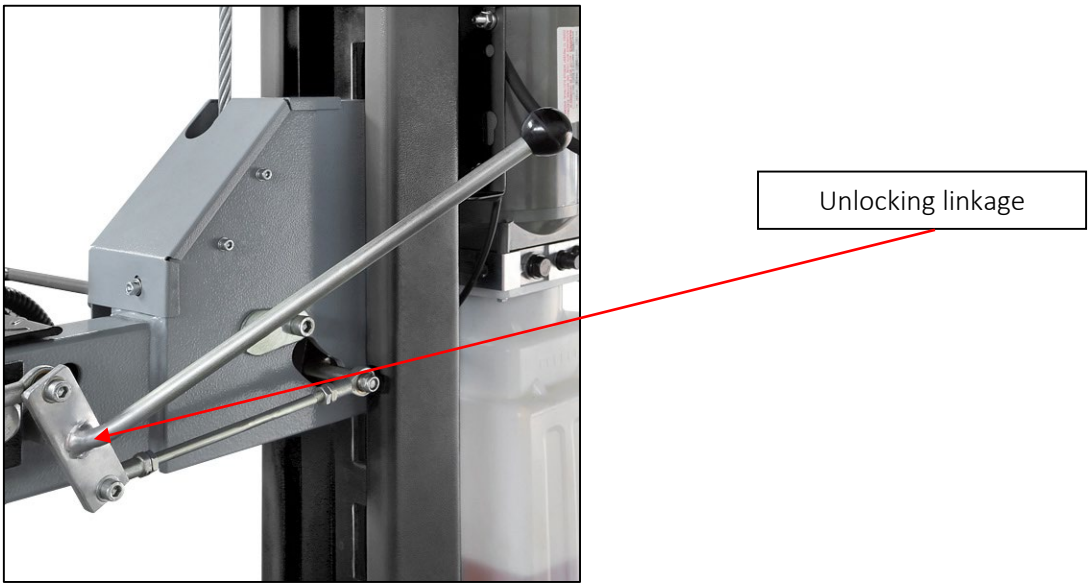
e) The cables can now be connected to the multi-cable using their letters.
Do not be confused by the fact that some letters appear twice.
In this case, it does not matter which connection A you connect to which socket A.
Now connect the remaining two connections on the multi-cable to the pre-laid connection cable, which leads to the other end of the carriageway.
Before you continue with the installation at the other end of the carriageway, all cables that are now hanging out of the carriageway must be stowed under the carriageway using the cable ties supplied in the switch box.

**Figure:** Cable under the carriageway

f) Lower the platform. Before doing so, however, open the oil tank cover by half a turn to allow air to escape! Then pull the unlocking lever towards you to unlock the platform and lower the platform completely using the "Down" button.
During this process, the compressed air escapes from the hydraulic cylinder into the tank.

**Note: If the platform does not lower, this may be because you first have to move the detent out of the way. In this case, press the "UP" button to raise the platform a little further.**
If lowering still does not work, check that the release linkage is not twisted and that none of the catches are jammed. If a catch is jammed, you can usually fix this with commercially available lubricating oil.

After draining, you can close the oil tank properly again.




24) Adjustment of ladders and steel cables

a) Move the lift up a little.

b) As a basic adjustment, we recommend setting the ladders so that the top edge of the ladder is approx. 12 cm from the pillar cover. Then lock the nuts to fix the ladder in place.

c) Hold the threaded rod with one open-end spanner and tighten the cable using the nut. You can use a spirit level to determine exactly how far you need to tighten the nuts to level the tracks. First place this in the centre of the track and adjust the cable nut on the main column so that the track is level.

   Make sure that there is still enough thread above the nut to fit the lock nut.

   If the thread is not sufficient, adjust the track with the cable nut on the right front pillar.

d) Place the spirit level on one of the crossbars and adjust the cable length on the corresponding rear pillar. Then repeat this on the second crossbar.

e) The platform should now be completely levelled. Now place the second nuts on the cable ends and lock them with open-end spanners.

f) The protective covers can now also be replaced on the crossbars.

### 8.4 Test points 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 the platforms 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. Commissioning

## 9.1 Safety precautions

a) If the safety devices are defective or show abnormalities, the lift must not be put into operation under any circumstances!

b) Check that all connections of the hydraulic lines are tight and functional. If there are no leaks, the lifting process can be started.

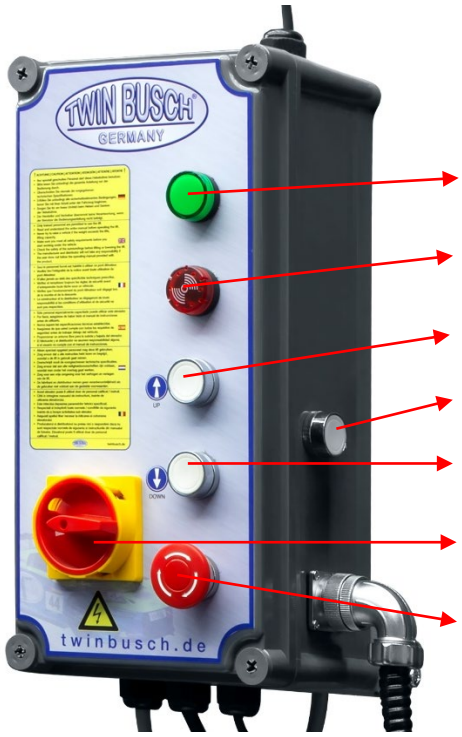
c) Only the operator should be in the vicinity of the lifting platform during a lifting or lowering operation. Always ensure that there are no persons in the danger zone.

d) 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.

e) 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.

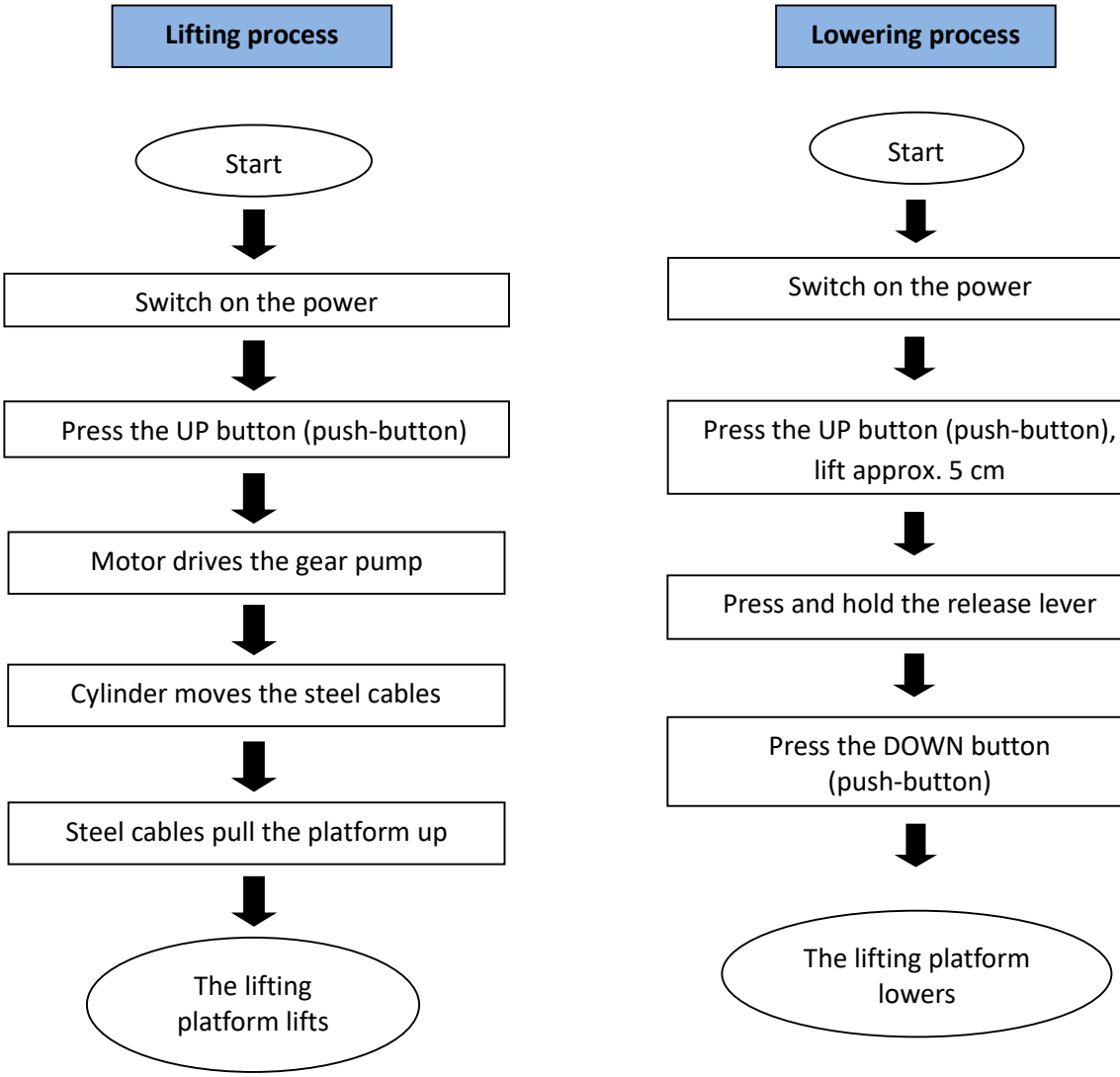
f) Ensure that the safety catches are engaged before starting work on or under a vehicle. No persons may be in the working area of the lift during the lifting and lowering process.

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




| Description | Function |
|---|---|
| Operating light | Indicates whether there is a power |
| Buzzer | Flashes and beeps when draining |
| UP button (push-button) | Lifting the lifting platform |
| Rope slack switch | Raising and lowering the lift |
| DOWN button (push-button) | Lowering the lifting platform |
| Main switch | Switch on or off |
| Emergency stop switch | Switches the system off in an emergency |

### 9.3 Lifting and lowering process flow chart



## 9.4 Operating instructions

### 9.4.1 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. Place the vehicle with its centre of gravity in the middle between the pillars on the platforms.
4. Press the UP button on the control unit until the platform has raised 10-15 cm. Stop the lifting process and make sure that the vehicle has been picked up correctly and safely.
5. After final alignment and checking, press the UP button again and keep it pressed until the desired lifting height is reached.
6. Set the main switch to OFF and start working on or under the vehicle.

### 9.4.2 Lowering process

1. Connect the power supply and switch the main switch to ON.
2. Press the UP button (push-button) to move the lifting carriages approx. 5 cm out of the safety catches.
3. Press the release lever on the column upwards and hold it in this position when lowering.
4. Once the platforms have lowered, the vehicle can 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.

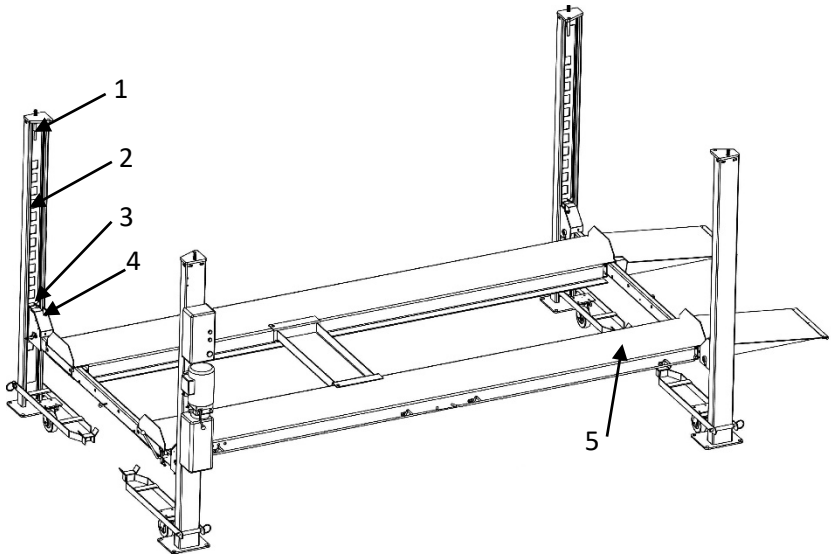
| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Unusual noise. | Wear on the inside of the pillars. | Grease the inside of the pillars. |
| | Contamination in the columns. | Remove the dirt. |
| The motor cannot be started, nor does the lift move up. | The cable connections are loose. | Check the cables 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. |
| | 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 greased 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 | Treads |
| 4 | Spring |
| 5 | Sliding wheel welded parts |




### 11.1 Daily inspection and maintenance of the lifting platform elements before use

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.
- Carry out a test run (without the vehicle) to check whether the safety catches are working properly.
- Clean heavily soiled lifting platform elements.
- Lubricate all lifting platform elements that are not well lubricated.

### 11.2 Weekly inspection and maintenance of the lifting platform elements

- 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 and maintenance of the lifting platform

- Check that all screw connections and joints are tight.
- Check the lift carriage 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 low-viscosity lubricating oil.

### 11.4 Annual inspection and maintenance of the lifting platform elements

- 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. 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 | 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 power connection has blown or is defective. | Check fuse. |
| Fuse in the switch box has blown or is defective. | Check fuse. |

Problem: Lifting platform cannot be raised.

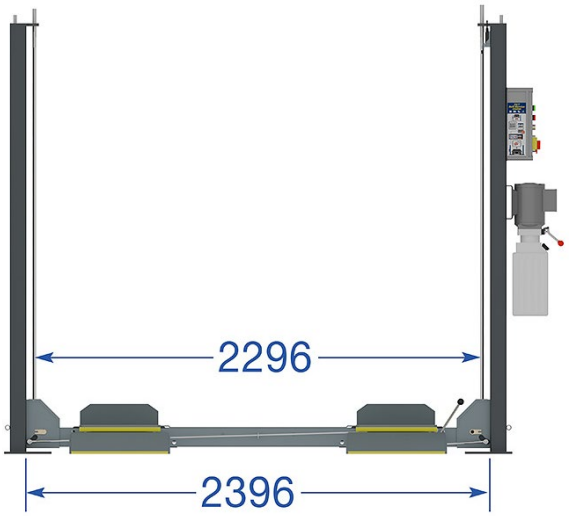
| Possible causes | Remedy |
|---|---|
| With three-phase current: one phase is missing. | Check power supply. |
| With three-phase current: Direction of rotation of motor reversed. | Check direction of rotation, change phase if necessary. |
| Oil pump defective. | Notify Twin Busch Service. |
| Emergency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

Problem: Lift cannot be lowered.

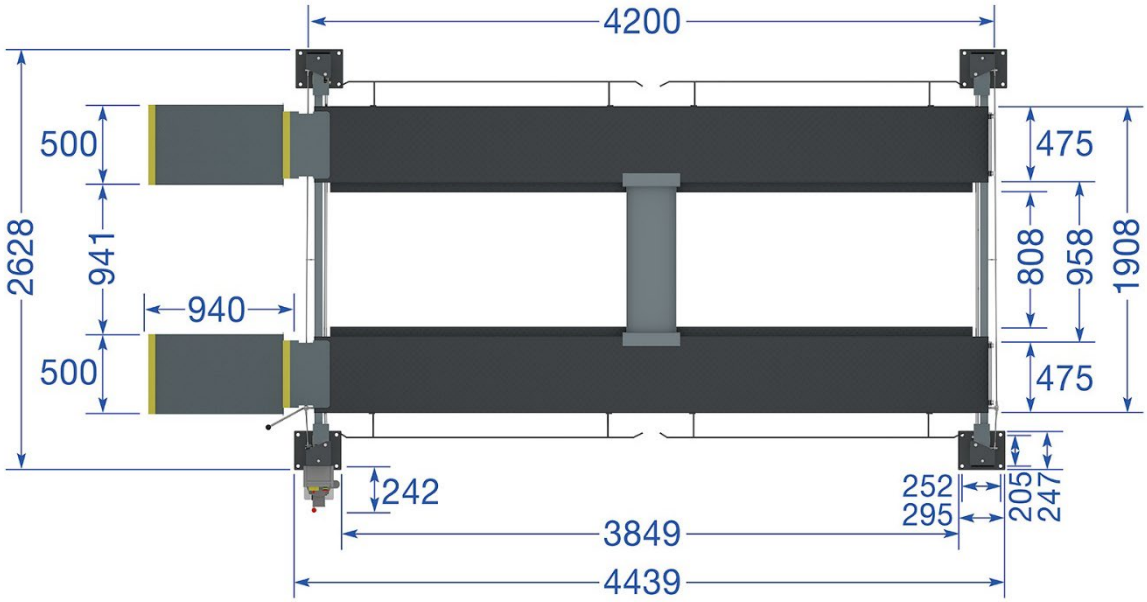
| Possible causes | Remedy |
|---|---|
| Lifting platform sits in safety catches. | Raise platform a little, pull detents, lower. |
| Lifting platform has moved into limit switch. | If necessary, loosen limit switch, raise 1 cm and lower. |
| Motor is defective. | Open safety latch and lift over.<br>Lower emergency drain. |
| Lifting platform has been blocked during lowering. | 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:**

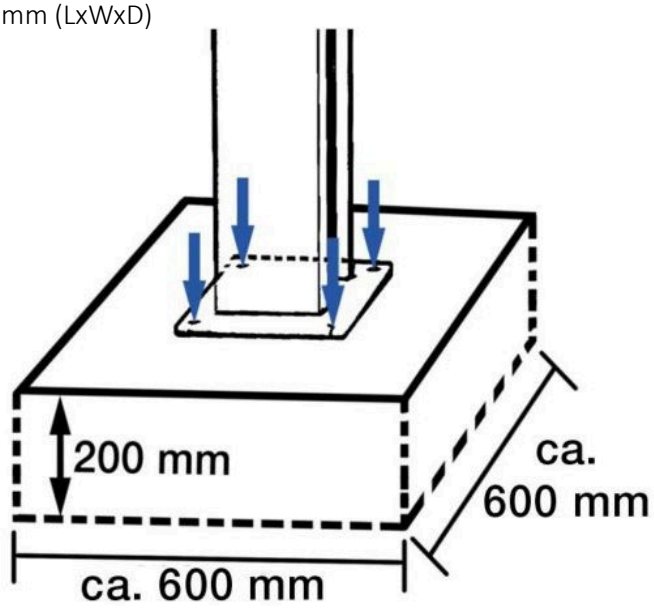
- Concrete C20/25 according to DIN 1045-2 (previous designation: DIN 1045 concrete B25).
- The floor must be level and have a flatness of less than 5 mm/m.
- Newly poured concrete must cure for at least 28 days.

**Foundation dimensions:**

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

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

approx. 600 x approx. 600 x 200 mm (LxWxD)




**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.

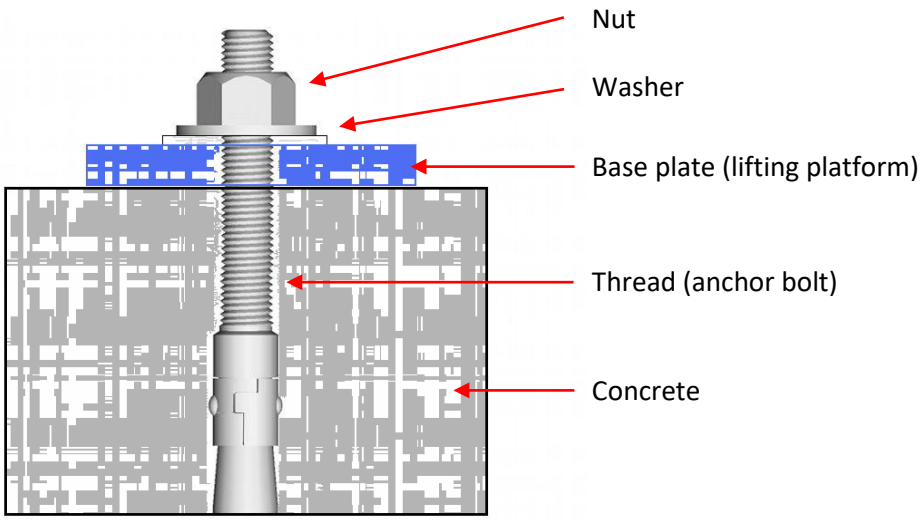
**The following must be observed for soil exposed to frost:**

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/m³ |
| Minimum air void content: | 4.0 % |
| Total foundation depth: | ≤ 80 cm (due to frost resistance) |
| Remainder filled with gravel: | 0/32 |

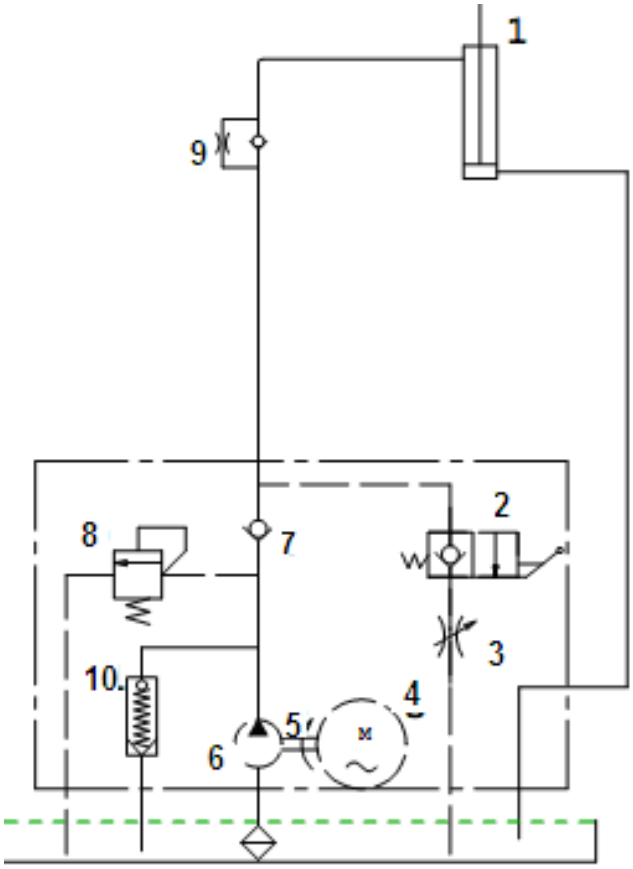
It must be noted, however, that the lifts are not designed for outdoor use (except for galvanised models). The control box is IP54, but the rest of the electrics, motors and limit switches are IP44 at most.

**Anchor bolt fastening**

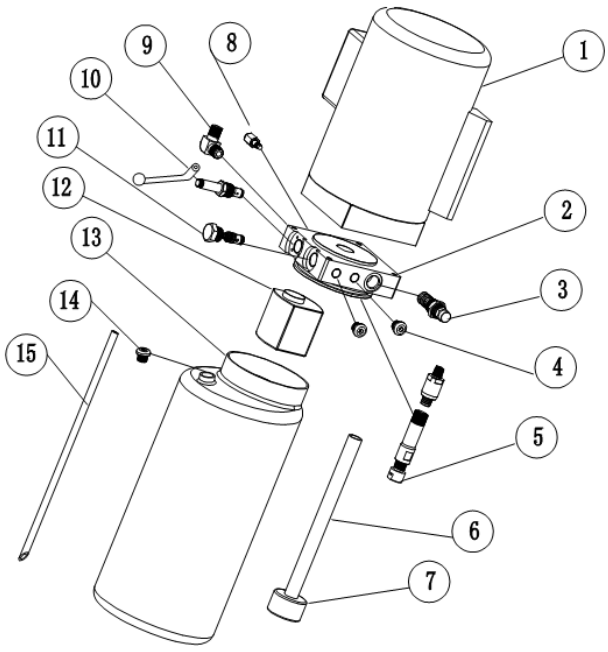



Tightening torque of the anchor bolts
is: 120 Nm

### 13.3 Hydraulic system

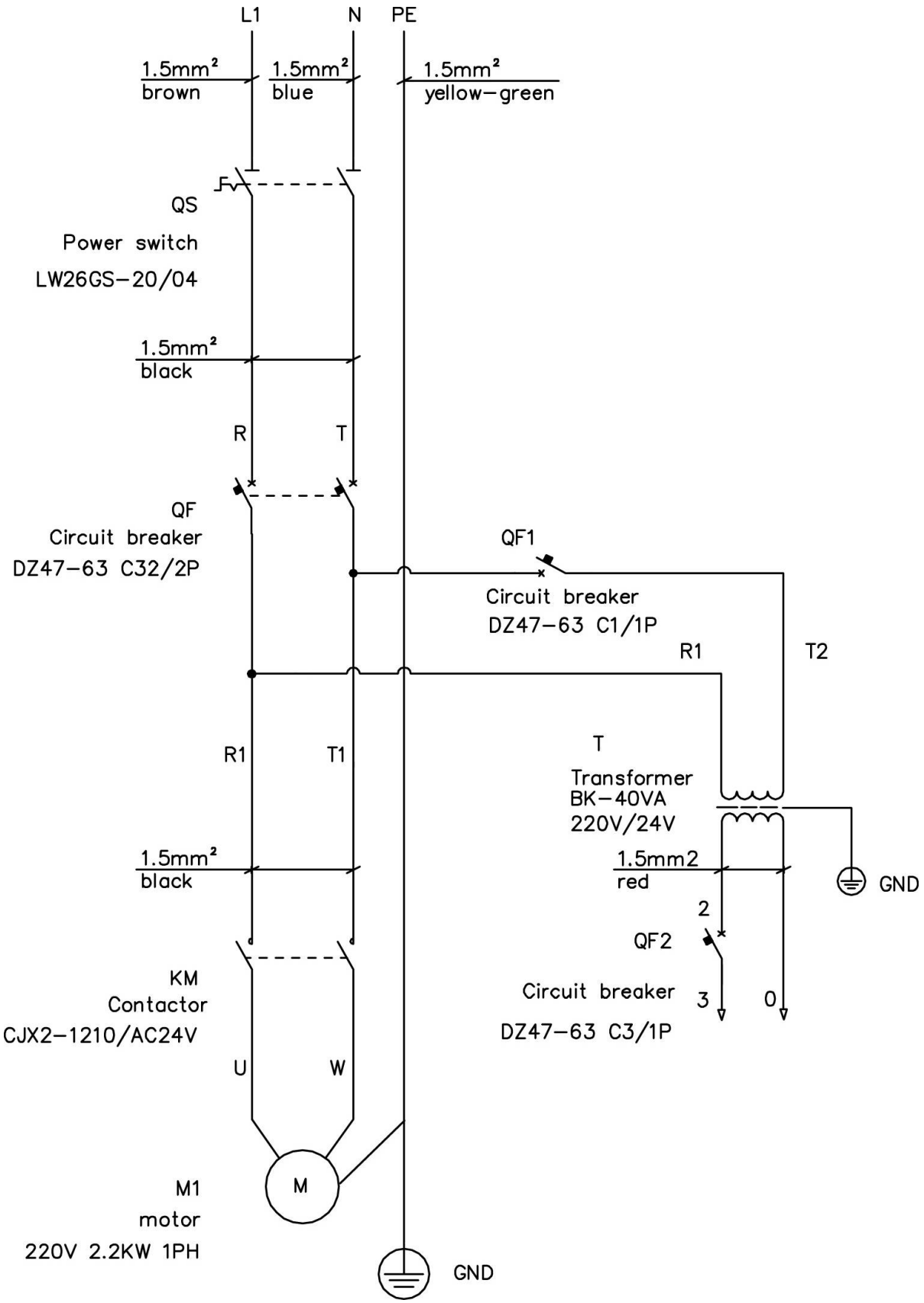


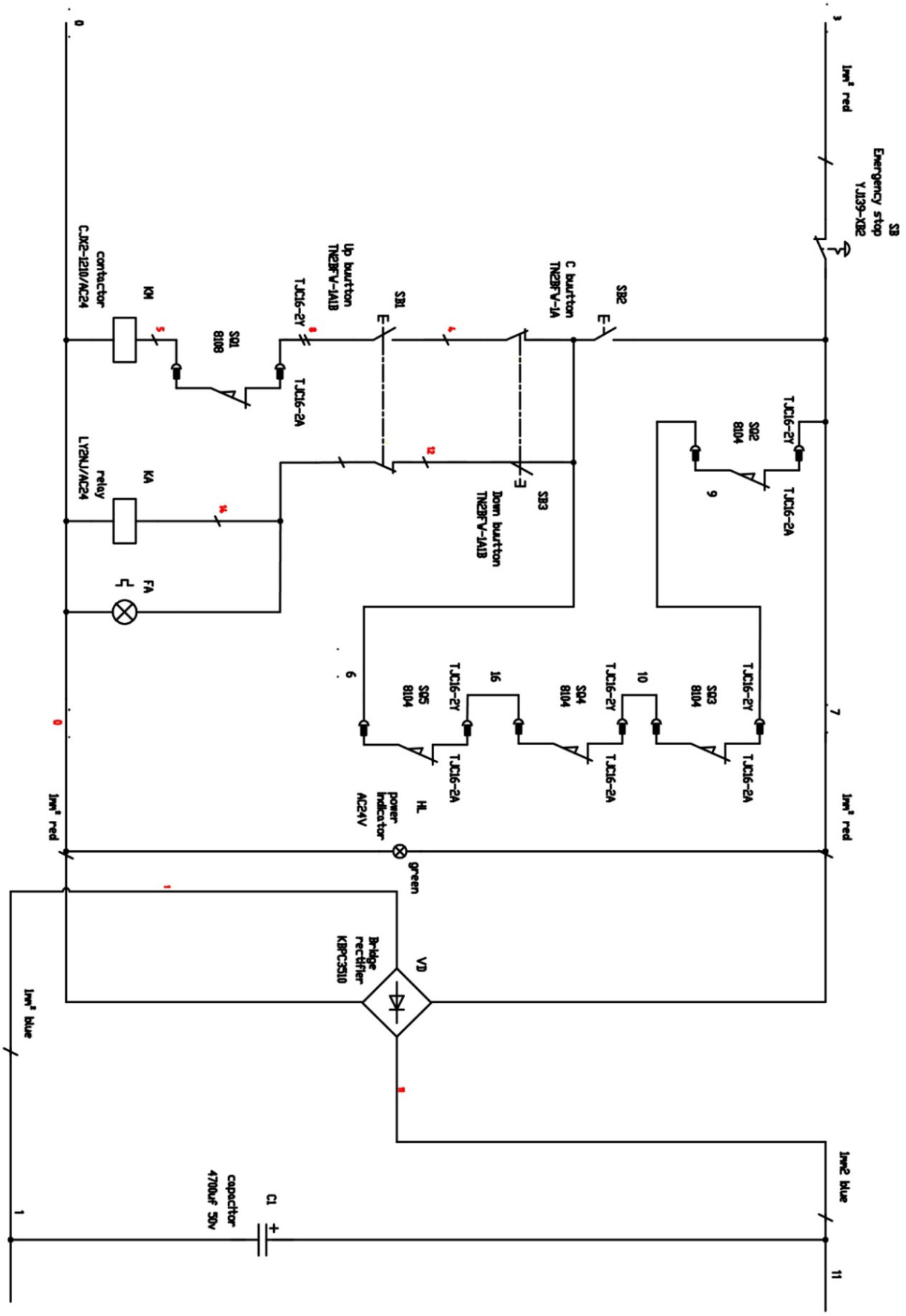

1. Cylinder
2. Emergency release valve
3. Throttle valve adjustable
4. Motor
5. Clutch
6. Pump
7. Non-return valve
8. Pressure relief valve
9. Throttle check valve
10. Spring-loaded non-return valve

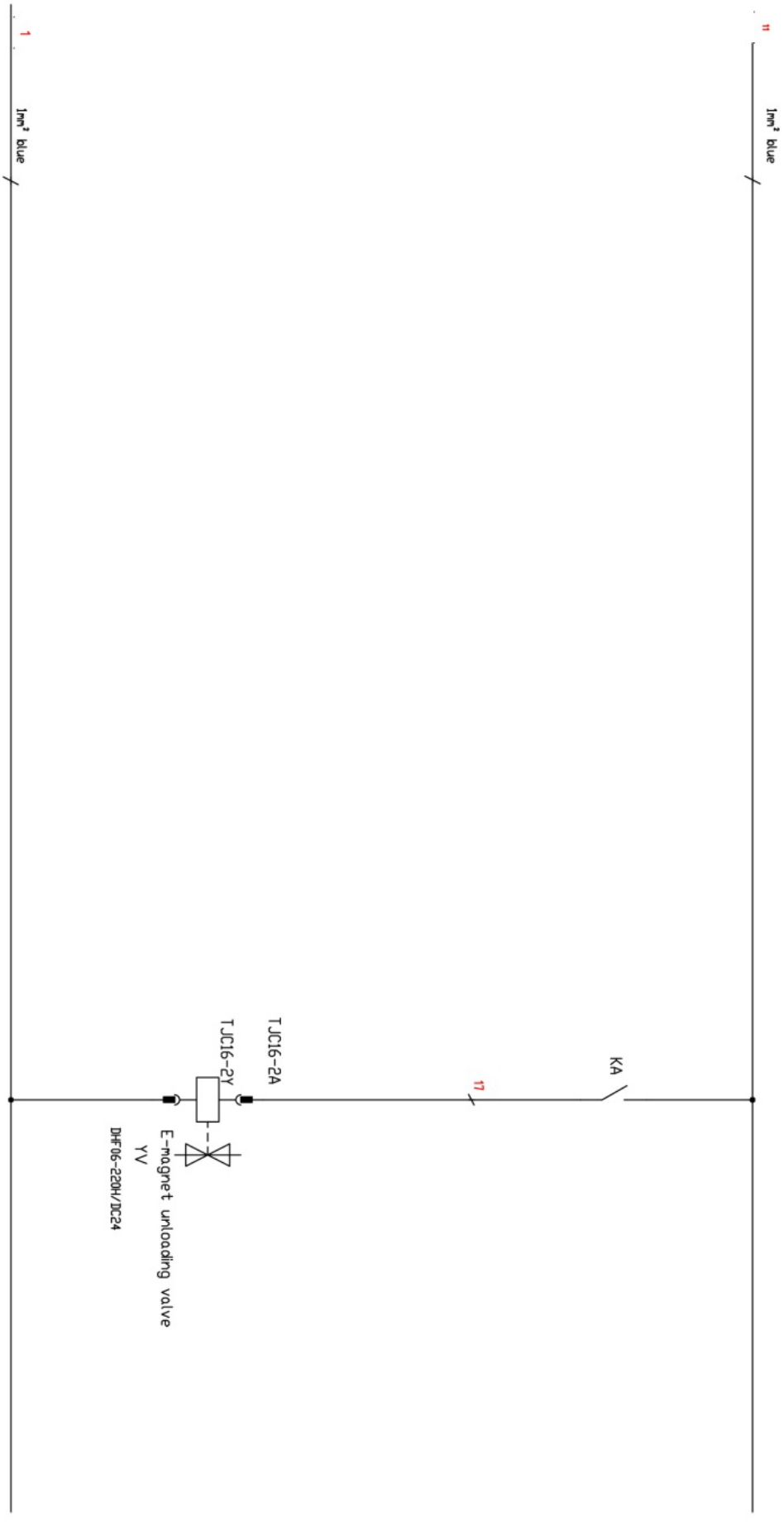



| S/N | Name | Quantity |
|---|---|---|
| 1 | Motor | 1 |
| 2 | Hydraulic block | 1 |
| 3 | Overload valve | 1 |
| 4 | Stopper | 2 |
| 5 | Non-return valve | 1 |
| 6 | Management | 1 |
| 7 | Oil filter | 1 |
| 8 | Throttle valve | 1 |
| 9 | Connection | 1 |
| 10 | Emergency release valve | 1 |
| 11 | Non-return valve | 1 |
| 12 | Pump | 1 |
| 13 | Oil tank | 1 |
| 14 | Oil tank cover | 1 |
| 15 | Return line | 1 |

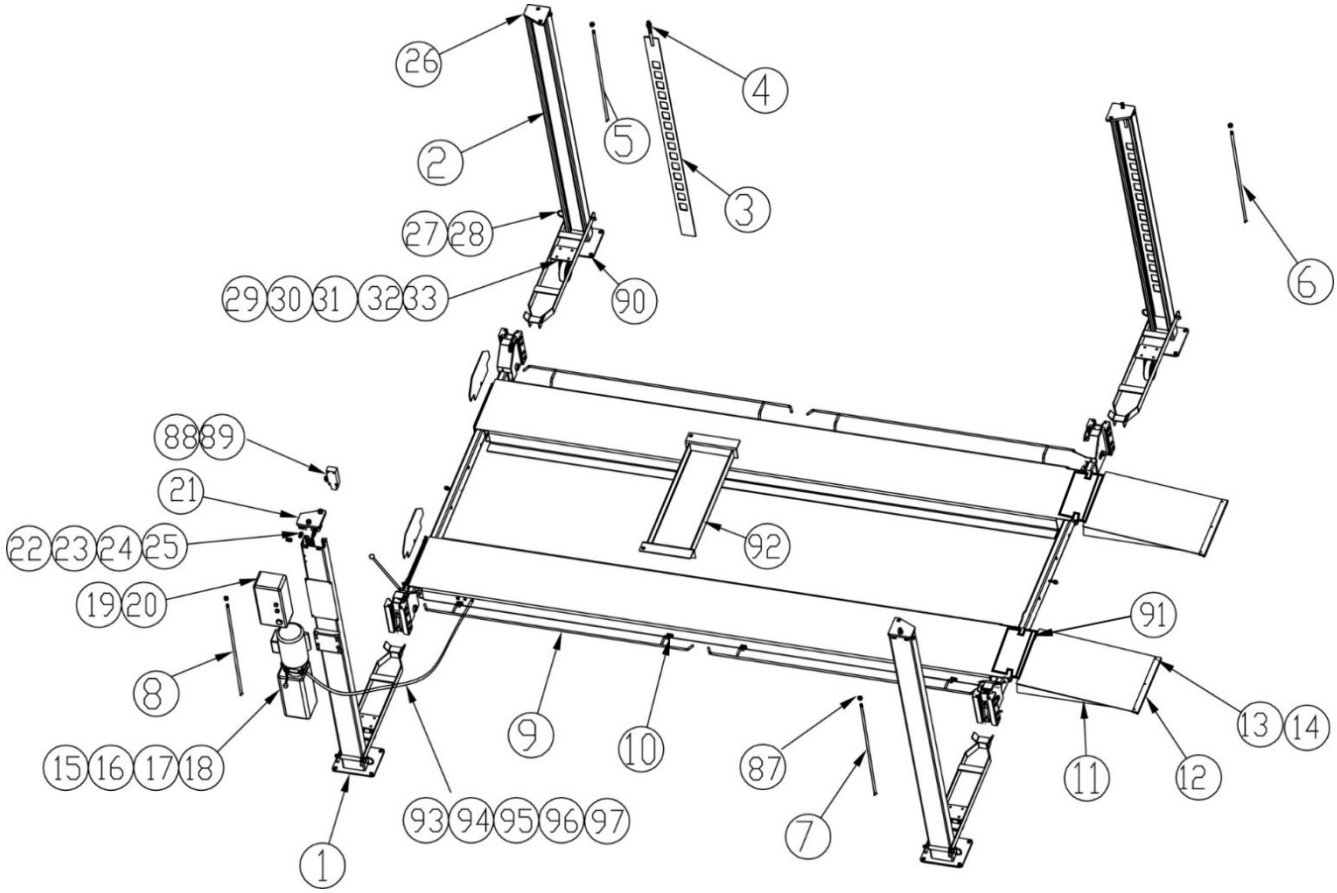
### 13.4 Circuit diagrams

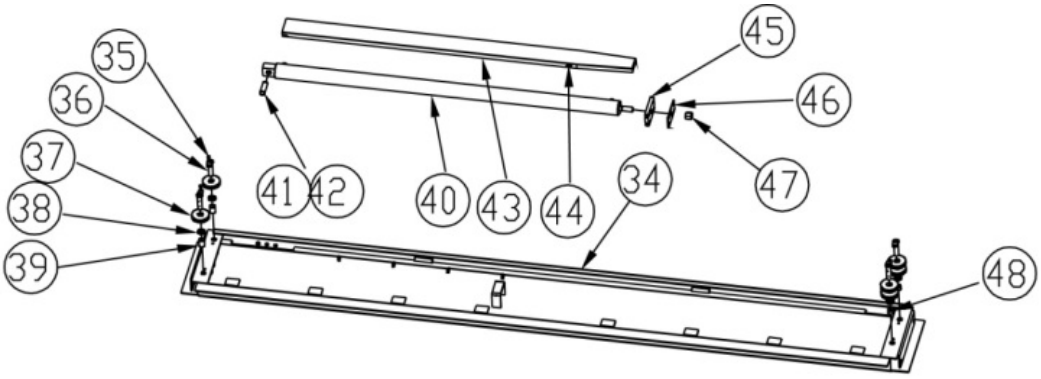


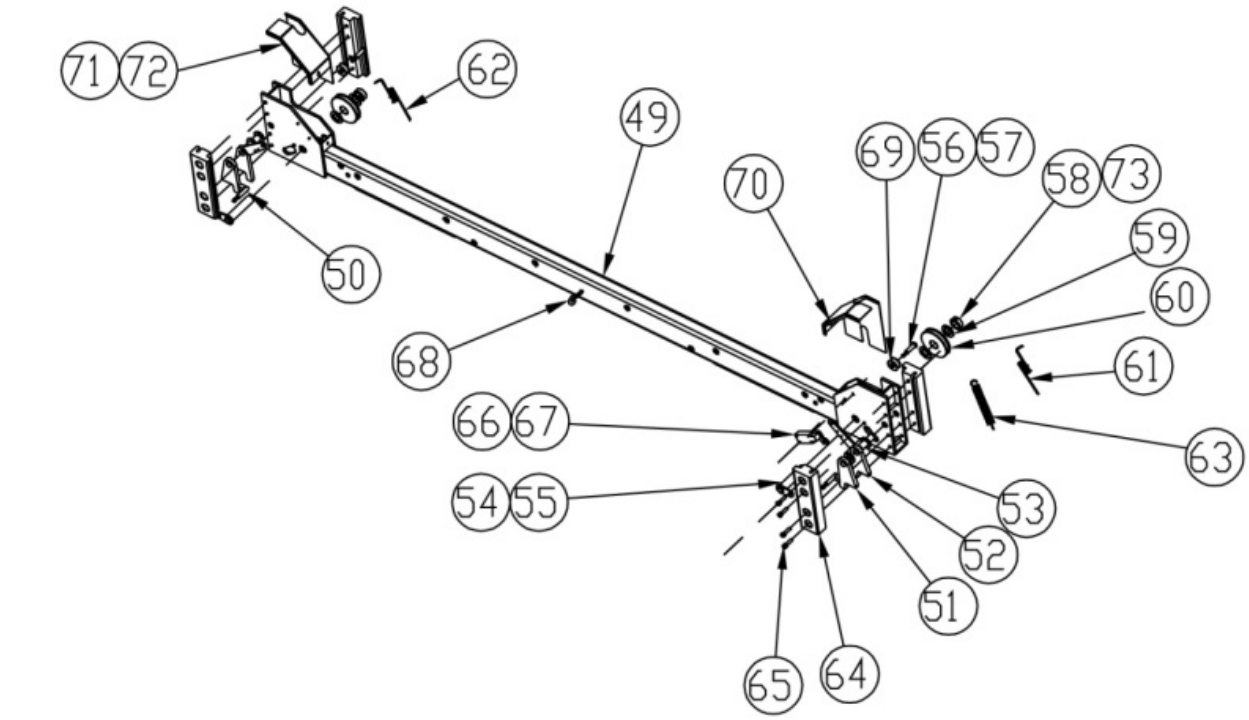

Emergency stop
YJ139-XB2
SB
1mm² red
contactor
CJX2-1210/AC24
KM
SB1
8108
TJC16-2Y
TJC16-2A
Up button
TM2BFV-1A1B
SB1
C button
TM2BFV-1A
SB2
SB2
8104
TJC16-2Y
TJC16-2A
9
relay
LY2NJ/AC24
KA
Down button
TM2BFV-1A1B
SB3
FA
SB5
8104
TJC16-2Y
TJC16-2A
6
16
SB4
8104
TJC16-2Y
TJC16-2A
10
SB3
8104
TJC16-2Y
TJC16-2A
power
indicator
AC24V
HL
green
Bridge
rectifier
KBPC3510
VD
1mm² blue
capacitor
4700uF 50v
C1
1mm2 blue


1
1mm² blue
11
1mm² blue
TJC16-2Y
TJC16-2A
17
KA
E-magnet unloading valve
YV
DHF06-220H/DC24

### 13.5 Detailed drawing and parts description of the lifting platform

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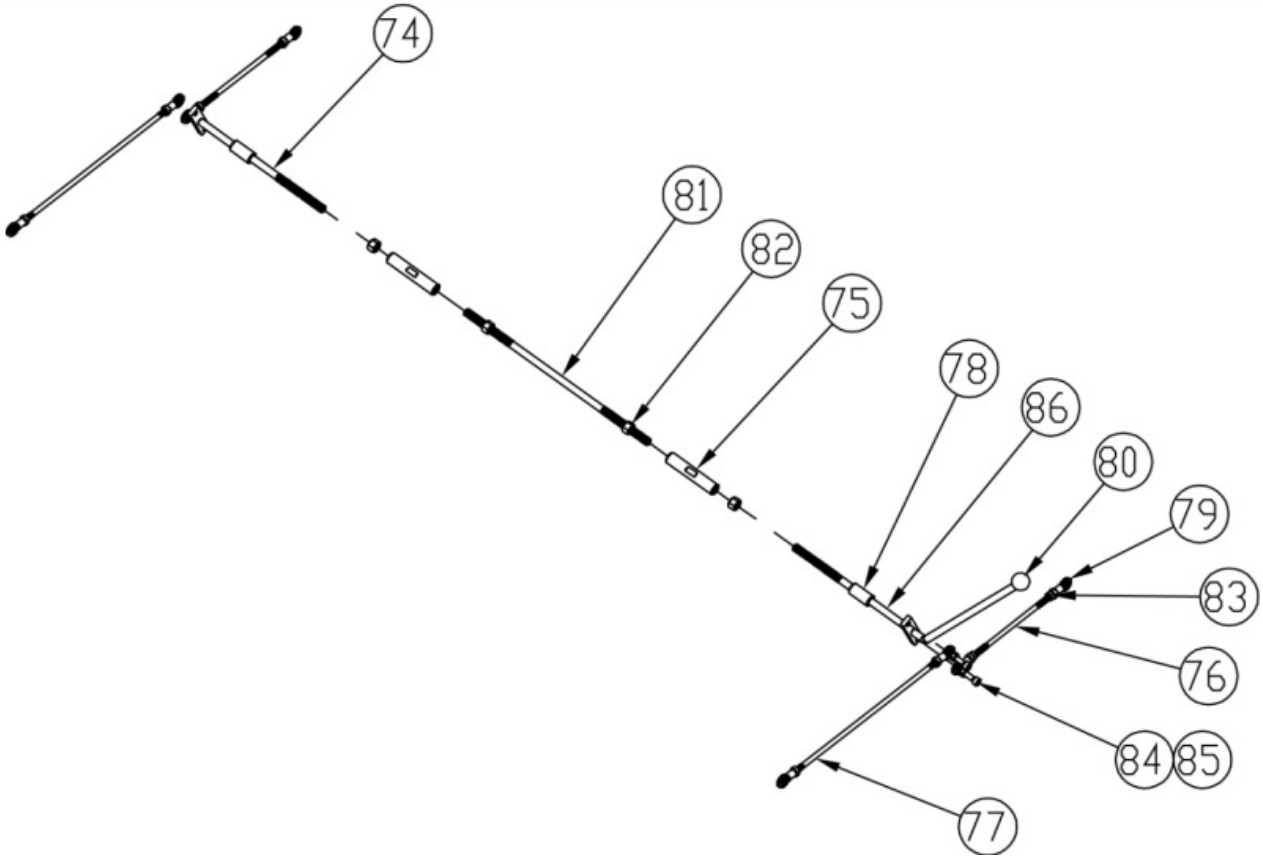
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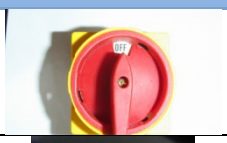
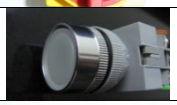
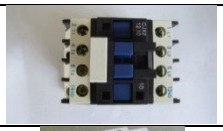
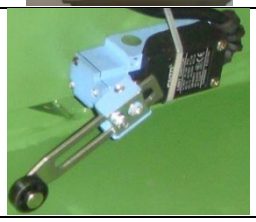
| No. | Spare part number | Name | Specification | No. | Material | Remark |
|---|---|---|---|---|---|---|
| 1 | Enquiry | Main column | FL-8448P-A1-B1 | 1 | Welded part | |
| 2 | On request | Secondary column | FL-8448P-A2-B1 | 3 | Welded part | |
| 3 | E-HEB0225 | Manager | FL-8448P-A1-B2 | 4 | Welded part | |
| 4 | On request | Mother | M18 | 4 | Standard | GB/T 6170-2000 |
| 5 | E-HEB0198 | Steel cable L=8260 | | 1 | Component | |
| 6 | E-HEB0196 | Steel cable L=4200 | | 1 | Component | |
| 7 | E-HEB0195 | Steel cable L=2750 | | 1 | Component | |
| 8 | E-HEB0197 | Steel cable L=6830 | | 1 | Component | |
| 9 | E-HEB0299 | Foot protection bar | FL-8448T-A16 | 4 | Welded part | |
| 10 | On request | Allen screw | M6*12 | 8 | Standard | GB/T 70.1-2000 |
| 11 | On request | Access ramp | FL-8448P-A8-B1 | 2 | Welded part | |
| 12 | On request | Screw | M6X10 | 8 | Standard | GB/T78-2000 |
| 13 | On request | Screw | M5*12 | 6 | Standard | GB/T 818-2000 |
| 14 | On request | Mother | M5 | 6 | Standard | GB/T 6170-2000 |
| 15 | On request | Tax unit | M6 | 1 | Component | |
| 16 | On request | Screw | M8*20 | 4 | Standard | GB/T5781-2000 |
| 17 | On request | U Disc C | M8 | 4 | Standard | GB/T 95-1985 |
| 18 | On request | Mother | M8 | 4 | Standard | GB/T 6170-2000 |
| 19 | E-HEB0277 | Switch box | | 1 | Component | |
| 20 | On request | Screw | M6*12 | 4 | Standard | GB/T 818-2000 |
| 21 | E-HEB0301 | Mounting plate right | FL-8448P-A2-B2 | 2 | Welded part | |
| 22 | On request | Screw | M12*25 | 16 | Standard | GB/T5781-2000 |
| 23 | On request | Spring washer | M12 | 16 | Standard | GB/T 97-1985 |
| 24 | On request | U Disc C | M12 | 16 | Standard | GB/T 95-1985 |
| 25 | On request | Mother | M12 | 16 | Standard | GB/T 6170-2000 |
| 26 | E-HEB0300 | Mounting plate left | FL-8448P-A1-B3 | 2 | Welded part | |
| 27 | On request | Bolt (mobile kit) | FL-8448P-A13-B3 | 4 | Welded part | |
| 28 | On request | R Bracket | | 4 | Standard | DIN 11024-1973 |
| 29 | On request | Frame (mobile kit) | FL-8448P-A13-B1 | 4 | Welded part | |
| 30 | On request | Steel wheel | FL-8448P-A13-B2 | 4 | Component | |
| 31 | On request | Screw | M10*25 | 16 | Standard | GB/T5781-2000 |
| 32 | On request | Mother | M10 | 16 | Standard | GB/T 6170-2000 |
| 33 | On request | U Disc C | M10 | 16 | Standard | GB/T 95-1985 |
| 34 | On request | Carriageway | FL-8448P-A5-B1 | 1 | Welded part | |
| 35 | On request | Screw | M8*16 | 4 | Standard | GB/T 70.1-2000 |
| 36 | E-HEB0212 | Pin 2 | FL-8448T-A5-B2 | 4 | Welded part | |
| 37 | E-HEB089-7 | Wheel | FL-8448P-A4-B9 | 6 | 45 | |
| 38 | On request | Disc | FL-8448P-A4-B12 | 4 | Q235A | |
| 39 | On request | Socket 1 | FL-8448T-A5-B3 | 2 | Q235A | |
| 40 | E-HEB0191 | Cylinder | ¢ 75*1841 | 1 | Component | |
| 41 | On request | Cylinder pin | FL-8448P-A5-B5 | 1 | 45 | |
| 42 | On request | Seeger Ring | D28 | 2 | standard | |
| 43 | On request | Oil mudguard | FL-8448P-A17 | 1 | Q235A | |
| 44 | On request | Screw | M6*15 | 2 | standard | GB/T 70.1-2000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45 | On request | Mounting plate 1 | FL-8448T-A7-B2-C1 | 1 | Q235A | borrow |
| 46 | On request | Mounting plate 2 | FL-8448T-A7-B4 | 1 | Q235A | borrow |
| 47 | On request | Screw | M27 | 1 | standard | |
| 48 | On request | Socket 2 | FL-8448T-A5-B4 | 2 | Q235A | |
| 49 | On request | Traverse | FL-8448P-A4-B1 | 1 | Welded part | |
| 50 | On request | Main safety mechanism | FL-8448P-A4-B2 | 1 | Welded part | |
| 51 | On request | In addition to the safety mechanism | FL-8448P-A4-B3 | 1 | Welded part | |
| 52 | On request | Steel cable protection | FL-8448P-A4-B4 | 2 | Welded part | |
| 53 | On request | Safety pin | FL-8448P-A4-B7 | 2 | 45 | |
| 54 | On request | Wheel Axle | FL-8448P-A4-B5 | 4 | Welded part | |
| 55 | On request | Screw | M8*12 | 4 | standard | GB/T 70.1-2000 |
| 56 | On request | Wheel Axle | FL-8448P-A4-B8 | 4 | 45 | |
| 57 | On request | Screw | M8 | 4 | standard | |
| 58 | On request | Seeger Ring | FL-8448P-A4-B6 | 12 | 45 | |
| 59 | On request | Gasket | FL-8448P-A4-B12 | 8 | Q235A | |
| 60 | E-HEB0211 | Wheel | FL-8448P-4-B9 | 4 | 45 | |
| 61 | On request | Spring 1 | FL-8448T-A3-B19 | 2 | 65Mn | |
| 62 | On request | Spring 2 | FL-8448T-A3-B21 | 2 | 65Mn | |
| 63 | On request | Spring 1 | FL-8448T-A3-B20 | 8 | 65Mn | |
| 64 | E-HEB0302 | Sliding piece | FL-8448T-A3-B11 | 8 | Nylon1010 | |
| 65 | On request | Screw | M8*30 | 32 | standard | GB/T 70.1-2000 |
| 66 | On request | Limit switch | 8104 | 4 | standard | |
| 67 | On request | Screw | M5*15 | 2 | standard | GB/T 70.1-2000 |
| 68 | On request | Mounting ring | FL-8448P-A4-B16 | 2 | Q235A | |
| 69 | On request | Wheel | FL-8448T-A3-B9 | 4 | Nylon1010 | |
| 70 | E-HEB0228 | Cover | FL-8448P-A4-B15 | 2 | Welded part | |
| 71 | E-HEB0229 | Cover | FL-8448P-A4-B14 | 2 | Welded part | |
| 72 | =NO.71 | Screw | M6*10 | 2 | standard | GB/T 818-2000 |
| 73 | On request | Screw | M8*10 | 4 | standard | GB/T78-2000 |
| 74 | E-HEB0314 | Bar 2 | FL-8448P-A10-B2 | 1 | Welded part | |
| 75 | On request | Thread bush | FL-8448P-A10-B3-C1 | 2 | 45 | |
| 76 | E-HEB0310 | Connecting rod 3 | FL-8448P-A10-B4 | 2 | 45 | |
| 77 | E-HEB0311 | Connecting rod 4 | FL-8448P-A10-B5 | 2 | 45 | |
| 78 | On request | Socket | FL-8448P-A10-B6 | 2 | Q235A | |
| 79 | On request | Joint | FL-8448T-A11-B6 | 8 | Component | |
| 80 | On request | Ball to lever | M10*32 | 1 | Plastic | JB/T 7271.1-94 |
| 81 | E-HEB0312 | Connecting rod 1 | FL-8448P-A10-B7 | 1 | 45 | |
| 82 | On request | Mother | M12 | 4 | standard | GB/T 6170-2000 |
| 83 | On request | Hex nut | M8 | 8 | standard | GB/T 6170-2000 |
| 84 | On request | Screw | M8*30 | 4 | standard | GB/T5781-2000 |
| 85 | On request | Screw | M8 | 4 | standard | GB/T 95-1985 |
| 86 | E-HEB0313 | Connecting rod to lever | FL-8448P-A10-B1 | 1 | Welded part | |
| 87 | On request | Mother | M20 | 4 | standard | GB/T 6170-2000 |
| 88 | E-HEB0010 | Limit switch 8108 | | 1 | standard | |
| 89 | On request | Screw | M5*12 | 2 | standard | GB/T 70.1-2000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 90 | On request | Screw | M18*160 | 16 | standard | |
| 91 | On request | Unwind fuse | FL-8448P-A9 | 4 | Q235A | |
| 92 | On request | disc | FL-8448P-A11 | 1 | Welded part | |
| 93 | E-HEB0220 | Hydraulic hose | ϕ8,straight and bent L=1700 | 1 | Component | |
| 94 | =NO.93 | Hydraulic hose | ϕ8, Both ends pass through L=1700 | 1 | Component | |
| 95 | On request | Compound cylinder | NPT3/8-G1/4（with throttle valve） | 1 | standard | |
| 96 | On request | Pipe | G1/4-G1/4 (with thin nut） | 1 | standard | |
| 97 | On request | Protection spring | FL-8448T-A17 | 1 | 65Mn | |

## 13.6 Spare parts list

| No. | Spare part number | Name | Specification | Quantity | Remark |
|---|---|---|---|---|---|
| 1 | E-HEB0002 | Main switch | LW26GS-20/04 | 1 |  |
| 2 | On request | Button | TN2BFW/A/B | 3 |  |
| 3 | E-HEB001 | Chandelier | AD17-22G-AC24 | 1 |  |
| 4 | | Transformer | JBK3-40VA 220V-24V | 1 | equal to 7 |
| 5 | | Transformer | JBK3-40VA 230V-24V | 1 | equal to 7 |
| 6 | | Transformer | JBK3-40VA 240V-24V | 1 | equal to 7 |
| 7 | E-HEB0072-1 | Transformer | JBK3-40VA 380V-24V | 1 |  |
| 8 | | Transformer | JBK3-40VA 400V-24V | 1 | equal to 7 |
| 9 | | Transformer | JBK3-40VA 415V-24V | 1 | equal to 7 |
| 10 | E-HEB0003 | AC motor protection | CJX2-1210/AC24 | 1 |  |
| 11 | E-HEB0077-C16 | Circuit breaker | DZ47-63 C16 /3P | 1 |  |
| 12 | E-HEB0076-C32 | Circuit breaker | DZ47-63 C32 /2P | 1 |  |
| 13 | E-HEB0075-C03 | Circuit breaker | DZ47-63 C3 /1P | 1 |  |
| 14 | E-HEB0075-C01 | Circuit breaker | DZ47-63 C1 /1P | 1 | equal to 13 |
| 15 | E-HEB0009 | Limit switch | TZ8104 | 1 |  |
| 16 | E-HEB0001 | Emergency stop | YJ13P-XB2 | 1 |  |
| 17 | On request | Empty switch box | 190*430*135 | 1 |  |
| 18 | E-HEB0010 | Limit switch | TZ8108 | 1 |  |

EC-declaration of conformity

The company

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

hereby declares that the **4-post vehicle lift**

| | |
|---|---|
| **TW436P** (-230,-400) | **\| 3600 kg** |
| **TW445, TW445E** (-230,-400) | **\| 4500 kg** |
| **TW436P-W, TW445-W** | **\| 3000 kg** |

Serial number:

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

EC-directive(s)

| | |
|---|---|
| **2006/42/EC** | **Machinery** |
| **2014/35/EC** | **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 0043 Rev. 01** | date of issue: 18.07.2023 |
| **N8MA 087411 0044 Rev. 01** | place of issue: Munich |
| | technical file no.: 646642304401 |

Certification body

TÜV SÜD Product Service GmbH,
Ridlerstraße 65,
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 ist validity.**

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

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Authorized signatory: Michael Glade
Bensheim, 17.07.2023 Qualitätsmanagement


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