TWIN BUSCH GERMANY

SCISSOR LIFT
TWS3-18UE / TWS3-18UE-G
(Lifting capacity: 3000 kg)

TWS3-18UE & TWS3-18UE-G

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

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

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Additional appendix:

- **EU declaration of conformity**

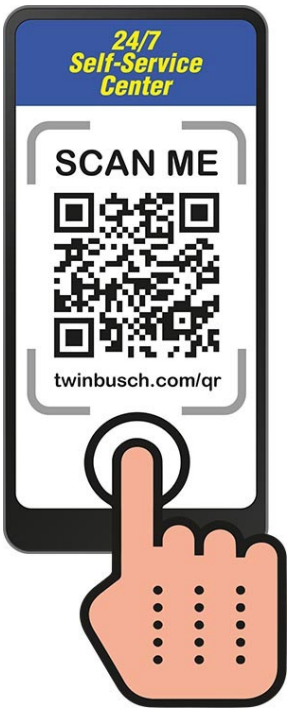
Important information:

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 TWS3-18UE / TWS3-18UE-G professional scissor lift for recessed installation has a lifting height of 1.8 m and a permissible load capacity of 3,000 kg and is CE certified by an approved certification body. It is ideal for floor-level installation in drive-through areas and for ultra-low sports cars. The extendable vehicle supports allow vehicles with long wheelbases to be lifted without any problems. It is also very well suited for tyre services, bodywork and vehicle preparation.

In addition to the reliable hydraulic system, this scissor lift has a strong safety locking system.

Special features of the product:

- A1 workmanship with CE certificate for UVV approval
- Manufactured in accordance with ISO 9001
- Floor-level installation
- CE stop and warning signal when lowering
- Hydraulic cylinders for powerful lifting
- High-quality and solid construction
- Acoustic warning signal (foot protection)
- Electromagnetic release (no compressed air connection required)
- Anti-lift-up button
- Extendable vehicle mounts
- Emergency release function
- Hose packages 3000 mm
- High-quality powder coating

2. Identification of the operating instructions

Instruction manual TWS3-18UE & TWS3-18UE-G

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Status: -00, 22.07.2025

File: TWS3-18UE_TWS3-18UE-G_ScissorLift_Manual_uk_00_20250722.pdf

3. Technical data

Power supply	230 V single phase /400 V / 3 phase
Fusing	C 16A (slow-blow)
Lifting capacity CE	3,000 kg
Max. lifting height	1800 mm + rubber
Clearance height	Floor level (0 mm)
Lifting/lowering time	45/30 sec.
Drive power	2.2 kW
Noise level	<70 dBA
Working environment	Working temperature: -25°C to +55°C
	Relative humidity: 30 % to 90 %

4. Modification of the product

Improper use, as well as modifications, conversions and additions to the post 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 will also invalidate the CE certification and the validity of the test report.
If you wish to make any changes, please contact your dealer or the expert staff at Twin Busch GmbH in advance.

5. Safety-related information

Read the operating instructions carefully before putting the lift into operation. Keep the instructions for future reference. Follow the instructions carefully to achieve the best performance of the machine and to avoid damage caused by personal negligence.

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

The lift has been specially designed for lifting motor vehicles. Users must not use it for any other purpose. The applicable national regulations, laws and guidelines must be observed.

Only lift vehicles within the rated load capacity. Do not attempt to lift vehicles with excessive weight.

5.1 Safety instructions

- Read and understand the safety instructions before operating the lift.
- Do not install the lift on a paved surface.
- Never leave the control unit when the lift is in motion.
- Keep hands and feet away from moving parts. Pay particular attention to your feet when lowering the lift.
- The lift must only be operated by trained personnel.
- Uninvolved persons are not permitted in the vicinity of the lift.
- Wear suitable work clothing.
- The area around the lift must always be kept free of obstructions.

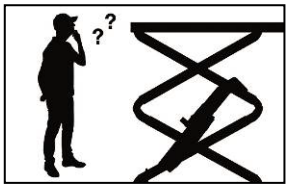
- The lift is designed for lifting motor vehicles that do not exceed the maximum permissible weight.
- Always ensure that all safety precautions have been taken before working near or under the vehicle.
- Never remove safety-related components from the lift.
- Do not use the lift if safety-related components are missing or damaged.
- Under no 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 operation of the lift to ensure its performance is not adversely affected. Ensure regular maintenance. If any irregularities occur, stop working 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, 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 used oil in the prescribed manner.

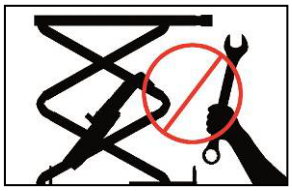
5.2 Warnings and symbols

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!

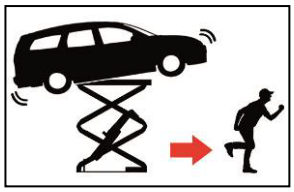


Operation of the lifting platform only by qualified personnel!

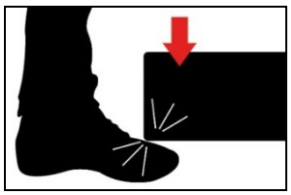


Repairs and maintenance only by qualified personnel, never put safety devices out of operation!

Risk of crushing when lifting or lowering!



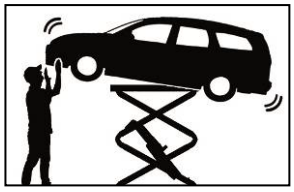
Always keep escape routes clear!



Pay attention to the lifting platforms and don't lower on to your feet! Crushing hazard!

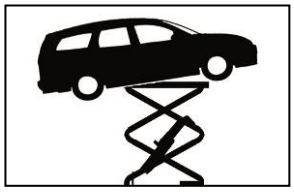
It is forbidden for persons to stand under the lifting platform (when lifting or lowering)!

No additional supports or interfering objects when lowering!



Avoid shaking the vehicle.

Never attempt to load only one side of the lift!



Do not exceed the specified load capacity! Distribute the vehicle weight over both platforms!

CAUTION!
Electrical voltage!

5.3 Monitoring and testing the safety equipment

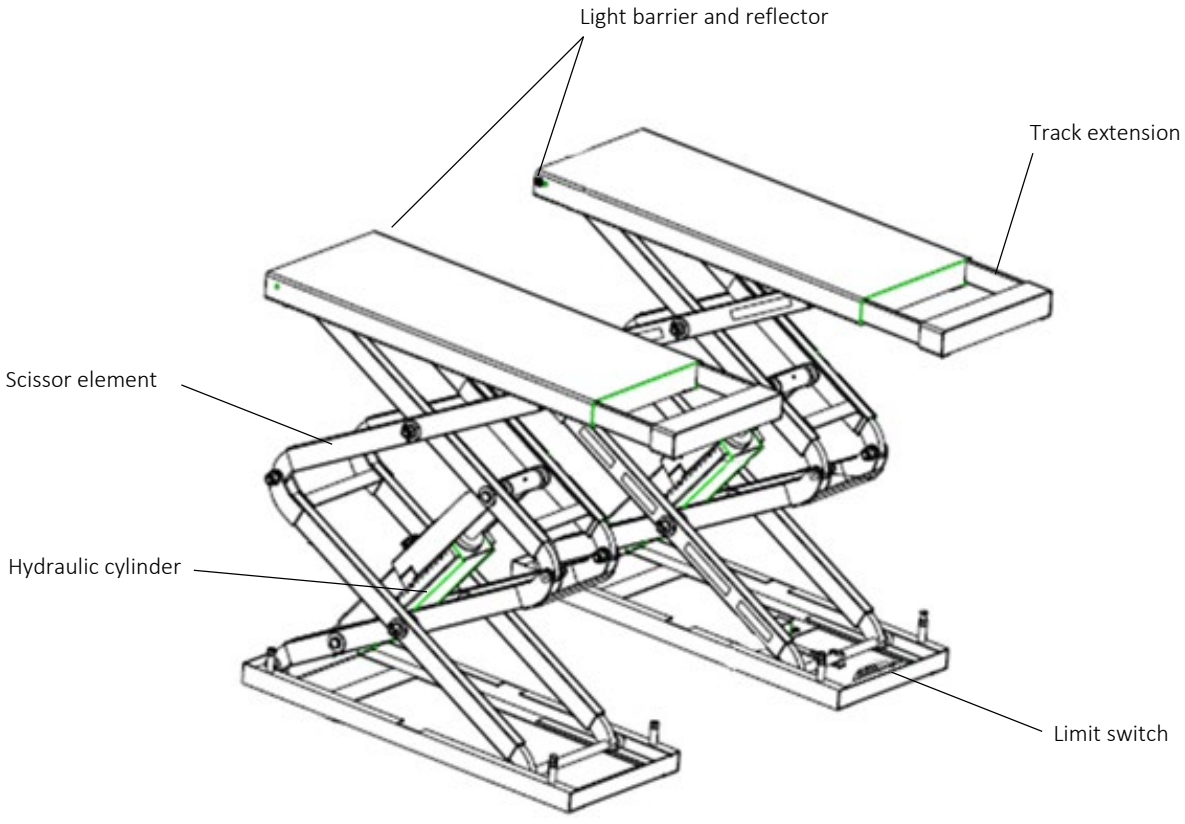
- 24 V control unit	Low voltage for safe operation.
- Limit switch (max. height)	Limits the stroke at maximum lifting height.
- Limit switch (changeover height)	Stops the lowering movement at the safety height. Press the "DOWN II" button to continue lowering; the alarm signal sounds again to alert people to keep away from the moving parts.
- Mechanical safety catches	The post lift is mechanically stopped in the event of a hydraulic leak.

6. Compliance with the product

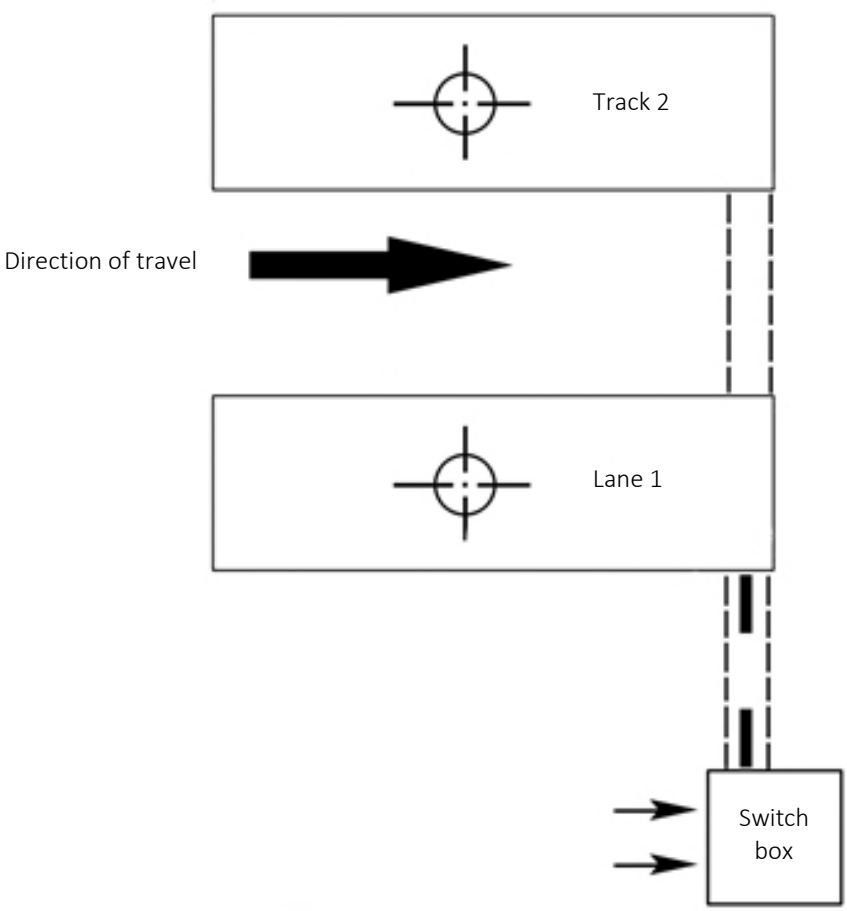
The TWS3-18UE / TWS3-18UE-G scissor lift is CE certified and complies with the Machinery Directive 2006/42/EC and meets the standards EN 1493:2022, EN 60204-1:2008 and EN ISO12100-2010 (see EU Declaration of Conformity at the end of the operating instructions).

7. Technical specifications

7.1 Machine description



7.2 Overview of the foundation



8. Assembly of the post lift

8.1 Before installation

Tools and equipment required:

- Electric drill
- Spanner
- Phillips screwdriver
- Socket wrench
- Lifting tool (e.g. forklift truck)
- Hydraulic oil HLP 32

8.1.2 Working area

There must be a clearance of at least 1 m between the lift and any fixed elements and walls in all lifting positions. There must be sufficient space at the ends of the lift to allow vehicles to enter and exit.

To prevent vehicles from colliding with the ceiling, it is advisable to install a ceiling light barrier in buildings with low ceilings.

8.2 Floor conditions

Only use this lift on a surface that is stable, level, dry, non-slip and capable of supporting the load. This lift must be installed on a solid concrete floor with a slope of no more than 0.5%. Failure to do so may result in injury or even death. Do not install or use the lift on asphalt surfaces.

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) Place both platforms at the intended installation location. Read and understand the operating instructions before continuing.

2) Remove the package containing the control box and place it at a distance of approx. 2700 mm.
Caution: With this model of lift, the control box is placed on the right-hand side in the direction of travel.

3) Using a lifting device (e.g. forklift truck), lower the platforms in the centre of the recess in the concrete.

   The upper platform is usually the main side; you can recognise this by the pre-mounted light barrier (photo sensor) of the synchronisation device. To position the first platform, you must lift and lock the scissor element using a tension belt.
   Lift the upper platform until the catch engages with both teeth. Then lower the platform so that the catches engage.

   Additionally, pass a tension belt through the centre of the platform so that you can lift it safely. Now you can place the place it on the floor. However, before removing it, unscrew the track from the pallet supplied.

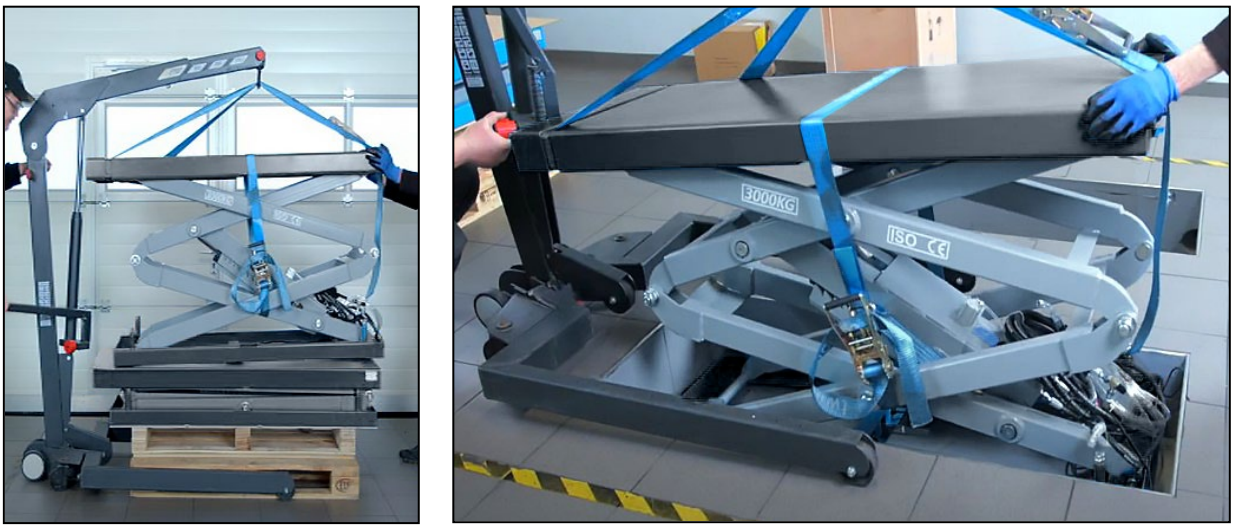


Illustration: Inserting the post lift

Note: Pay attention to the arrangement of the sides. The light barrier (photo sensor) and the reflector must be opposite each other on the inside.

4) Lift and position the second platform in the same way as the first. However, before removing it, unscrew the platform from the pallet supplied.

5) Open the switch box packaging. Position the control unit.

Inside the control box are the four rubber blocks supplied, the keys and the heavy-duty anchors. Remove the parts and set them aside.

6) Lay hydraulic line 1 from track 2 through the ducting towards track 1 and connect it to the T-piece on track 1.

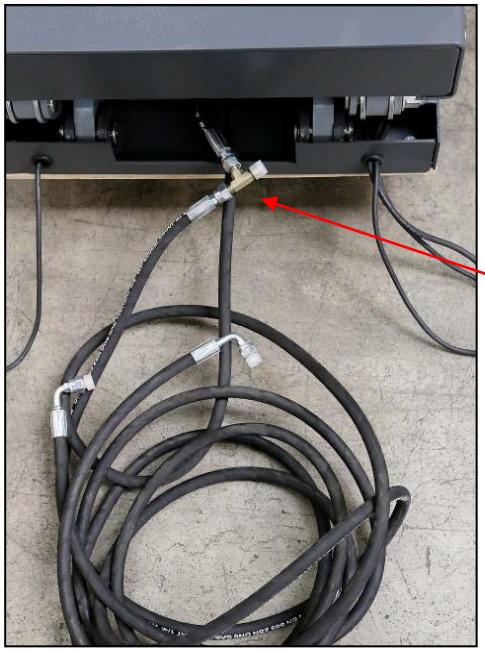


Illustration: Track 1

Illustration: Track 2

Illustration: T-piece

7) Route the hydraulic line and cable to the control box.

Note: Tie the cables and hydraulic line together with cable ties or insulating tape. This makes it easier to feed them through the duct.

8) Open the switch box.

Note: To make working on the control box easier, remove the door for the duration of the assembly.

Illustration: Unhinging the switch box door

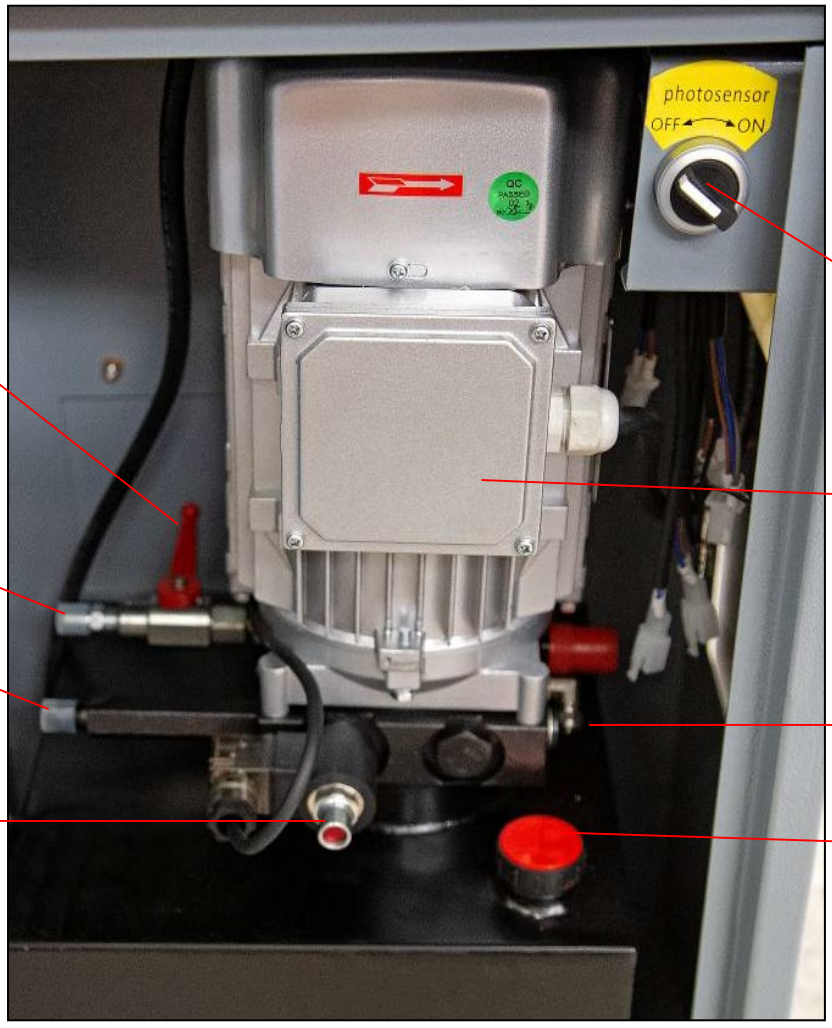


Illustration: Control box

9) Connect the hydraulic lines in the control box (see illustration Hydraulic connection).

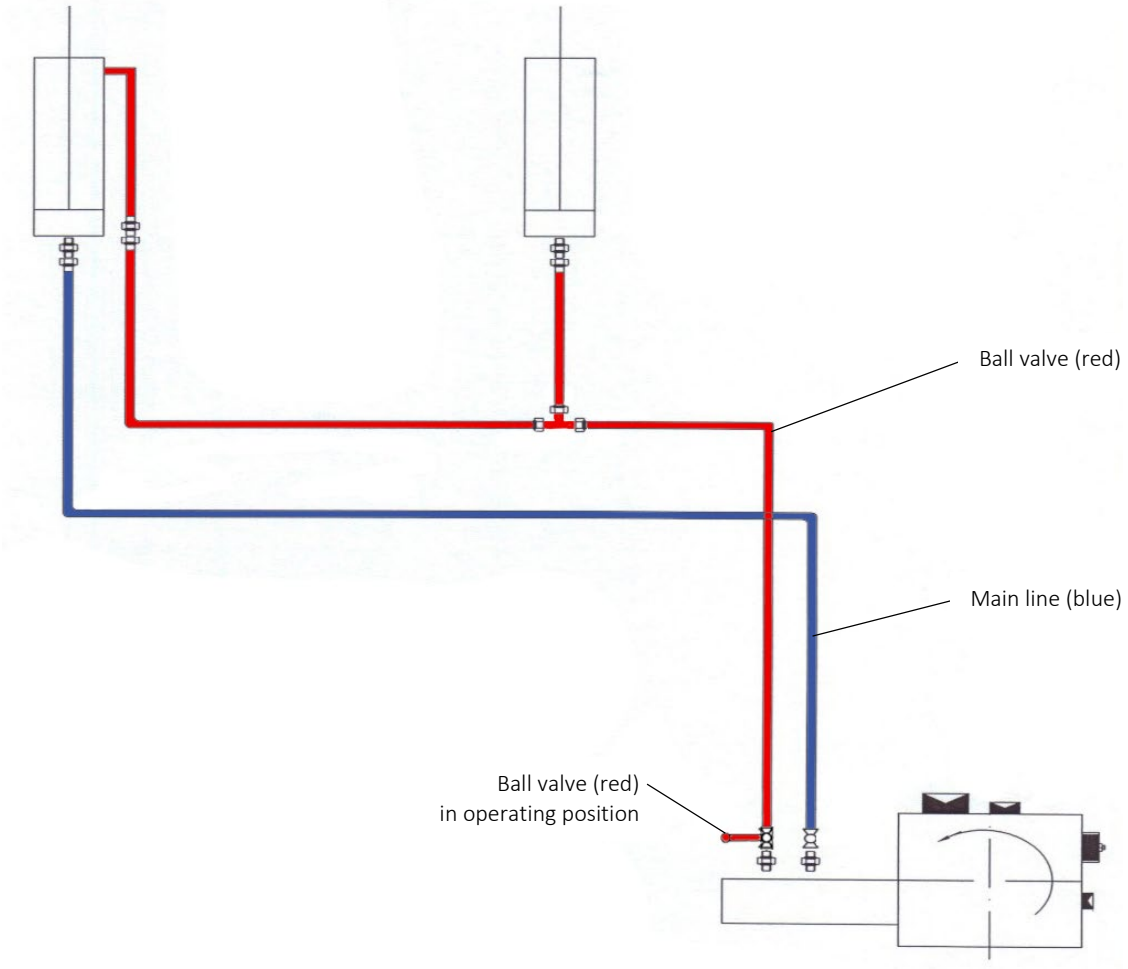


Illustration: Hydraulic connection

a) Connect the hydraulic line (blue) in the control box to the main hydraulic connection.

b) Connect the hydraulic line (red) from the T-piece on lane 1 to the hydraulic connection on the ball valve in the control box.

Illustration: Tightening the lines

Note: When tightening the hose connections, make sure that the hoses are not twisted.

10) Cable connections
   a) Plug the cable of the limit switch with the number 5 / 4 together.
   b) Connect the two cables of the locking magnets numbered 19 / 1 and 17 / 1 together.
   c) Connect the DOWN II cable with the number 14 / 11.
   d) Connect the 4-core cable (3 pins assigned) of the light barrier (photo sensor).

Illustration: Cable from the switch box

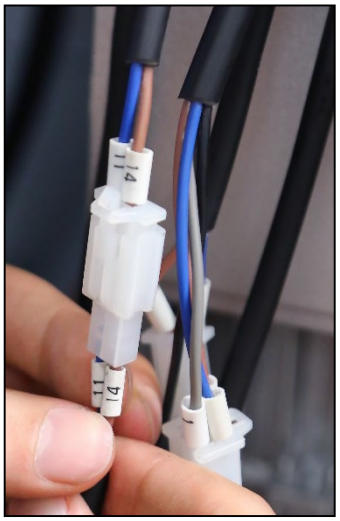


Illustration: DOWN II cable (2-wire)

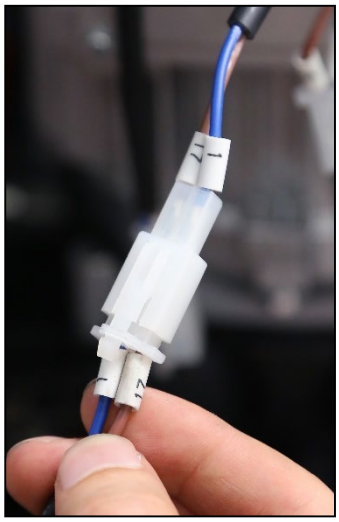


Illustration: Locking magnet main track

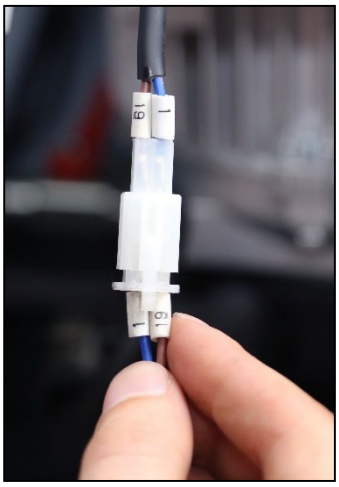


Illustration: Locking magnet, secondary track

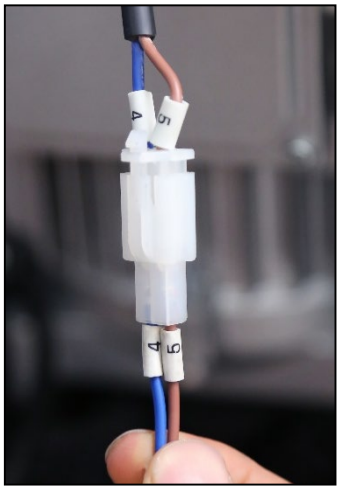


Illustration: Limit switch - cable (2-wire)

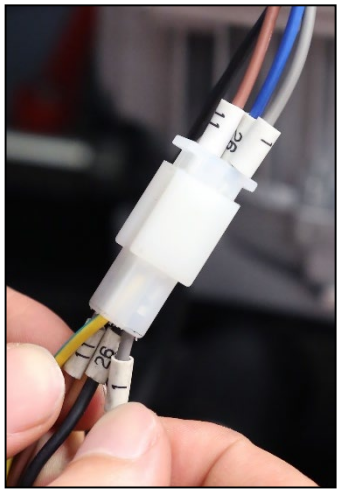


Illustration: Light barrier - cable (4-wire)

Caution: When connecting the plugs, make sure that the pins inside are not bent or pushed out. This can happen easily!

Illustration: Pins inside the plugs

11) Connect the pneumatic line from the hydraulic cylinder to the pump block.

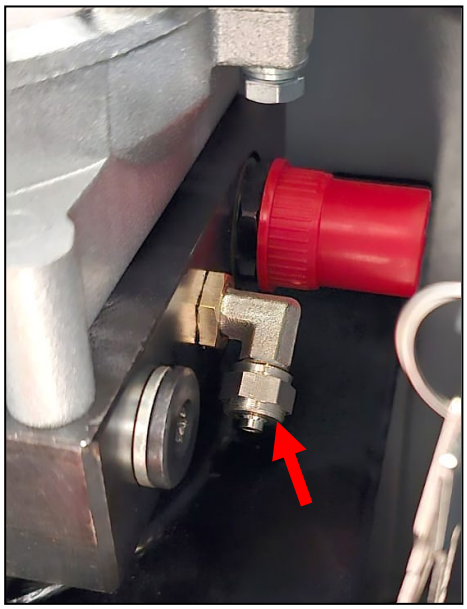


Illustration: Pneumatic line

Note: Check all connections (hydraulic lines, plug connections, screw connections and electrical lines) for tightness and proper function.

12) Filling the hydraulic system

The hydraulic oil tank has a capacity of approx. 15 litres. To ensure proper operation of the post lift, you should fill the oil tank to 80 % with hydraulic oil.

Hydraulic oil type: HLP 32.

Illustration: Filling with HLP 32

Caution: The oil dipstick does not provide a reliable indication of the hydraulic oil level in the multi-tank.

13) Bleeding and levelling

13.1 Venting

Note: Make sure that no vehicle is on the scissor lift during this procedure.

a) Ensure that the light barrier (photo sensor) is deactivated. The setting of the ball valve must only be changed during the venting and levelling procedure.

b) After assembling the scissor lift, it is locked in the first locking position and the hydraulic system is filled with air.
In normal operation, the hydraulic system consists of two oscillating circuits in which oil is moved cyclically. Oil is pumped from the oil tank by the control unit into the lower chamber of the hydraulic cylinder or flows back into it. The oil in the upper chamber of the main cylinder is pressed into the lower chamber of the auxiliary cylinder or flows back into the main cylinder.

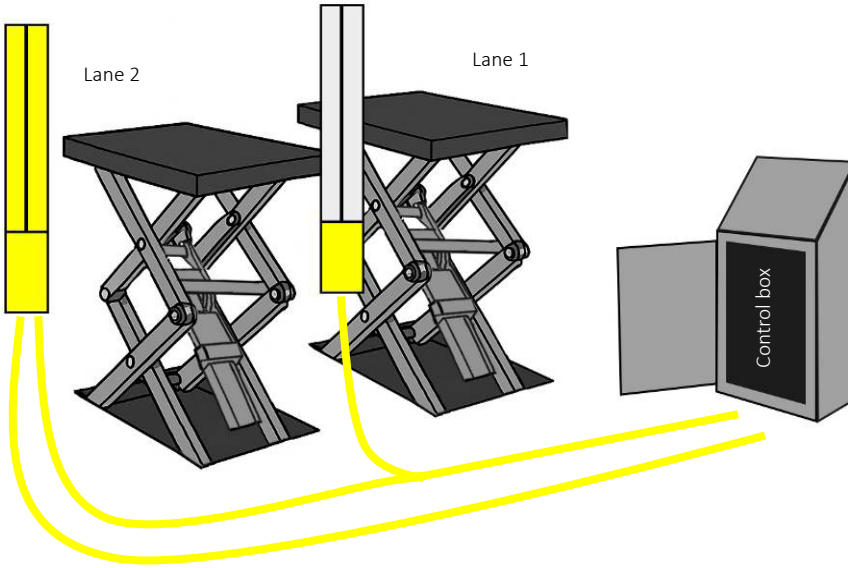


Illustration: Regular oscillating circuit

c) You must remove all air from the entire system before operation. To vent the system, first check that the ball valve is in the operating position. This is the case when the handle of the ball valve points away from the pipe (see **illustration Ball valve operating position**).

Illustration: Ball valve operating position

d) Press the "UP" button to move the main cylinder out of the detent.
Note: Due to air in the system, this may take up to one minute.
If the platform does not move after 1 minute, stop the attempt and check the direction of rotation of the motor (400 V). Please note that the pump may be damaged if it rotates incorrectly for a long time.

e) Once the main platform has been moved out of the catch, lower it by pressing the "DOWN I" button and then the "DOWN II" button. This will release the air from the lower chamber.

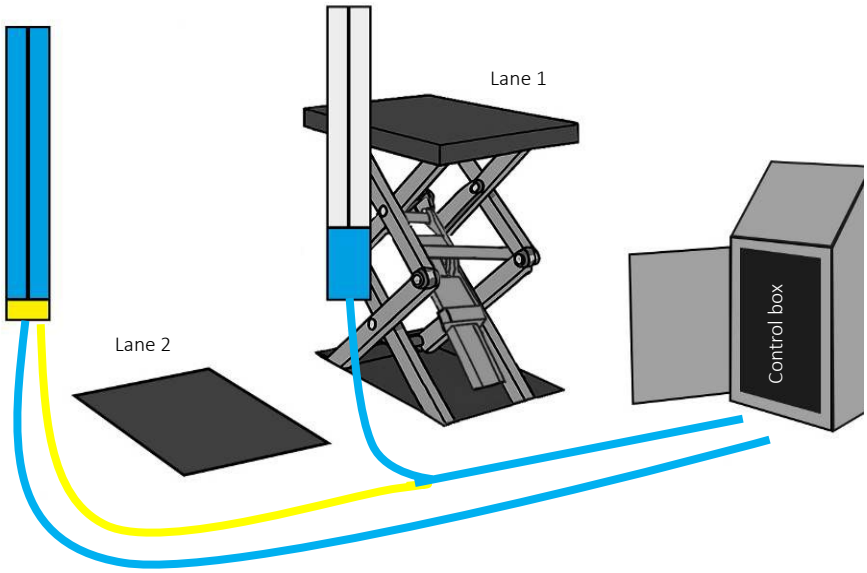


Illustration: Air escape

f) Set the ball valve to the levelling position by turning it to the left (see illustration Ball valve levelling position). Now release the assistance side from the catch in the same way and lower the platform.
Note: The master platform lifts slightly when "DOWN I" is selected.

Illustration: Ball valve levelling position

You must repeat the following steps approx. 3-4 times!

g) Raise both sides one after the other. Set the ball valve to the operating position and raise the main side slightly more than halfway using the "UP" button.

Note: The slave side moves at the same time; ultimately, both sides should move synchronously in the operating position.

h) Return the ball valve to the levelling position and use the "UP" button to raise the assistant side slightly more than halfway.

i) You can then lower both sides again. Return the ball valve to the operating position and lower the master side completely.
Then return the ball valve to the levelling position and completely lower the slave side as well.
Note: Wait approx. 10 minutes to allow the air and oil to separate before starting the next round.

Now repeat this procedure 2-3 times.

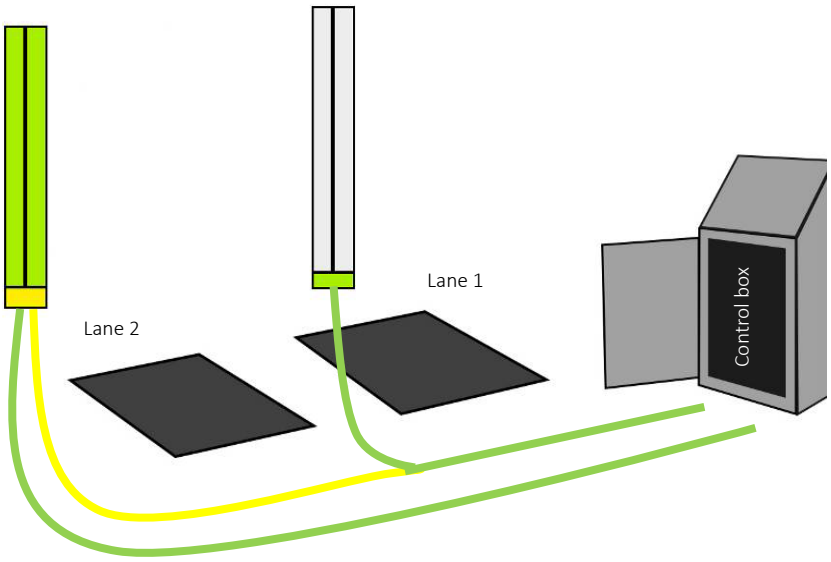


Illustration: Air escape

j) The scissor lift should now be vented. Fill the remaining 20 % of hydraulic oil into the tank.
There is no indicator to show whether air is still present in the system. If there is air remaining in the system, levelling will fail during the levelling process at the latest. If this happens, repeat the entire venting process.

13.2 Levelling

a) Set the ball valve to the operating position and raise the scissor lift approximately to the first safety stop.

b) Set the ball valve to the levelling position. Press the "UP" button and raise the carriageway 2 until it reaches carriageway 1. Turn the ball valve back to the right until it is in the operating position.
Exception: If track 2 is higher than track 1, lower track 2 using the "DOWN I" button on the unit until it reaches track 1.

c) Now, tracks 1 and 2 should be at the same height, with only a few centimetres difference. If this is not the case, there may still be air in the system. Repeat the venting process.

d) Fine levelling
Drive the lift to the safety stop at a suitable height. Lower the scissor lift to the safety stop using the "LOCK" button. Use the interlocking teeth as a reference point for height detection. If there are slight deviations in height, repeat step b again.

e) After the levelling process, lanes 1 and 2 should have a maximum height deviation of less than 1 cm. If this is not the case, repeat the levelling process.

f) The levelling process is now complete.

g) Switch on the light barrier and carry out a test run (without a vehicle).

14) Anchor tracks 1 and 2 to the ground.

a) Drill the holes for each anchoring bolt into the foundation using a hammer drill. Drill perpendicular to the floor.

b) Carefully remove any dirt and dust after drilling (by vacuuming and blowing out if necessary).

c) Carefully hammer the anchor bolts straight into place using a sledge hammer.

d) Tighten the nuts. **Tightening torque: 80 Nm.**

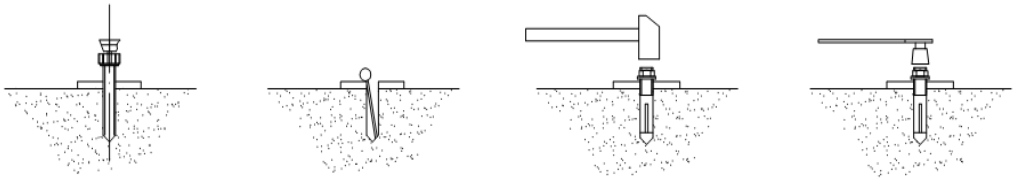


Illustration: Steps for fastening the anchor bolts

8.4 Checkpoints after installation

S/N	Check	YES	NO
1	Do the mechanical safety catches engage synchronously?		
2	Do the function switches only work when held down?		
3	Is the grounding cable connected correctly?		
4	The lift raises and lowers smoothly?		
5	Are there any unusual noises during operation under rated load?		
6	There are no oil leaks under rated load?		
7	Are all joints securely screwed together?		
8	Are all parts that need to be greased greased?		
9	Is the grounding resistance no greater than 4 Ω?		
10	Are there any unusual noises during operation under rated load?		

9. Commissioning

9.1 Safety precautions

a) If the safety devices are defective or show any signs of damage, the scissor lift must not be operated under any circumstances!

b) Check all hydraulic line connections for a secure fit and proper functioning. If there are no leaks, the lifting process can be started.

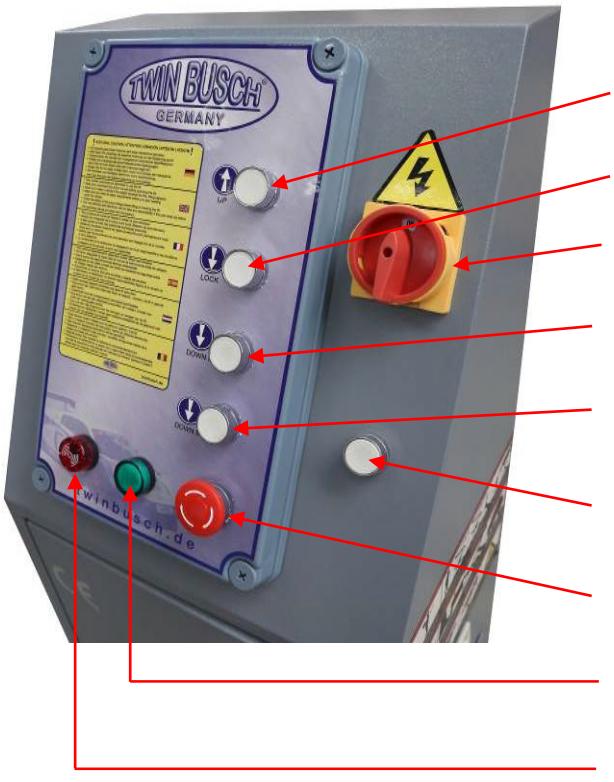
c) Only the operator should be near the lift during a lifting or lowering operation. Always ensure that no persons are in the danger zone.

d) Check that the vehicle is stable at a low lifting height to ensure that it is correctly and safely positioned. If this is not the case, the lift must not be used. Otherwise, neither we nor any dealer acting as an intermediary will accept responsibility for any problems or damage caused.

e) Once the desired lifting height has been reached and the safety catches are engaged, switch off the power supply to the scissor lift before starting work to prevent accidents caused by unintentional operation by other persons.

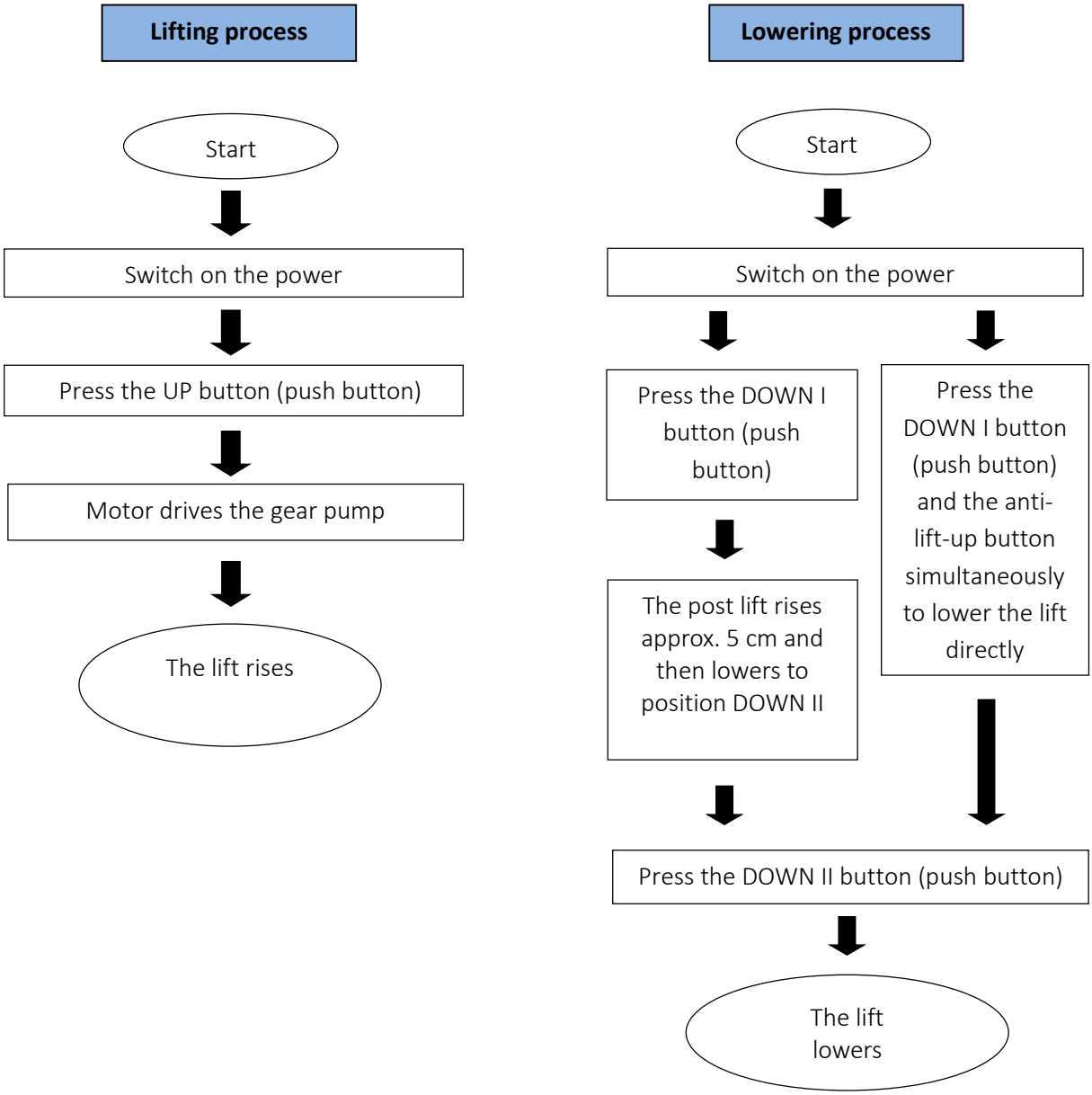
f) Do not attempt to lift vehicles that are excessively long or wide.

9.2 Description of the control unit (control box)



Description	Function
UP button (push button)	Raising the lifting platform.
LOCK button (push button)	Lowering into the safety stops
Main switch	Switch on or off.
DOWN I button (push button)	First lift, then automatic lowering of the lift.
DOWN II button (push button)	Lowering the lift (after safety stop).
Anti-lift-up button	Lowering the lift without lifting (in combination with DOWN I).
Emergency stop switch	Switches off the system in an emergency.
Operating light	Indicates whether the device is switched on.
Buzzer	Flashes and beeps when lowering (DOWN I and DOWN II).

9.3 Lifting and lowering sequence



9.4 Operating instructions

9.4.1 Lifting procedure

1. Read and understand the operating instructions before starting work.
2. Connect the power supply and switch the main switch to ON.
3. Make sure that the vehicle is not too heavy at the front or rear and that the centre of gravity is centred between the rubber blocks and above the lift/scissor element.
   Always lift vehicles with all four adapters. Never lift only one end, corner or side of the vehicle.
4. Carefully place the vehicle on the scissor lift. Position the rubber blocks at the lifting points recommended by the vehicle manufacturer.
5. Press the "UP" button to raise the lift until the adapters touch the vehicle.
6. Check that the rubber blocks are in correct and secure contact with the vehicle. Raise the lift to the desired working height.
7. Press the "LOCK" button to lower the lift into the safety stops.

9.4.2 Lowering

1. Connect the power supply and switch the main switch to ON.
2. Press the "DOWN I" button (push button).
3. The lift will rise approx. 5 cm and then lower to the "DOWN II" position.
4. Press the DOWN II button (push button).
5. The lift lowers.
6. The vehicle can now be removed.

Caution: If the two platforms are not synchronised correctly during the lifting or lowering process (the difference is more than 6 cm), the light barrier (photo sensor) is activated to stop the lowering movement. In this case, the operator must contact the maintenance operator for professional assistance to restore normal operation of the lift.

10. Troubleshooting

Caution: 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 your problem. In this case, 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 faults, their causes and the corresponding troubleshooting steps for quick identification and self-repair.

PROBLEM	CAUSE	SOLUTION
Unusual noise.	Wear on moving parts.	Apply a suitable lubricant.
	Contamination.	Remove the dirt.
The motor cannot be started and the lift does not 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, moves but the lift does not move up.	The motor runs backwards/in the wrong direction.	Check the cable connection.
	The pressure relief valve is loose or dirty.	Clean or tighten it.
	The gear pump is defective.	Replace it.
	The oil level is too low.	Add oil.
	The oil hose has come loose or broken off.	Secure or replace it.
	The damping valve is loose or jammed/clogged.	Clean or secure it.
The platform slowly lowers after being raised.	An oil line has a leak.	Clean or replace it.
	Oil cylinder not tightened.	Replace the seal.
	The one-way valve is leaking.	Clean or replace.
	Solenoid valve not working properly.	Clean or replace.
	Vent valve is leaking.	Check and establish a secure connection.
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 incorrectly installed.	Install it correctly.
	The hydraulic oil is too hot (above 45°C).	Change the oil.
	The cylinder seal is worn.	Replace the seal.
Lowering too slowly.	The throttle valve is stuck/dirty.	Clean or replace it.
	The hydraulic oil is dirty.	Change the oil.
	The drain valve is blocked.	Clean it.
	The oil hose is damaged/kinked.	Replace it.

11. Maintenance

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

The following areas must be lubricated:

11.1 Daily inspection and maintenance of the lift elements before use

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

- Check all connections and screw connections for tightness.
- Check hydraulic connections and hoses for leaks.
- Check bolts, nuts and screws and tighten them.

11.2 Weekly inspection and maintenance of the lifting platform components

- Check the mobility of all adjustable and flexible lifting platform components.
- Check the condition and correct functioning of all safety-related lifting platform components.
- Check the hydraulic oil level (lowered platform – oil level high, max. raised platform – oil level low).

11.3 Monthly inspection and maintenance of the post lift

- Check all screw connections and joints for tightness.
- Check the seal of the hydraulic system and tighten any loose screw connections if necessary.

11.4 Annual inspection and maintenance of the lift 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 prevented.

12. What to do 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 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.

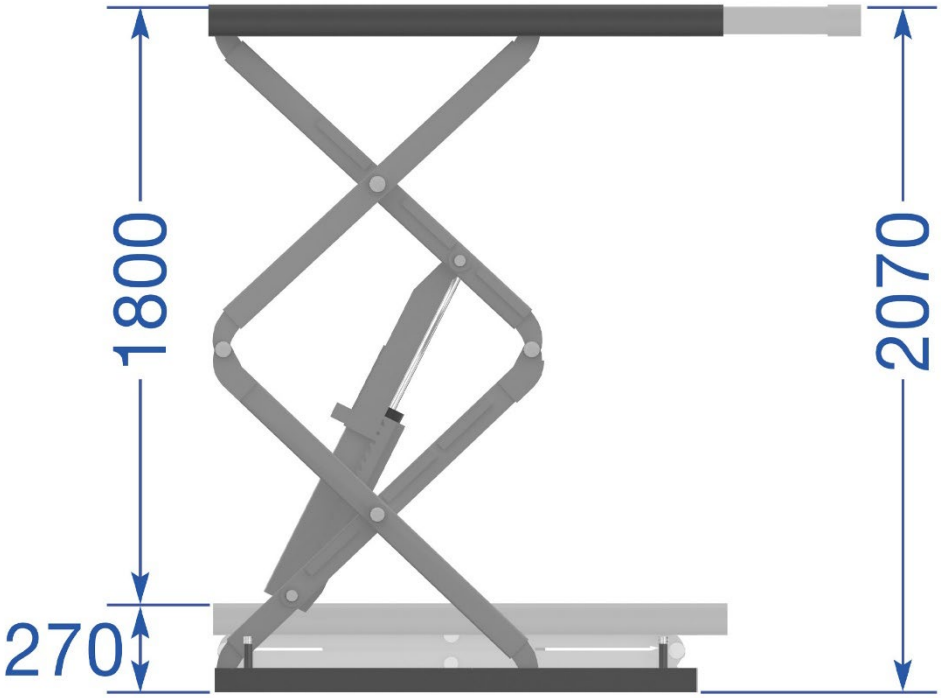
Possible causes	Remedy
With three-phase current: one phase is missing.	Check power supply.
With three-phase current: Direction of rotation of motor reversed.	Check direction of rotation, change phase if necessary.
Oil pump defective.	Notify Twin Busch Service.
Emergency drain open.	Close emergency release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

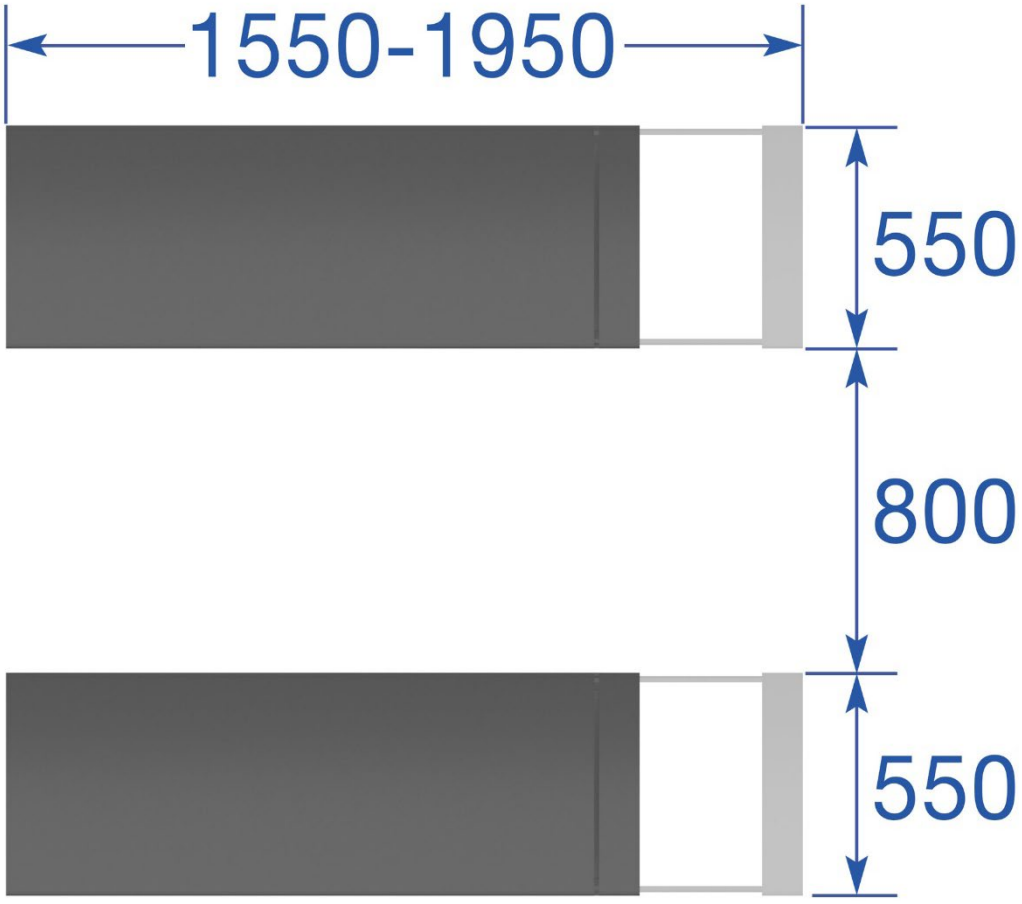
Problem: Lift cannot be lowered.

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. Lower emergency drain.
Lifting platform has been blocked during lowering.	Raise the lifting platform slightly again and remove the obstacle.

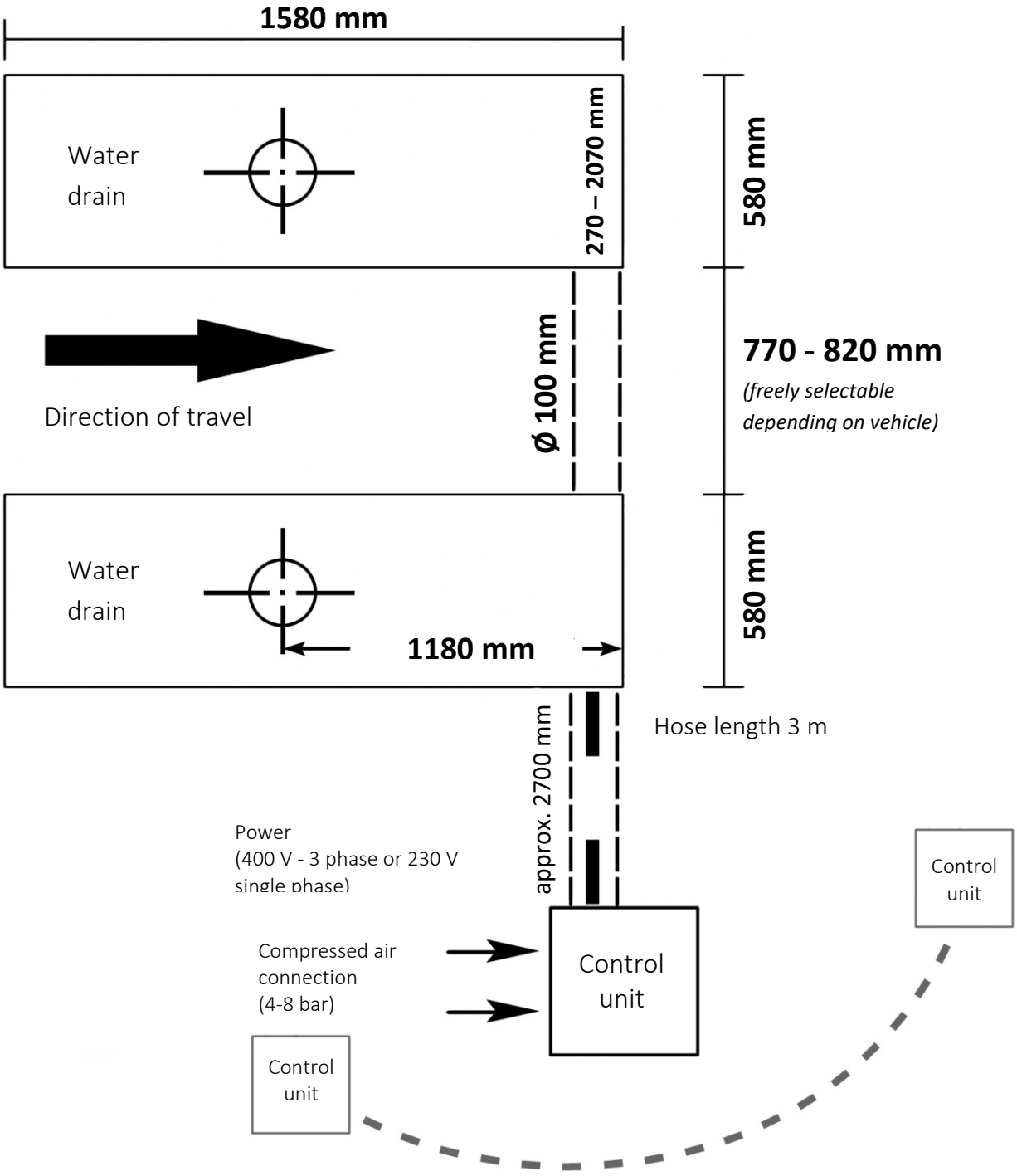
13. Appendix

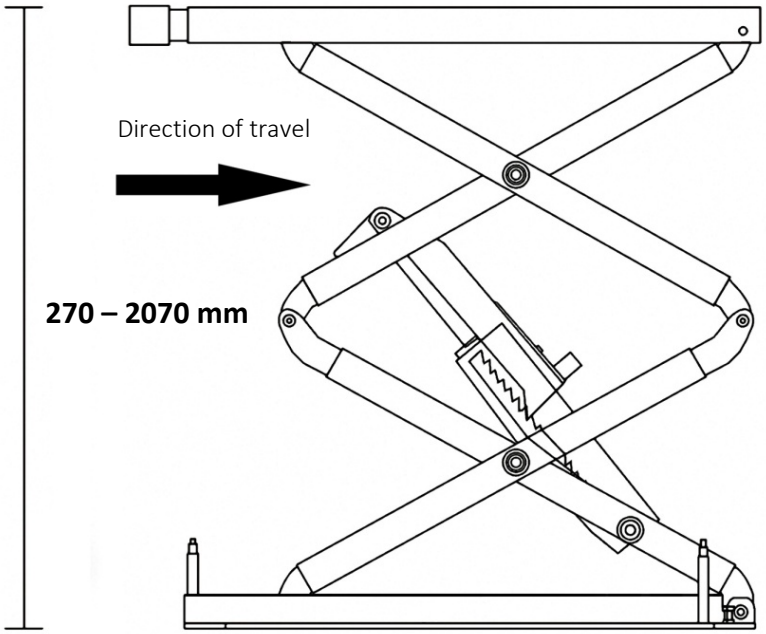
13.1 Dimensions of the lift





13.2 Foundation requirements and working area





Concrete requirements:

- 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 be allowed to cure for at least 28 days.

Foundation dimensions:

- Ideally, the entire hall floor should be made of concrete C20/25 with a thickness of at least 150 mm.
- In all lifting positions, there must be a distance of at least 0.8 metres between the lift and any fixed elements (e.g. the wall).

Other requirements:

- The surrounding floor must be suitable for the load, e.g. no sandy soil, etc.
- Reinforcement in concrete is not mandatory for proper use of the post lift, but is 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:

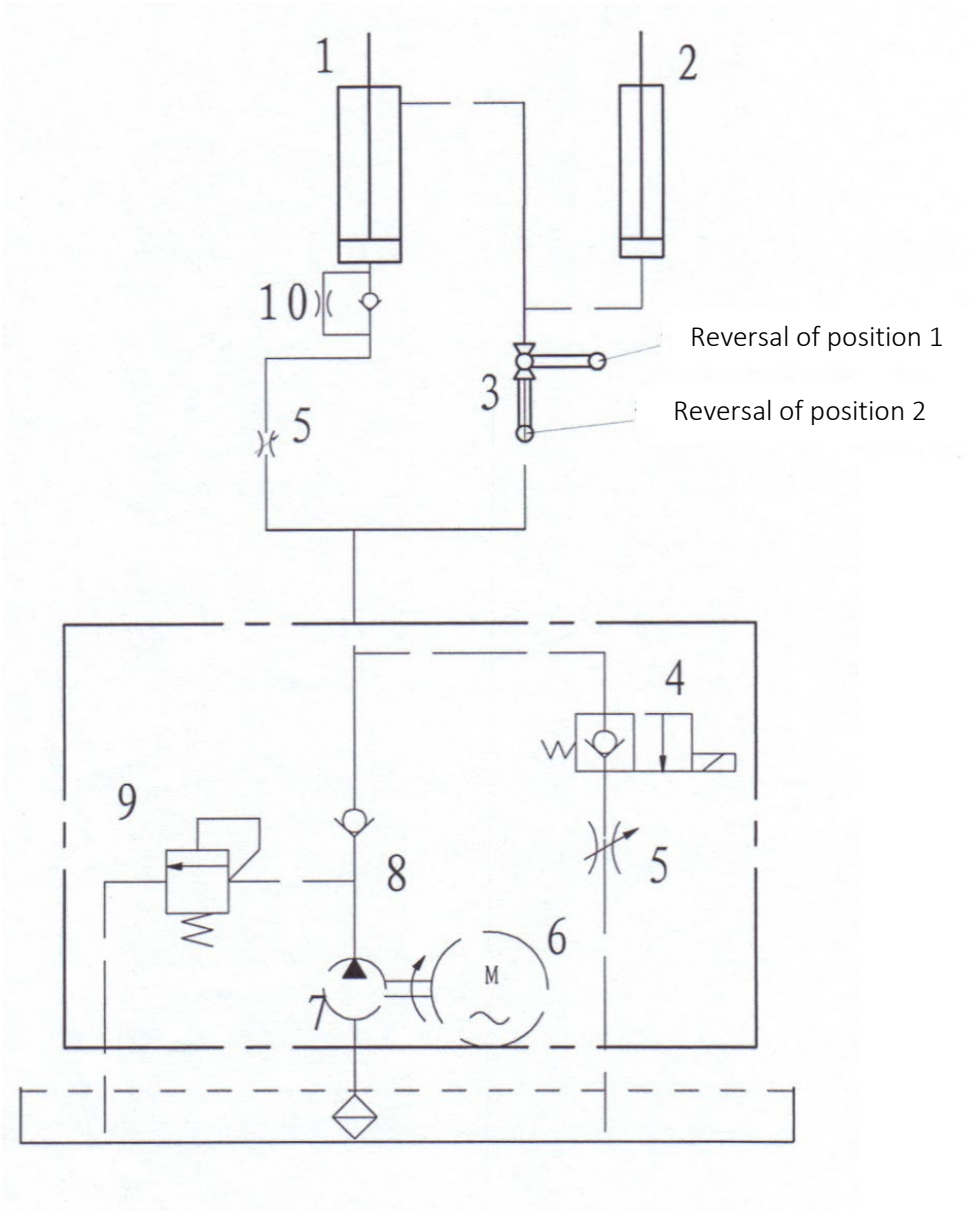
In the case of frost exposure, the concrete must correspond to exposure class XF4, as dripping de-icing agent cannot be ruled out.

This results in the following minimum requirements for concrete under frost stress:

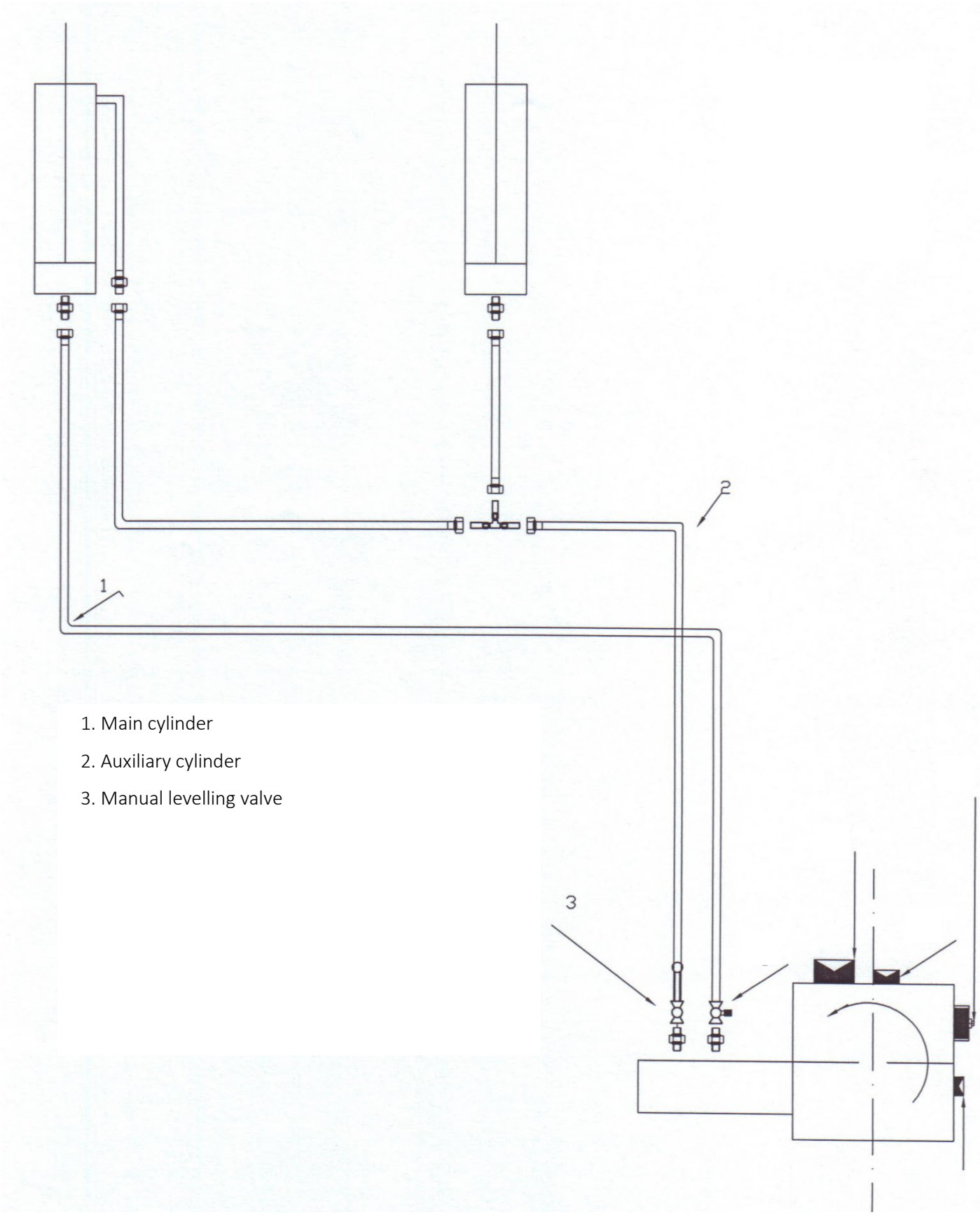
Exposure class:	XF4
Maximum w/c:	0,45
Minimum compressive strength:	C30/37 (instead of C20/25)
Minimum cement content:	340 kg/m³
Minimum air void content:	4.0 %
Total foundation depth:	≤ 80 cm (due to frost resistance)
Remainder filled with gravel:	0/32

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

13.3 Hydraulic system

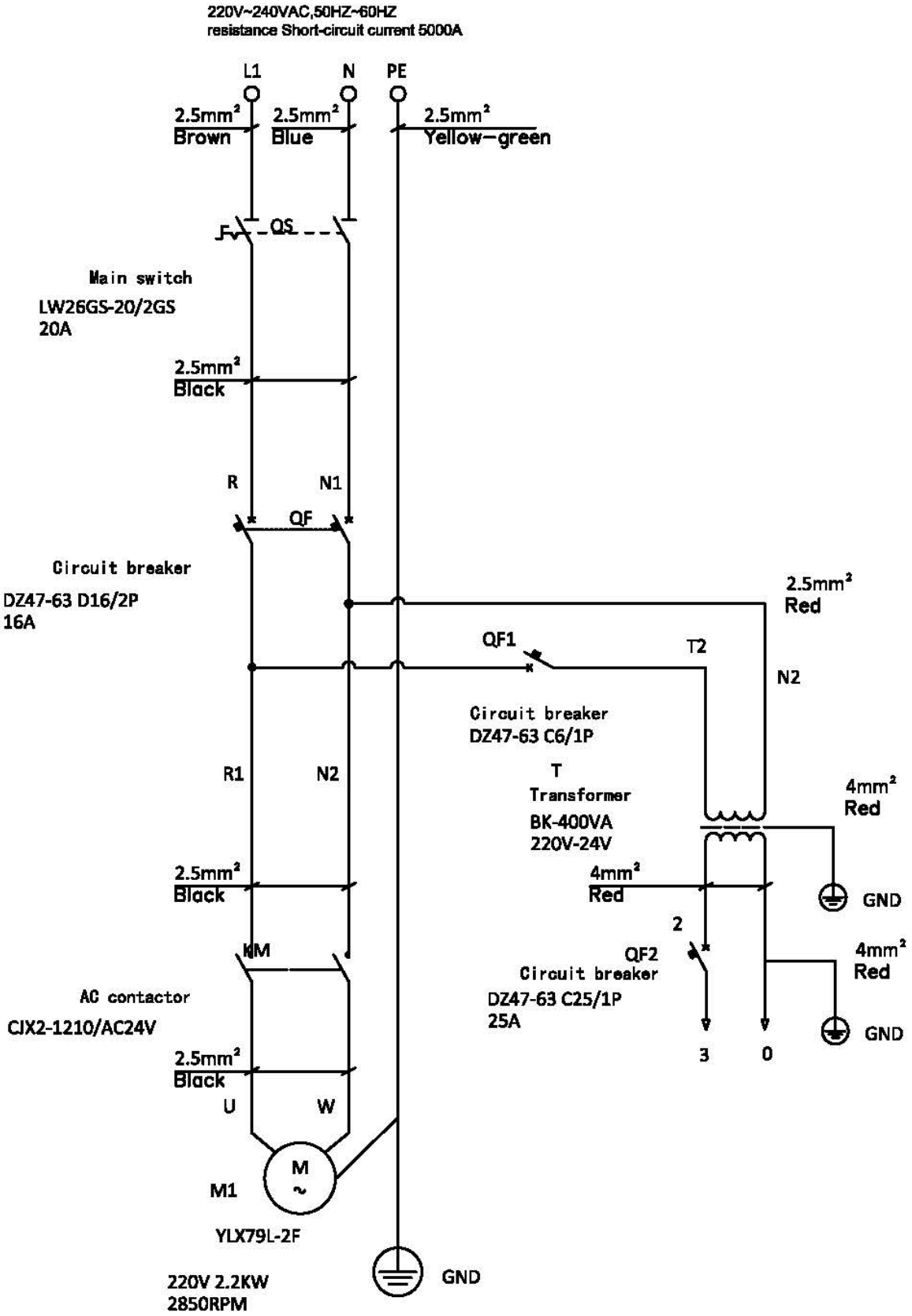


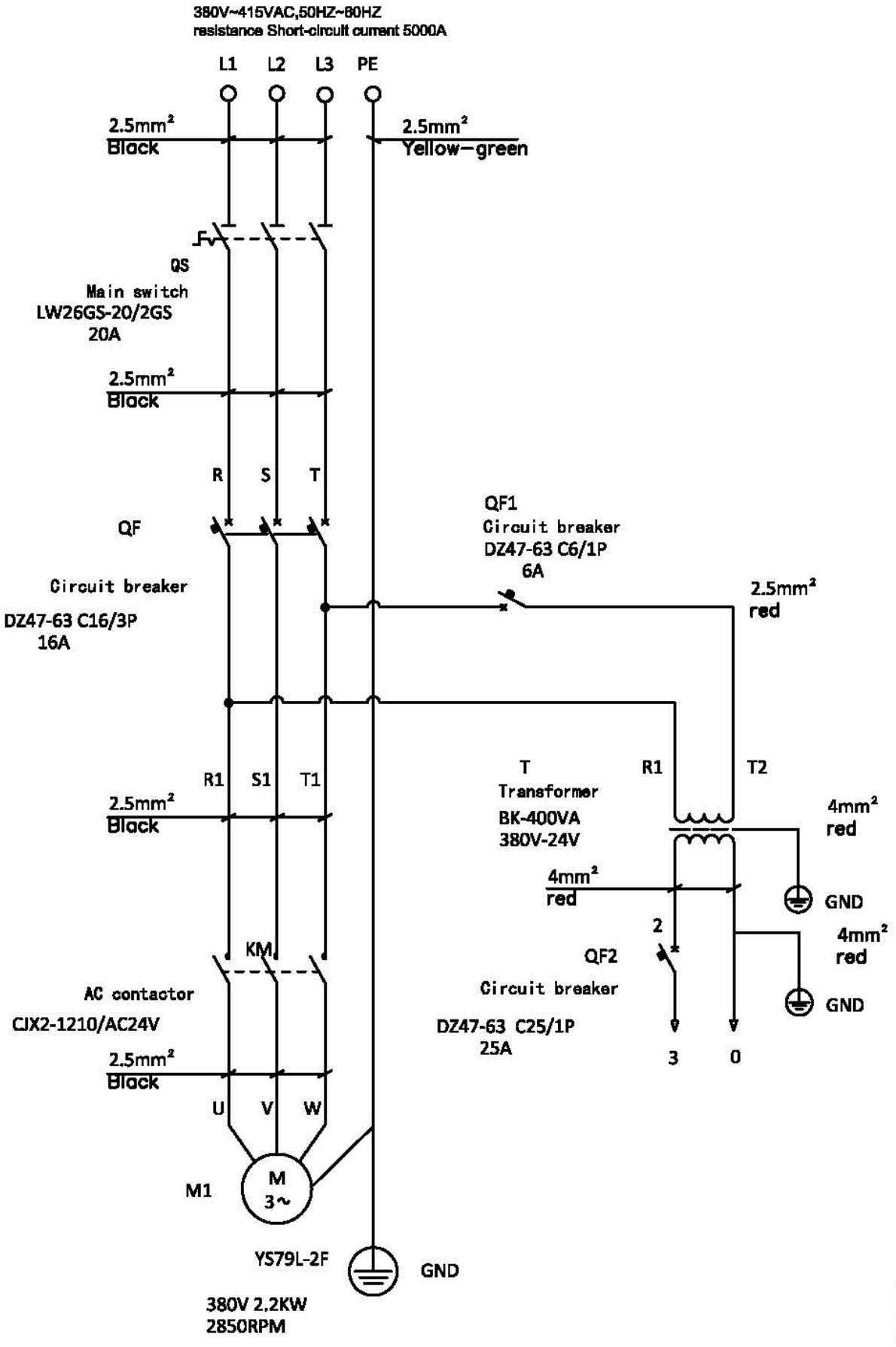
1. Main cylinder
2. Auxiliary cylinder
3. Manual changeover valve
4. Electromagnetic ball valve
5. Throttle valve
6. Motor
7. Gear pump
8. Check valve
9. Pressure relief valve
10. Emergency drain valve

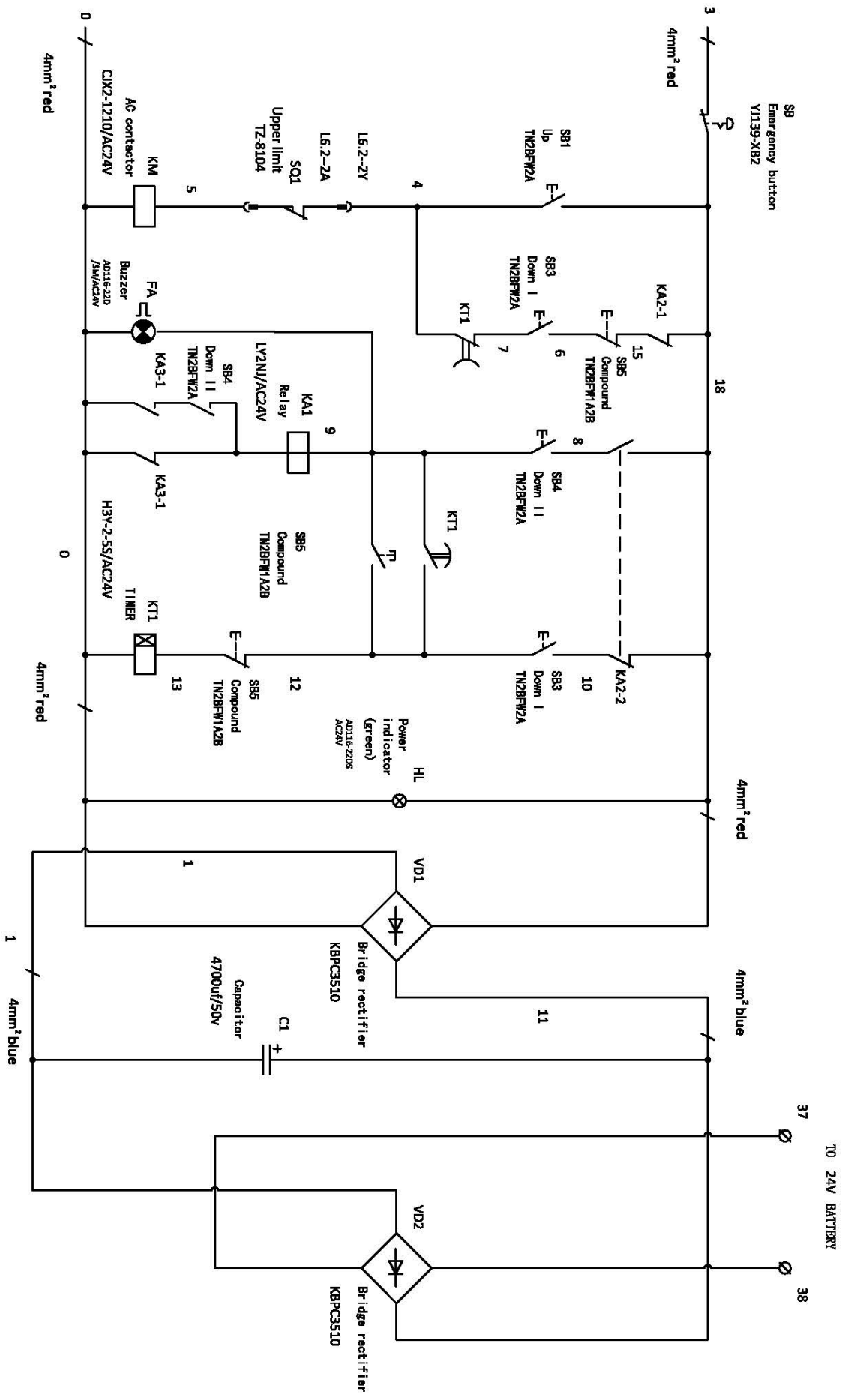


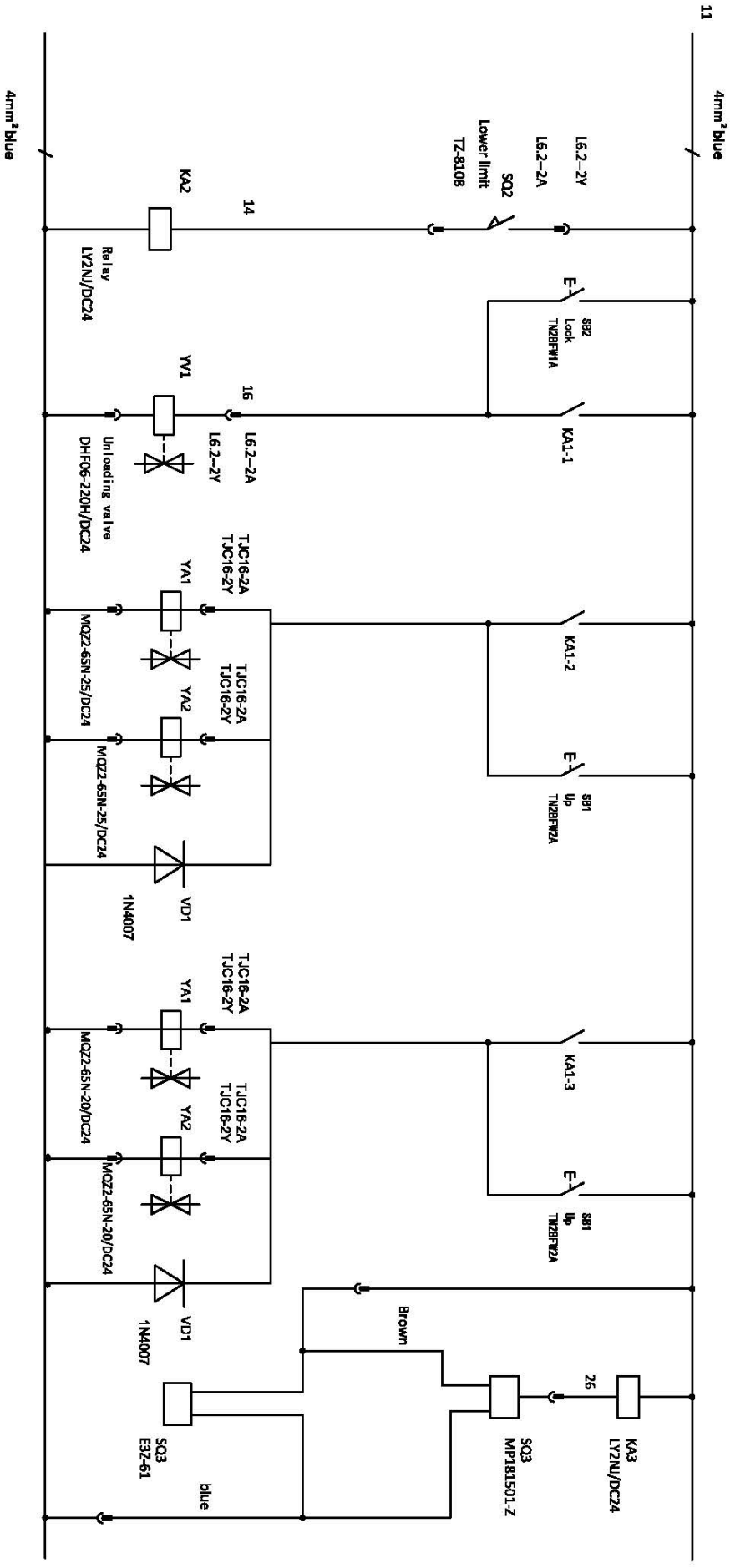
1. Main cylinder
2. Auxiliary cylinder
3. Manual levelling valve

13.4 Circuit diagrams

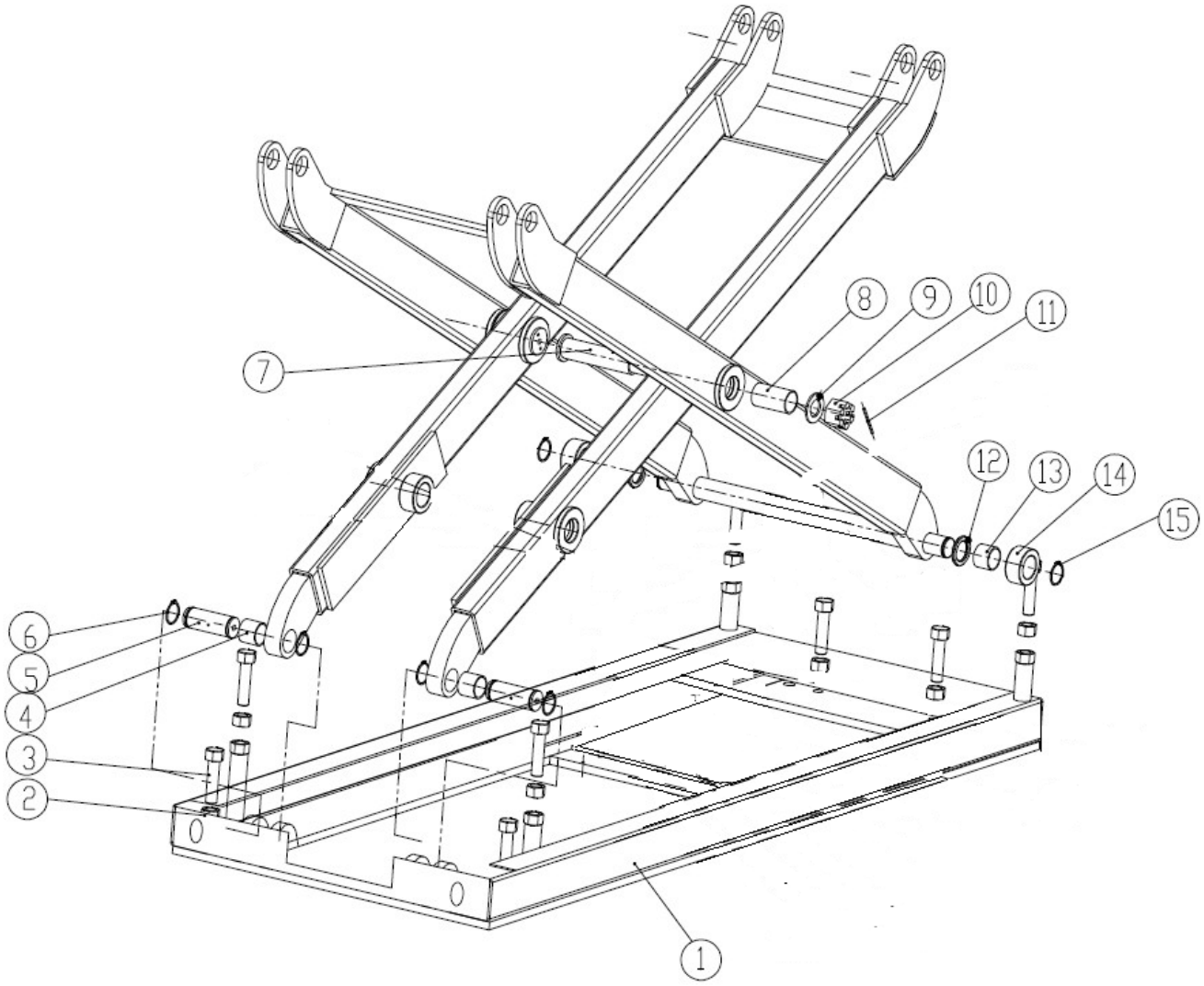



380V~415VAC,50HZ~60HZ
resistance Short-circuit current 5000A
L1
L2
L3
PE
2.5mm²
Black
2.5mm²
Yellow—green
QS
Main switch
LW26GS-20/2GS
20A
2.5mm²
Black
R
S
T
QF
Circuit breaker
DZ47-63 C16/3P
16A
QF1
Circuit breaker
DZ47-63 C6/1P
6A
2.5mm²
red
R1
S1
T1
2.5mm²
Black
T
Transformer
BK-400VA
380V-24V
R1
T2
4mm²
red
4mm²
red
GND
2
QF2
Circuit breaker
DZ47-63 C25/1P
25A
4mm²
red
GND
3
0
KM
AC contactor
CJX2-1210/AC24V
2.5mm²
Black
U
V
W
M1
M
3~
YS79L-2F
GND
380V 2.2KW
2850RPM

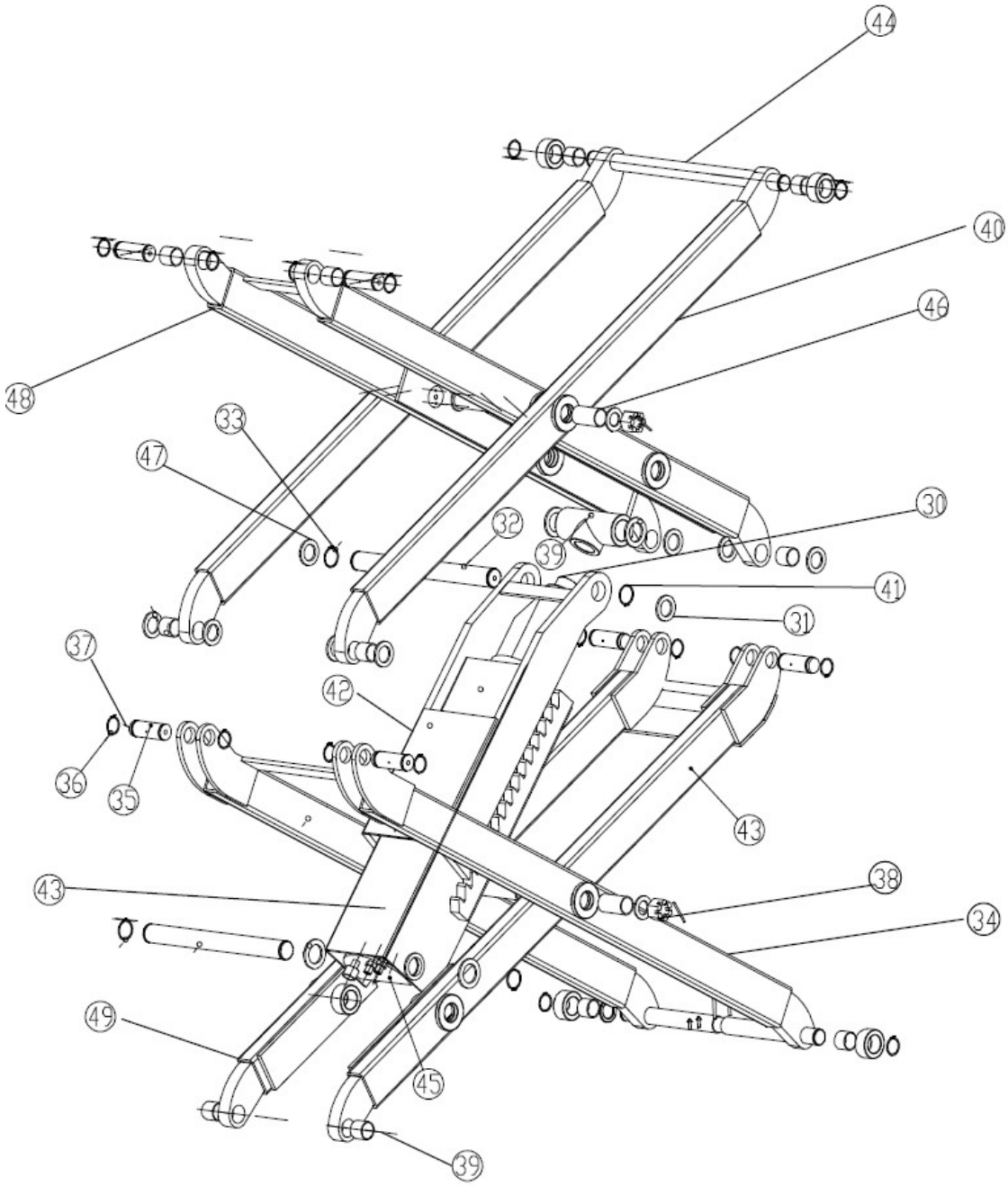

SB
Emergency button
Y1139-XB2
SB1
Up
TN2BFW2A
SB3
Down I
TN2BFW2A
KA2-1
SB5
Compound
TN2BFW1A2B
KT1
SB4
Down II
TN2BFW2A
KA2-2
SB3
Down I
TN2BFW2A
SB4
Down II
TN2BFW2A
KA3-1
KA1
Relay
LY2NJ/AC24V
SB5
Compound
TN2BFW1A2B
KT1
TIMER
H3Y-2-5S/AC24V
KA3-1
FA
Buzzer
AD16-22D
/SM/AC24V
KM
AC contactor
CJX2-1210/AC24V
SQ1
Upper limit
TZ-8104
L6.2--2Y
L6.2--2A
HL
Power
indicator
(green)
AD16-22DS
AC24V
VD1
Bridge rectifier
KBPC3510
VD2
Bridge rectifier
KBPC3510
C1
Capacitor
4700uf/50v
TO 24V BATTERY
4mm² red
4mm² blue
0
1
3
4
5
6
7
8
9
10
11
12
13
15
18
37
38


11
4mm² blue
4mm² blue
L6.2-2Y
L6.2-2A
SQ2
Lower limit
TZ-8108
KA2
14
Relay
LY2NJ/DC24
SB2
Lock
TN2BFW1A
YV1
16
L6.2-2A
L6.2-2Y
Unloading valve
DHF06-220H/DC24
KA1-1
TJC16-2A
TJC16-2Y
YA1
MQZ2-65N-25/DC24
KA1-2
YA2
MQZ2-65N-25/DC24
SB1
Up
TN2BFW2A
VD1
1N4007
TJC16-2A
TJC16-2Y
YA1
MQZ2-65N-20/DC24
KA1-3
YA2
MQZ2-65N-20/DC24
SB1
Up
TN2BFW2A
VD1
1N4007
Brown
26
SQ3
E3Z-61
SQ3
MP181501-Z
KA3
LY2NJ/DC24
blue

13.5 Detailed drawing and parts description of the lift

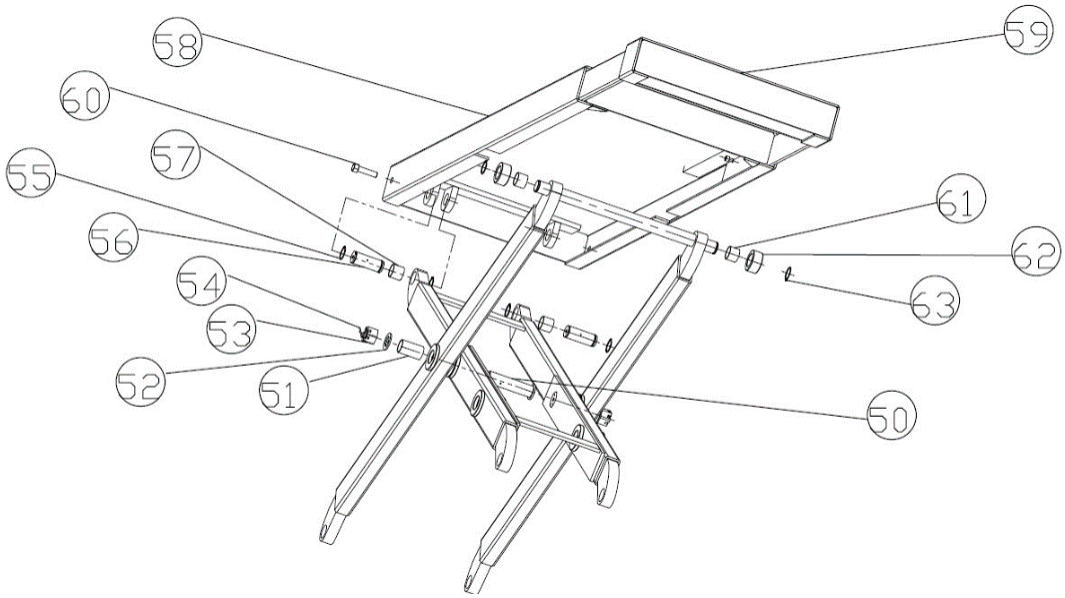


S/N	Material	Name	Specification	Quantity	Property
1		Base assembly	FL-8802-A1-B1	1	Welded
2		Hex nut	M16	8	Standard
3		Bolt	M16X50	4	Standard
4		Bearing	3025	2	Standard
5		Shaft A	FL-8802-A2	2	45#
6		Circlip	Φ30	4	Standard
7		Shaft B	FL-8802-A5-B5	2	45#
8		Bearing	3055	2	Standard
9		Flat washer	Φ24	2	Q235A
10		Slotted nut	M24	2	Standard
11		Cotter pin	Φ2.5	2	Standard
12		Washer	FL-8802-A5-B2-C5	2	Q235A
13		Bearing	3025	2	Standard
14		Roller	FL-8802-A5-B2-C4	2	Nylon
15		Circlip	Φ30	2	Standard

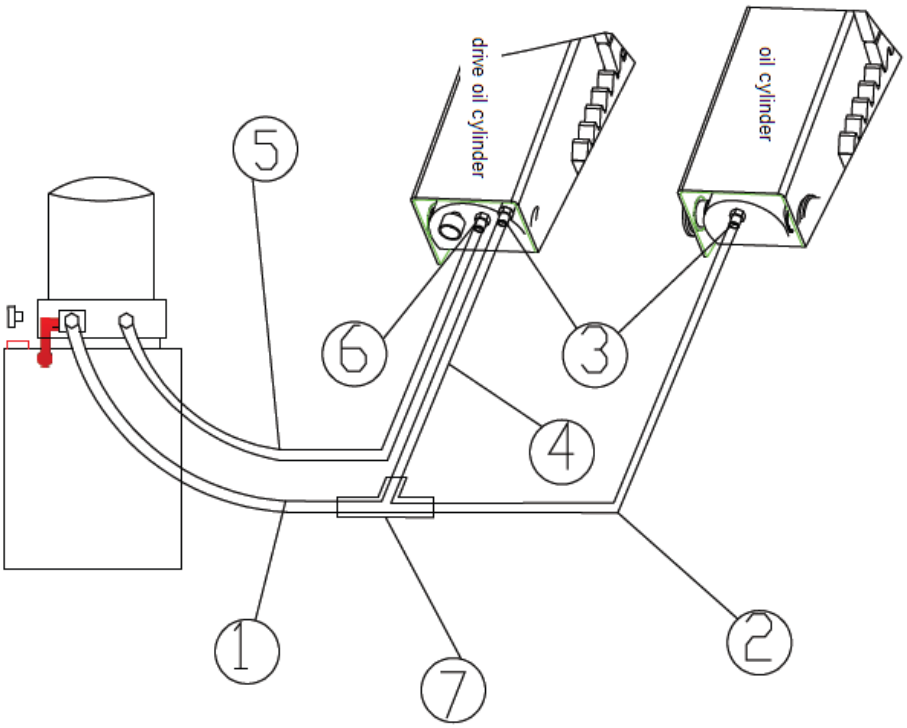


S/N	Material	Name	Specification	Quantity	Property
30		Oil cylinder	FL-8802-A4-B1	1	
31		Spacer	FL-8802-A3-B4	2	Q235
32		Oil cylinder shaft	FL-8802-A3-B1	1	45
33		Circlip	Φ35	2	GB/T894.1
34		Movable bracket A	FL-8802-A5-B2	1	
35		Shaft A	FL-8802-A2	4	45
36		Circlip	Φ30	8	GB/T894.1
37		Grease cup	M8	4	GB/T1155
38		Washer	6603GN-A10	6	
39		Bearing	3028	4	SF-1
40		Movable bracket A	FL-8802-A5-B3	1	
41		Circlip	Φ35	2	GB/T894.1
42		Insurance shell	FL-8802E-A3-B5	2	

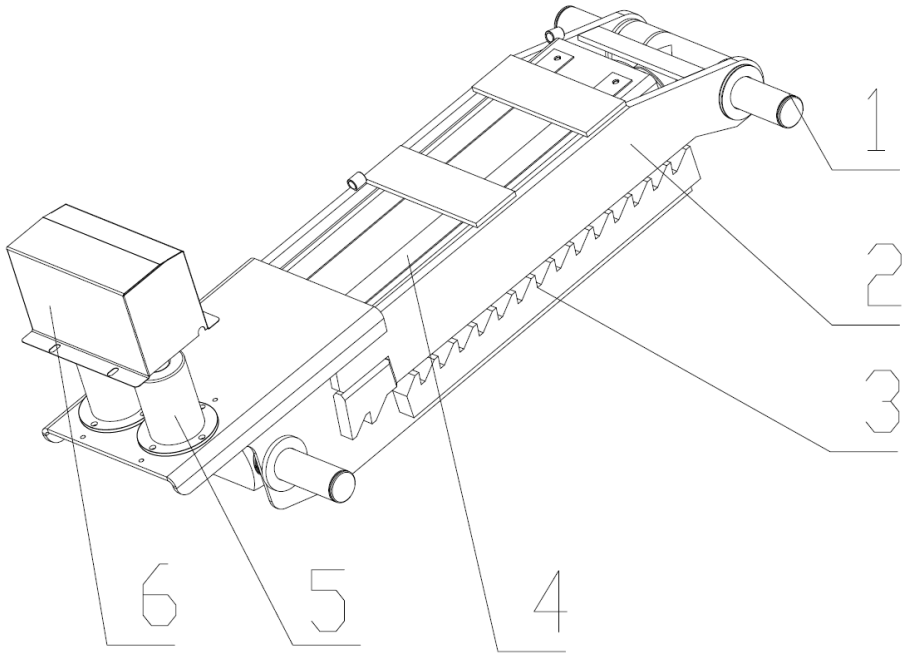
S/N	Material	Name	Specification	Quantity	Property
43		Cylinder sheath	FL-8802E-A3-B3	2	
44		Oil cylinder shaft	FL-8802-A3-B1		
45		Oil cylinder connector	FL-8802-A3-B6	1	
46		Bearing	3550	2	SF-1
47		Spacer	FL-8802-A3-B4	2	
48		Movable bracket D	FL-8802-A5-B4	1	
49		Movable bracket A	FL-8802-A5-B1	1	



S/N	Material	Name	Specification	Quantity	Property
50		Shaft B	FL-8802-A5-B5	2	45
51		Bearing	3055	2	SF-1
52		Flat washer	Φ24	2	GB/T95
53		Hex slotted nut	M24	2	GB/T6178
54		Cotter pin	Φ2.5	2	GB/T91
55		Circlip	Φ30	4	GB/T894.1
56		Shaft	FL-8802-A2	2	45
57		Bearing	3028	2	SF-1
58		Runway	FL-8802-A6-B2	1	
59		Runway extension	FL-8802-A6-B3	1	
60		Inside hex cylinder screw	M8X12	2	GB/T70
61		Bearing	3025	2	SF-1
62		Roller	FL-8802-A5-B2-C4	2	Nylon
63		Circlip	Φ30	2	GB/T894.1



S/N	Material	Name	Specification	Quantity	Property	Note
1		Oil hose	FL-8802-A3-B8	1	Assembly	3,8M in length, with a straight connector at one end and the a being connecter at the other
2		Oil hose	FL-8802-A3-B8	1	Assembly	1.9M in length, with two straight connector at both ends
3		Connector B	FL-8802-A4-B16	2		
4		Oil hose	FL-8802-A3-B8	1	Assembly	0.35M in length, with two straight connector at both ends
5		Oil hose	FL-8802-A3-B8	1	Assembly	4,2M in length, with a straight connector at one end and the a being connecter at the other
6		Throttle valve	FL-8802-A4-B15	1		
7		Three-way connector	FL-8802-A9-B7	1	45#	



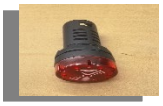
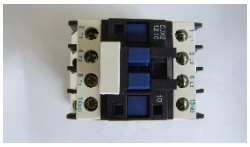
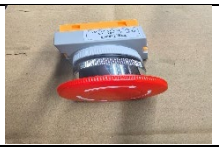
S/N	Material	Name	Specification	Quantity	Property
1		Circlip	FL-8802-A3-B1	4	
2		Insurance shell	FL-8802E-A3-B5	2	
3		Cylinder sheath	FL-8802E-A3-B3	2	
4		board	FL-8802E-A3-B9	4	
5		electromagnet	MQZ2-65N-25-DC24V	4	
6		Housing	FL-8802E-A3-B10	2	

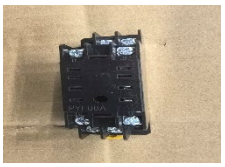
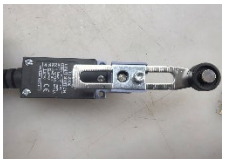
S/N	Material	Name	Specification	Quantity	Property
1		Light barrier	MP181501-Z	1	
2		Reflector		1	

13.6 Spare parts for the mechanical part

S/N	Material	Name	Specification	Quantity	Property
1		Retaining block B for limit switch	FL-8802-A1-B7	1	Q235
2		Up fixing block	FL-8802-A1-B8	1	Q235
3		Down fixing block	FL-8802-A1-B9	1	Q235
4		Drawbar	FL-8802-A1-B6	1	Q235
5		Retaining block A for limit switch	FL-8802-A1-B3	1	Q235
6		Protection cover	FL-8802-A1-B2	1	Q235
7		Installation plate for limit switch	FL-8802-A1-B10	1	Q235A
8		Limit block	FL-8802-A1-B4	2	Q235A
9		Spacer	FL-8802-A3-B4	2	Q235
10		Oil	Φ8	4	Standard
11		Spacer	FL-8802-A3-B4	2	Q235A
12		Seal ring	KGD120*95*22.4*6.35	1	
13		Y-shape seal ring	67*77*6	1	
14		O-shape seal ring	109*5.3	1	
15		O-shape seal ring	118*3.55	1	
16		O-shape seal ring	53*3.55	1	
17		Seal ring	KGD100*75*22.4*6.35	1	
18		O-shape seal ring	38.7*3.55	1	
19		O-shape seal ring	92.5*3.55	1	

S/N	Material	Name	Specification	Qty	Unit	Pic
1	94020100058	Power switch	LW26GS-20/04	Pcs	1	
2	94020100091	Button	LAY7-30BN12	Pcs	1	
3	94020500004	Power indicator	AD116-22DS GREEN 24V	Pcs	1	
4	9402010062	Button	LAY7-20BN12	Pcs	2	
5	9402010065	Button	LAY7-10BN12	Pcs	1	
6	9402010064	Button r	LAY7-21BN12	Pcs	1	

7	94020300121	Transformer	JBK-400VA-380/400V/415-24V	Pcs	1	
8	94020300129	Transformer	JBK-400V-220/230/240-24V	Pcs	1	
9	94020300012	Transformer	AD116-22D/MS 24V	Pcs	1	
10	94020600004	AC contactor	CJX2-1210/AC24	Pcs	1	
11	94020100083	Circuit breaker	DZ47-63 C25 /3P	Pcs	1	
12	94020100049	Circuit breaker	DZ47-63 C32 /2P	Pcs	1	
13	94020100046	Circuit breaker	DZ47-63 C10 /1P	Pcs	1	
14	94020100149	Circuit breaker	DZ47-63 C25 /1P	Pcs	1	
15	94020100042	Limit switch	TZ-8104	Pcs	1	
16	94020100050	EMERGENCY STOP	LAY7-01ZS	Pcs	1	
17	94020300040	Relay	LY2N-J/AC24	Pcs	1	

18	94020300127	Relay	JQX-38F/3Z AC24	Pcs	1	
19	94020300011	Relay holder	PYF08AE	Pcs	1	
20	94020400065	Plug		Pcs	1	
21	9402010069	Three-pin plug		Pcs	3	
22	94020300046	Timer	H3Y-2-5S/AC24	Pcs	3	
23	94100000791	E-magnet	MQZ2-65N-25 DC24V	Pcs	3	
24	94020300102	Photoelectric sensor	MP181501-Z	Pcs	3	
25	94020100005	Limit switch	TZ-8108	Pcs	1	
26	94020100051	Option switch	TN22B-1AB	Pcs	1	

27	94020600025	Bridge rectifier	KBPC5010	Pcs	1	
28	94020200001	Capacitor	4700UF/50V	Pcs	1	
29	94100000812	Control box	380*230*135	Pcs	1	
30	94020300034	Relay	LY2NJ/DC24	Pcs	1	
31	94020300128	Relay holder	SOCKET-38F	Pcs	1	

We've tried to do our very best to provide complete and detailed information so that your installation and operation experience is free of problems. But, please feel free to contact us, if you should run into any problems in installation and operation your new lift, or have questions on some of the part

EC-declaration of conformity

CE

The company

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

hereby declares that the **scissor vehicle lift**

TWS3-18U-230, TWS3-18U-400 | 3000 kg
TWS3-18UE-230, TWS3-18UE-400

Serial number:

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

EC-directive(s)

2006/42/EC **machinery**

Applied harmonized standards and regulations

EN 1493:2022, EN 60204-1:2008, EN ISO 12100-2010

CE Certificate

N8MA 087411 0091 Rev.00
M6A 087411 0090 Rev.00

date of issue: 27.12.2024
place of issue: München
technical file no.: 646642303501

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 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, 02.01.2025 Qualitätsmanagement

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