SCISSOR LIFT
TWSA-40 Over floor
(Lifting capacity: 4000 kg)

TWSA-40

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

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

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Important Information:

PRODUCT PRESENTATION:

You can find the product presentation video for this lift on YouTube:
www.youtube.com/watch?v=2hKOHO5qePk
or scan the QR code.

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 SA-40 has an ultra-flat design (only 200 mm drive-on height) and is therefore also ideal for sports cars. The integrated wheel-free jack enables the complete vehicle (car) with all four wheels to be lifted free. For wheel alignment, locking system for lowering into the safety catches.
Swing plates at the rear and recesses with 6 insertion plates for swivel plates enable a very flexible range of applications from small to large wheelbases.

Thanks to the total of 8 powerful hydraulic cylinders in conjunction with the tilt lever system, the system guarantees fast and problem-free lifting, even under heavy loads. The TW SA-40 also scores points with automatic bleeding - just a few lifting and lowering cycles are enough to ensure synchronised movement of both platforms.

Special features of the product:

- 1A processing quality with CE certificate for UVV approval
- Production according to ISO 9001
- CE stop and signal tone when lowering (foot protection)
- Hydraulic synchronised control (cylinder sequence principle)
- Automatic safety locking and unlocking (compressed air required)
- High-quality and solid construction
- Wheel-free jack with extendable vehicle mounts for a longer mounting surface
- Emergency release function
- Carriageway with access ramps and roll-off protection
- Hose package 3000 mm
- Compressed air of 4-8 bar is required!

2. Identification of the instructions for use

Instruction manual drive-on scissor lift TWSA-40

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Status: -01 from 10.01.2024

File: *TW SA-40_Scissor_lift_over_floor_Instruction_manual_en_01_20240110.pdf*

3. Clear identification of the product, technical data

Permissible load capacity	4,000 kg
Max. lifting height	1,900 mm + 400 mm
Carriageway L / B	5,000 mm / 660 mm
Lifting and lowering time	approx. 65/50 sec.
Drive voltage	400 V / 3 phases
Drive power	3.5 kW
Circuit breaker	16 A (slow)
Dead weight	3,090 kg

4. Modification of the product

Improper use, modifications, conversions and attachments of the TW SA-40-V2 drive-on scissor 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, overloading or unsuitable ground conditions. Improper use also invalidates the CE certification and the validity of the certificate.
If you require any changes, please contact your dealer or the expert staff at Twin Busch GmbH beforehand.

5. Safety-related information

5.1. Important notes

Read the operating instructions carefully before using the lift to avoid injury or damage caused by personal negligence.
Unpack all the items and use the packing list to check that each item is present.
Check all hoses and connections. The lift may only be put into operation if there are no visible leaks and all connections are securely fastened.
All screw connections must be screwed tight.
Do not place a vehicle on the lifting platform during the test run. Familiarise yourself with the operating procedures in several test runs.
The lift was specially developed for lifting motor vehicles. Users must not use it for any other purpose. The applicable national regulations, laws and directives must be observed.
Only users aged 18 and over who have been instructed in the operation of the lifting platform and have demonstrated their ability to do so to the owner may be authorised to operate the lifting platforms unsupervised. Authorisation to operate the lifting platforms must be given in writing.
Only lift vehicles within the rated load. Do not attempt to lift vehicles with excessive weight.

Before commissioning, connecting and operating Twin Busch products, it is essential to carefully study the operating instructions/user manual and in particular the safety instructions. In this way you eliminate uncertainties in handling Twin Busch products and the associated safety risks from the outset, which serves your own safety and ultimately helps to prevent damage to the device. If a Twin Busch product is passed on to another person, the safety instructions and notes on proper use must be passed on to this person in addition to the operating instructions.

By using the product, you agree to the following terms and conditions:

Copyright:
The enclosed instructions are the property of Twin Busch or its supplier and are protected against duplication and reproduction by copyright laws, international agreements and other national laws. Copying or passing on the instructions or an extract from them is prohibited and punishable by law. Twin Busch reserves the right to initiate criminal proceedings and assert claims for damages in the event of infringements.

Guarantee:
The use of non-approved hardware leads to a modification of our products and thus to the exclusion of any liability or warranty, even if this hardware has been removed in the meantime. No modifications may be made to our products and they may only be used in conjunction with original accessories and original spare parts. Otherwise all warranty claims will be invalidated.

Liability:
Twin Busch's liability shall be limited to the amount actually paid by the customer for this product. This exclusion of liability shall not apply to damage caused by Twin Busch wilfully or through gross negligence.

All information in this manual is believed to be correct at the time of publication. Twin Busch reserves the right to amend and change technical data and composition without prior notice. Please confirm at the time of ordering.

5.2. Operation of lifting platforms

This lift is specially designed for lifting motor vehicles. Users must not use it for any other purpose. The applicable national regulations, laws and directives must be observed. Only persons who have reached the age of 18 and have been instructed in the operation of the lift and have demonstrated their competence to the operator may be entrusted with the unsupervised operation of the lift. The authorisation to operate the lifting platforms must be given in writing. Before loading a vehicle onto the lift, users should study the original operating instructions and familiarise themselves with the operating procedures in several test drives.

5.3. Checking the lifting platform

The test is based on the following guidelines and regulations:

- Basic principles for testing lifting platforms
- The essential health and safety requirements of Directive 2006/42/EC
- Harmonised European standards
- The applicable accident prevention regulations

The statutory inspections must be organised by the user of the lifting platform. The user is responsible for appointing an expert or a qualified person to carry out the inspection. It must be ensured that the selected person fulfils the requirements.
The user bears a special responsibility when employees of the company are appointed as experts or qualified persons.

5.3.1. Scope of the audit

The regular inspection essentially comprises a visual inspection and a function test. This includes checking the condition of the components and equipment, the completeness and functionality of the safety systems and the fully completed inspection logbook. The scope of the extraordinary inspection depends on the type and scope of structural changes or repair work.

5.3.2. Regular inspection

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

5.3.3. Additional tests

Lifting platforms with a lifting height of more than 2 metres and lifting platforms intended for people to stand under the load-bearing parts of the load must be inspected by an expert before or after structural modifications and major repairs to load-bearing components before being reused.
An expert is someone who, due to their training and experience, has specialist knowledge in the field of lifting platforms and is sufficiently familiar with the relevant national occupational safety regulations, accident prevention regulations and generally recognised rules of technology to be able to inspect and assess lifting platforms.

5.4. Important safety instructions

1) Designed for indoor use only. Do not expose the lift to rain, snow or excessive moisture.
2) Only use this lift on a stable, level, dry and non-slippery surface that can withstand the load. Do not install the lift on an asphalt surface.
3) Read and understand all safety instructions before operating the lift.
4) Do not leave the control unit while the lift is still in motion.
5) Keep hands and feet away from moving parts. Keep your feet away from the lifting platform when lowering.
6) Only appropriately trained personnel may operate the lifting platform.
7) Wear suitable work clothing so that they cannot be caught by moving parts of the lifting platform.
8) To avoid incidents, the areas surrounding the lifting platform must be tidy and free of objects.
9) The lift is designed to lift the entire vehicle body with its maximum weight within the lifting capacity.
10) Always ensure that the safety catches are engaged before attempting to work near or under a vehicle. Never remove safety-relevant components from the lift. The lift must not be used if safety-relevant components are damaged or missing.
11) Do not rock the vehicle on the lift or remove heavy components from the vehicle that could cause excessive weight transfer.
12) Check moving and safety-relevant parts of the lift at all times to ensure mobility and synchronisation. Ensure regular maintenance. If anything unusual occurs, stop working with the lift immediately and contact Twin Busch or your dealer for assistance.
13) While maintenance work is being carried out, lower the lift to its lowest position and disconnect the power supply to the lift.

14) Do not modify any parts of the lift without the manufacturer's instructions.

15) If the lift is not used for a longer period of time, users must:

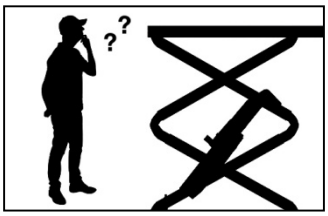
a. Disconnect the power supply
b. Empty the oil tank
c. Lubricate the moving parts with grease

WARNING: The warnings, cautions and instructions in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors that cannot be built into this product, but must be provided by the operator.
Attention: Please dispose of used oil properly to protect the environment.

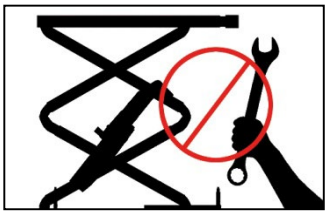
5.5. Safety instructions and labelling

All warnings are clearly visible on the lift to ensure that the user uses the device in a safe and appropriate manner. The warning signs must be kept clean and replaced if they are damaged or missing. Please read the signs carefully and memorise their meaning for future use.

Instructions and safety instructions before use read carefully!

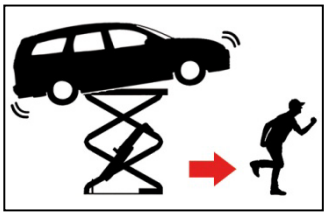


The lift may only be operated by qualified personnel!

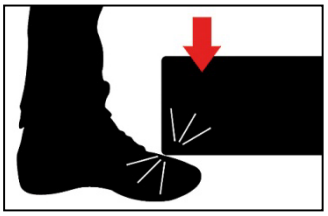


Repairs and maintenance may only be carried out by specialised personnel, never put safety devices out of operation!

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



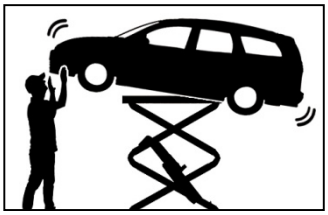
Escape routes always Keep clear!



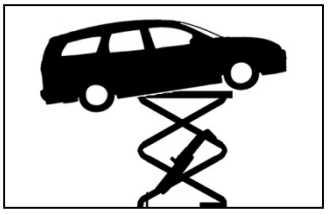
Pay attention when lowering on your feet!

Risk of crushing when lifting and lowering!

Never attempt to load only one side of the lift!



Avoid shaking the vehicle vigorously!



Distribute vehicle weight evenly on both platforms!

No additional supports or interfering objects when lowering!

CAUTION! Electrical voltage!

5.6. Possible security risks

5.6.1. Mains voltage

Damaged insulation, crushed cables and other faults can lead to accessible components being energised.
All cables and lines must be checked for damage before commissioning!

Safety measures:

- Only use the mains cable supplied or an approved mains cable.
- Replace cables/wires with damaged insulation.
- Do not open the control unit.

5.6.2. Risk of injury/ crushing hazard

If the lift is used with vehicle weights in excess of the permissible load capacity, if the vehicle is picked up incorrectly with the lift or if heavy objects are removed from the vehicle, there is a risk of the vehicle falling off the lift or tipping over.

Safety measures:

- The lift may only be used for its intended purpose.
- Read the operating instructions carefully in order to understand all the necessary information and to be able to observe safety measures.
- Observe the warnings for operation.

5.7. Noise level

Noise emitted during operation of the lift should be less than 70 dB. For health reasons, it is recommended that you install a noise detector in your work area or wear hearing protection.

6. Packaging, storage and transport

Packing, lifting, handling and transport work may only be carried out by experienced personnel who have the appropriate knowledge of the lifting platform and have read this manual.

6.1. Packages

Description of the	Packaging	Dimensions [mm]	Weight [kg]	Quantity
Control unit	Wooden box	500*470*1120	84	1
Main platforms	Cardboard, on wooden base frame	5100*700*360	1550	1
Secondary platform	Cardboard, on wooden base frame	5100*700*360	1550	1
Mobile kit (optional)	Slide	310*220*120	106	1

6.2. Storage

The packs must be stored in a covered and protected area within a temperature range of -10°C to +40°C. They must not be exposed to direct sunlight, rain or water for long periods.

Stacking the packs

We do not recommend stacking as the packs are not designed for this type of storage. The narrow base, heavy weight and size of the packs make stacking difficult and potentially dangerous.

If stacking is unavoidable, take all appropriate precautions:

- Never stack more than 2 metres high.
- Never make stacks of individual packs. Always stack pairs of packages in a criss-cross pattern so that the base is larger and the resulting stack is more stable. When the stack is ready, secure it with straps, ropes or other suitable load securing material.

A maximum of two packs can be stacked on lorries, containers and railway wagons, provided the packs are secured against sliding and shifting to prevent them from falling and being damaged.

6.3. Transport

The packages can only be lifted and transported with forklift trucks. Do not attempt to lift or transport the units with lifting straps or slings.

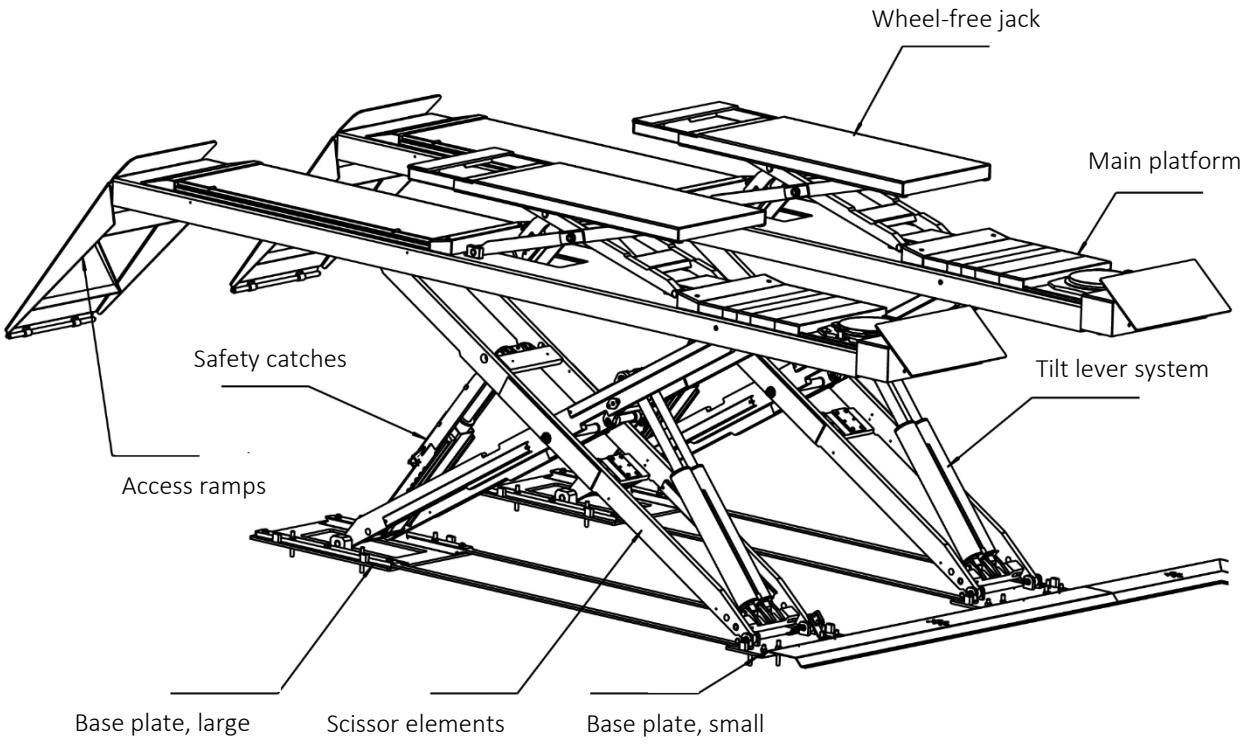
Open the packaging
When the lift is delivered, make sure that it has not been damaged during transport and that all parts are present.
The packs must be opened with all necessary precautions to avoid injury to persons (when cutting the straps at a safe distance) or damage to components of the lifting platform (make sure that no parts fall when opening the pack).
Be particularly careful with the hydraulic unit/operating unit and the platform cylinders.

7. Product description

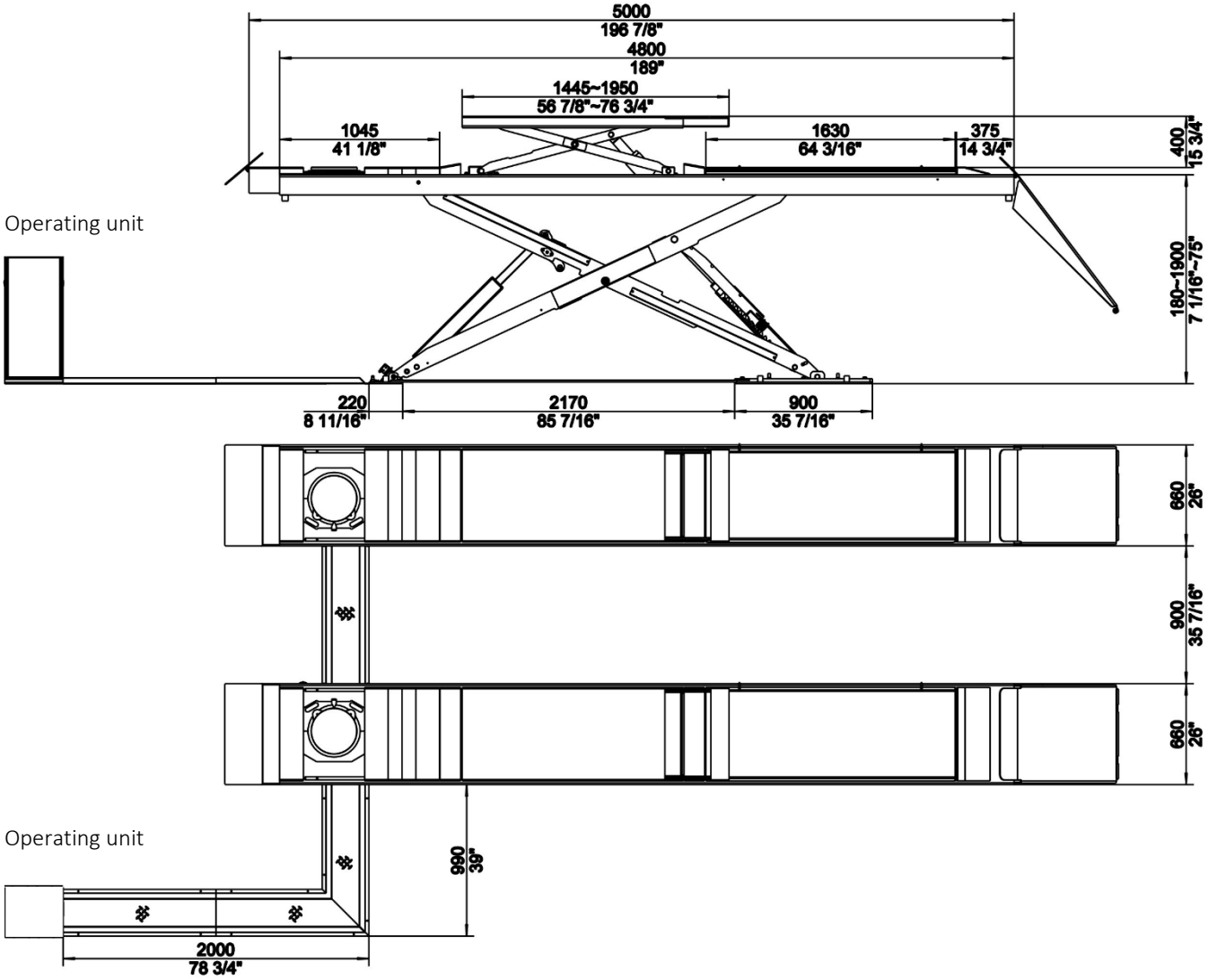
7.1. General description

This is a drive-on scissor lift with additional wheel-free lifting device. It is preferably intended for above-ground installation and essentially consists of lifting platforms, base plates, oil cylinders and a control unit. The gear pump ensures that the oil in the pump pushes the pistons of the oil cylinders upwards. This raises the scissor jacks of the lift accordingly. The mechanical safety interlock prevents slipping in the event of a hydraulic failure. In addition, designs such as 24 V operating voltage of control box and limit switch, low level alarm buzzer, overpressure valves, etc. have been fully considered for your personal safety.

7.2. Construction of the lifting platform



7.3. Dimensions



7.4. Safety elements

No.	Safety device	Function
1	Throttle valve	Throttles lowering speed in the event of a hydraulic leak
2	Mechanical safety catches	Protects the platform against lowering in the event of a hydraulic leak
3	24V control voltage	Protects the operator from dangerous high voltage
4	Wheel-free jack limit switch (max. height)	Stops lifting movement at maximum lifting height
5	Anti-tip protection of the wheel-free jack	Protects against tilting of the platform with uneven loads
6	Tilt protection main platforms	Protects against tilting of the platform with uneven loads
7	Limit switch main platforms (max. height)	Stops lifting movement at maximum lifting height

7.5. Technical data

Max. permissible load	4000 kg
Lifting height	1900 mm
Lowered height	180 mm
Lifting time (with nominal load)	≤65 s
Pneumatics Working pressure	6-8 bar
Max. permissible load capacity wheel-free jack	4000 kg
Lifting height wheel-free jack	450 mm
Oil tank volume	18 L

8. Assembly instructions

8.1. Preparation before assembly

8.1.1. Working area

There must be a distance of at least 1 metre between the lifting platform and the permanently installed elements and walls in all lifting positions. There must be sufficient space at the ends of the lifting platform 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.

8.1.2. Foundation and connections

Only use this lift on a surface that is stable, level, dry, non-slippery and capable of bearing the load. This lift must be installed on a firm 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.

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

- Installation of the foundation after consultation with the manufacturer's customer service or an authorised service employee.
- Laying the cabling to the installation location. Also observe the relevant information on the rating plate and in the operating instructions. Before making the electrical connection, ensure that the lift is electrically adapted to the local power supply.
- The user must provide fuse protection for the connection. Requirements for the power supply cable at the installation site: at least 2.5mm² wire cross-section for 3ph current and 4.0mm² wire cross-section for 1ph current. Attention: The electrical system must be connected by qualified electricians.

8.1.3. Foundation preparation

In all lifting positions, there must be a distance of at least 1 metre between the lifting platform and the fixed elements (e.g. the wall).
There must also be sufficient space for vehicles to drive in and out.
Concrete foundation C20-C30 with a minimum thickness of 150 mm.
Surface: Horizontal and even (gradient of max. 0.5%).
Newly poured concrete floors must be cured for at least 28 days.

8.1.4. Tools required

Tool	Specification	Quantity
Electric drill (only required for permanent installation)	with Ø16 drill bit	1
Spanner	SW 17-19mm	2
Phillips screwdriver	PH2	1
Socket spanner	SW 24mm	1
Spirit level or laser		1
Hammer	5 kg	1
Lifting equipment (e.g. forklift truck)	Load capacity min. 3500kg	1
Sling	Load capacity min. 1000 kg	2
Sling	Load capacity min. 2000 kg	1
Torque spanner	MD400	1

8.1.5. Check for completeness

Unpack the packages and check them for completeness using the following list. Do not hesitate to contact us if any parts are missing. However, if you do not contact us and insist that some parts are missing, we and our dealers will not take responsibility for this and will charge the cost of any parts subsequently requested from the buyer.

No.	Name	Specification	Quantity
1	Pre-assembled lifting platform	6604V2	2
2	Fixing anchor	M16*120	16
3	Control unit	3.5kW	1
4	Access ramps	6604V2-A9	2
5	Cover plate A (L=2200mm)	6604V2-A13	1
6	Cover plate B (L=1000mm)	6604V2-A14	1
7	Cover plate C (L=1000mm)	6604V2-A15	1
8	Cover plate D (L=1000mm)	6604V2-A16	1
9	Allen screw with hexagon socket	ST4.8*35	20
10	Plastic dowels	M10*40	20
11	Cheese head screw with hexagon socket	M6*12	4
12	Nut	M6	4
13	Washer	M6	4

8.2. Assembly

1. Connections between oil hoses and electrical cables must be well connected to prevent the oil from leaking and the electrical cables from loosening.
2. All bolts should be screwed tight.
3. Do not place a vehicle on the lifting platform during test runs.

8.3. General assembly steps

Step 1: Place the lifting platform at the desired installation location

Lift the platform with a forklift and 2 lifting straps until the mechanical lock engages. Remove the bolts securing the platform and its wooden frame and then lift the platform to the intended installation location.

Attention 1:
Avoid scratches and cuts on the powder-coated surface and the hoses.

Attention 2:
Before lifting, ensure that the hoses and cables are well protected against damage.

Attention 3:
It is necessary to hold the platform during the lifting process. Unauthorised persons are not permitted in the installation area.

Step 2: Connect the oil hoses

Connect the oil hose connections to the drive unit according to the diagram for the oil hose connection (see Appendix 3).
Caution: Connect according to the markings on the hoses and do not contaminate the hydraulic components during connection. Ensure that all screw connections are firmly tightened. If the hose connections are not properly tightened, there will be severe leaks.

Step 3: Connect the pneumatics

Connect the pneumatic release system according to the air hose connection diagram in Appendix 4.
Caution: Do not contaminate the pneumatic components during connection. Press the knob shown in the following illustration upwards and turn the knob until the pointer of the pressure gauge points to the NUMBER "6". Then press the knob downwards.

Turn to set the working pressure

It is recommended to fill the oil tank with ISO VG32 mechanical oil. Set the oil quantity using the knob on the top of the oil tank.

Step 4: Connect the electrical system. This work must be carried out by an electrical engineer!

See Appendix 12.2.
Read the motor rating plate and understand the wiring diagram before connecting the power supply unit.
Open the control box and connect the electrical cables to the terminals reserved inside.
Pay attention to the numbered tubes that are attached to each wire. Wires and terminals with the same number labelling are connected to each other.

Step 5: Fill with hydraulic oil
ONLY USE CLEAN AND FRESH OIL! DO NOT FILL THE TANK COMPLETELY!
The lift must be fully lowered before hydraulic oil is changed or topped up!

The lift normally requires approx. 22 litres of hydraulic oil.
First pour approx. 18 litres of hydraulic oil into the oil tank. Raise and lower the main platform and the wheel-free jack in several cycles. Add more oil after several cycles until the lift can reach the maximum lifting height.
Note: It is recommended to use HLP32 hydraulic oil. Change the oil approx. 6 months after first use and then once a year.

Familiarise yourself with the lift controls before placing a vehicle on the lift

No unusual noises or leaking oil may occur before the lift can be operated under load.
Allow the lift to run for approx. 5-6 cycles without load. If necessary, add more oil to reach the full lifting height. You only need to top up the oil until the lift can reach the full lifting height. When lowering, the oil runs out of the lines back into the oil tank.
(If the lift does not lift with a three-phase power supply and the motor may be rotating in the wrong direction, swap the U and V wires in the control cabinet).

Step 6: Levelling the platforms

See 5.2 and 5.4 to familiarise yourself with the lift controls.
Switch SA3 to "OFF" before levelling.
Check the connection of the hydraulic and electrical system before levelling.

Levelling the main stroke. Turn the SA2 selector switch to the main stroke.

1) Switch SA1 to working mode and press the UP button to raise both wheel support platforms to the maximum height.
2) Press and hold the UP button for 1 minute and then lower the platform completely to the ground.
3) Press the UP button to raise the platforms to the maximum height again and hold the UP button down for a further 20 seconds.
4) Press the UP and DOWN buttons to check the synchronisation. As a rule, the two platforms have been synchronised in this step.
5) Manually level the platform if the height deviation is less than 20 mm.

5.1) Switch SA1 to "Levelling" mode.

Switch on one of the two levelling valves and press the UP or DOWN button to adjust the height of an individual platform until it is at the same level as the other platform. Switch off the valve before normal raising or lowering.

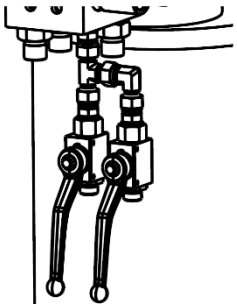
Levelling the wheel-free jack

1) Set SA2 on the control panel to "Wheel jack" (jack) and SA1 to levelling mode (levelling).
2) Press the UP button until both platforms of the "wheel-free jack" go all the way up to de-aerate the cylinders.
3) Press DOWN I until the lowest position is reached. Press the UP button to check the "wheel free lift" should be synchronised by this step.

Repeat the above levelling steps until synchronisation is achieved.

Levelling the main platforms

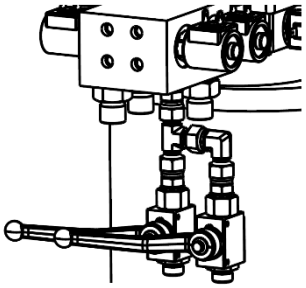
1) Switch on the main power switch and turn the selector switch SA2 to "Lift" (main platform) and SA1 to "Levelling" mode. Turn the two handles of the valves in the following direction.



Levelling valve open

2) Press the UP button to raise the platforms to the maximum height. Then lower them back to the minimum height. Repeat this for approx. 3 cycles. Make sure to press the UP button very lightly and slowly when the platforms have almost reached the maximum height. Then activate the mechanical safety locks and press DOWN I and then DOWN II to lower the platforms completely. This step can take quite a long time as there is air in the oil cylinders and no load remaining on the platforms.

3) Repeat step 2 above for two or three cycles. Switch off the two levelling valves (by pressing the two handles in the direction indicated in the following diagram) when both platforms are fully lowered.



Levelling valve closed

4) Switch SA1 to normal working mode and press the UP button to check the synchronisation. (Normally the two platforms are not synchronised until this step).

5) If there is no synchronisation (one platform rises faster than the other), switch on the levelling valve that controls the slower platform and switch SA1 to levelling mode, press the UP button lightly until both platforms are at the same level. Switch off the levelling valve.

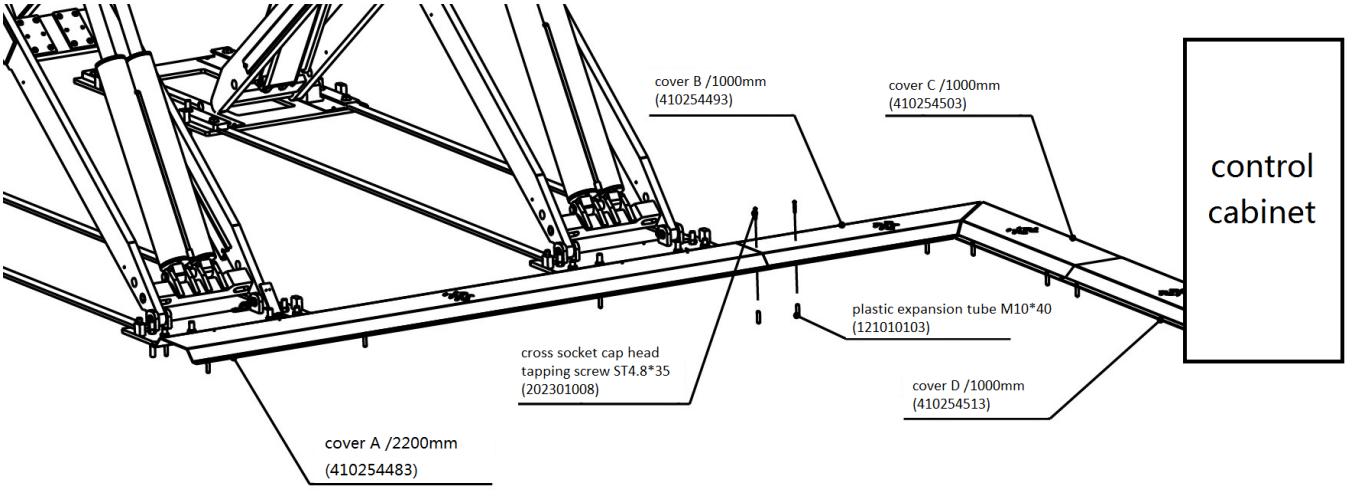
6) Switch SA1 to normal working mode and check the synchronisation.

7) If there is still no synchronisation, repeat step 4 to step 6 until both platforms are synchronised.

Step 7: Fasten the base frames with the expansion anchors

1) Before anchoring, the position of the individual base plates must be checked again using the base dimensions and the corresponding installation conditions.
2) Drill holes with a D16 carbide masonry drill bit. Make sure to drill vertically downwards.
3) Clean the hole and check the position of the base plates again to make sure they are positioned correctly.
4) Use a spirit level to check the vertical alignment of the two neighbouring base plates.
5) Drive in the anchoring screw and drive it into the hole until the nut and washer touch the base.
6) Tighten the nut to 80 Nm using a torque spanner.

Step 8: Fastening the oil hose protection cover



8.4. Checkpoints after installation

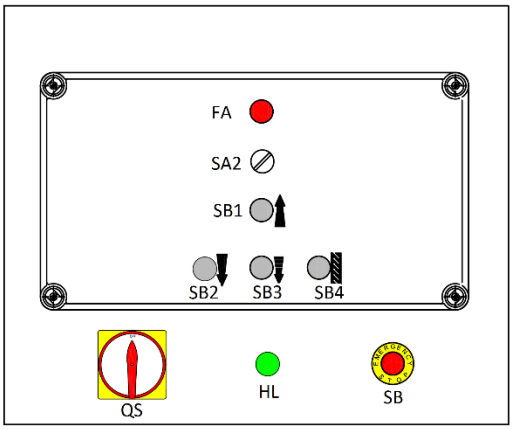
No.	Checkpoint	Yes	No
1	Torque of the fastening bolts: 80 Nm	√	
2	Lifting speed ≥20mm/s	√	
3	Noise level under load ≤75dB	√	
4	Earthing resistance not greater than 4Ω	√	
5	Height difference of the platforms ≤5mm	√	
6	Mechanical safety catches engage synchronously when lifting under nominal load	√	
7	Function switches (Up, Down) function as "hold to function"	√	
8	Limit switch function given	√	
9	Earthing cable connection	√	
10	Lifting platform raises and lowers gently	√	
11	No unusual noises during operation under nominal load	√	
12	No oil leakage under nominal load	√	
13	No pneumatic leakage under nominal load	√	
14	All screws, nuts or circlips securely fastened	√	
15	Lifting height reached	√	
16	Safety instructions and type plate clearly recognisable	√	

9. Operation of the lifting platform

9.1. Precautionary measures

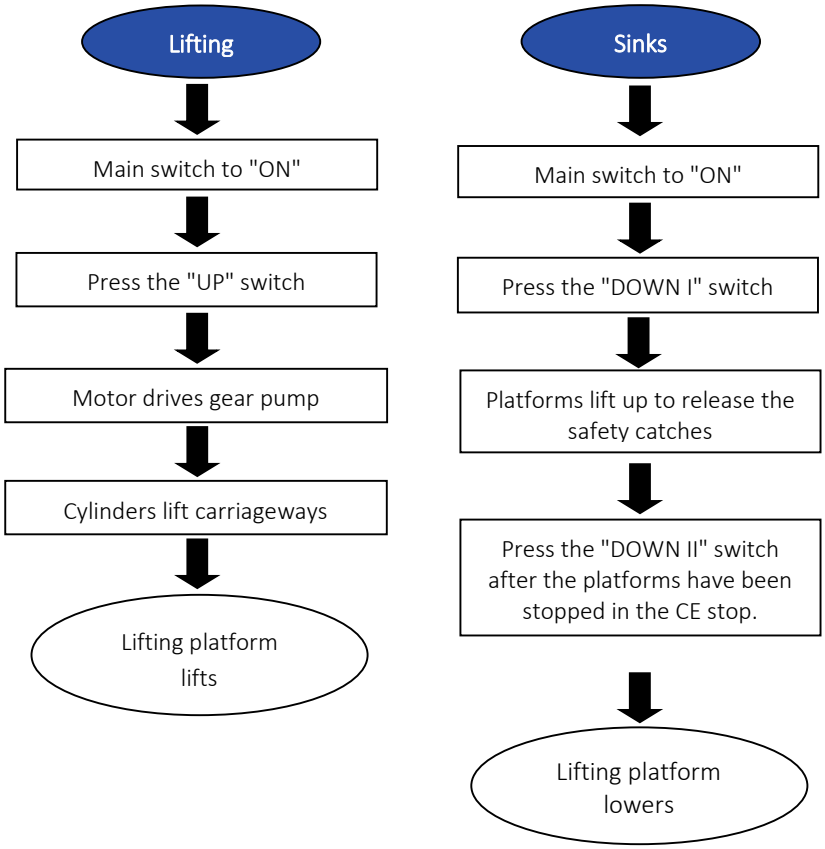
1. Read and understand the complete operating instructions before operating the lift.
2. Only authorised persons may operate the lifting platform.
3. Do not attempt to lift vehicles of excessive length or width.
4. The space above and below the vehicle and the lifting platform must be free of obstacles.
5. Position the rubber pads at the mounting positions recommended by the vehicle manufacturer.
6. Check the stability of the vehicle after lifting a little bit to ensure that it is correctly and safely positioned.
7. The lift and its working environment must be observed by the operator during the entire movement of the lift.
8. Activate the safety lock before getting under the raised vehicle.
9. Avoid excessive rocking or bobbing of the vehicle when it is raised.
10. Persons are prohibited from standing in the movement area during lifting or lowering.
11. Do not climb onto the lifting platform or the vehicle when they are raised.

9.2. Description of the control unit



Pos.	Description	Function
FA	Alarm signal	Acoustic warning when lowering
SB1	"UP" switch	To lift the lifting platform
SB4	"LOCK" switch	lowers into the safety catch
SB2	"DOWN" switch	To lower the lift
SB3	"DOWN 2" switch	Lowers from the CE stop
SB	Emergency Stop	Stops the movement in an emergency
HL	Operating display	Indicates whether the power supply is established
QA	Main switch	Power supply On/Off
SA1	Selector lever	Switch between working mode and levelling mode
SA2	Selector lever	Switch between main platform (lift) and wheel free jack
SA3	Selector lever	Switches off the infrared light barrier for levelling operation

9.3. Flow chart for operation



9.4. Operating instructions

The lift may only be used in a static position for lifting and lowering vehicles.
Only use this lift on a surface that is stable and can bear the load.
Do not use the lift on asphalt surfaces.

To avoid personal injury and/or damage to property, the lift may only be operated by trained personnel. After reading these instructions, familiarise yourself with the lift controls by running the lift through a few cycles before placing a vehicle on the lift. Always lift the vehicle with all four adapters. Never lift only one end, one corner or one side of the vehicle.
The user must not open the door of the control cabinet. Selector switches in the control cabinet must be set to "working" (working mode) and "infrared on" (infrared light barrier on) before the lift is used to lift vehicles.

9.4.1. Raising and lowering the main platforms

Lifting the lifting platform

When lifting the lift, make sure that there are no people or objects in the working area. Ensure that the vehicle is not too heavy at the front or rear and that the centre of gravity is centred in the middle of the lift.

1. Drive and park the vehicle in the centre between two platforms. Ensure that the vehicle is correctly positioned and secured against rolling away.

2. set the optional switch on the control panel to "lift" (main platforms).

3. press the "UP" button on the control panel to raise the vehicle slightly off the ground and check again that the vehicle is in a safe position.
4. raise the vehicle to the desired height and press the "lock" button (lowering into the safety catches) to ensure that the mechanical safety lock is engaged and check the stability again before carrying out maintenance or repair work.

Lowering the lift

When lowering the lifting platform, make sure that there are no persons or objects in the working area.

1. press the "Down I" button to lower the lift. The lift is first raised automatically to release the mechanical locks. Lowering is completed when the platform lowers to a distance of approx. 600 mm above the floor.
2. press the "DOWN II" button to lower the platforms further. The buzzer alarm will sound in the meantime.
3. remove the rubber pads and other tools after the lift has been fully lowered to ensure an unobstructed exit from the lifting area for the vehicle to be moved.
4. drive the vehicle off the lifting platform.

9.4.2. Raising and lowering the wheel-free jack

Lifting the wheel-free jack

1. set the optional switch on the control panel to "wheel free jack".
2. place rubber pads under the vehicle's mounting points specified by the manufacturer. If it is necessary to use the platform extensions, press the "UP" button to raise the platforms of the wheel-free jack slightly above the platforms of the main platform and pull out the extensions to the required length.
3. press the "UP" button and check again that the rubber pads are directly under the vehicle's mounting points if they are very close to the mounting points.
4. press and hold the "UP" button until the desired height is reached. The full height is 450 mm above the platform of the main platform.

Lowering the wheel-free jack

Caution: If the platform extensions of the "wheel-free jack" are used, the operator must retract both extensions when the four wheels of the vehicle have sufficient contact with the main lifts.

1. turn the selector switch on the control panel to "wheel free jack".
2. press the "DOWN I" button on the control panel to lower.
3. remove the rubber pads.

Caution: If the lift runs asynchronously with a height deviation of more than 60 mm during the lifting or lowering process, the synchronisation protection is activated to stop any lifting or lowering movement. In this case, the normal operator must request professional assistance from maintenance personnel to restore the lift to normal operating condition.

How can normal operating status be restored?

1. open the door of the control cabinet,
2. switch SA3 to OFF status,
3. press the DOWN I and then DOWN II buttons to lower the platform completely,

4 Level until both platforms are synchronised (see 8.3, step 6: Levelling).

5. switch SA3 to ON status.

SA3: Is the control "on" or "off" for synchronisation protection device.

10. Troubleshooting

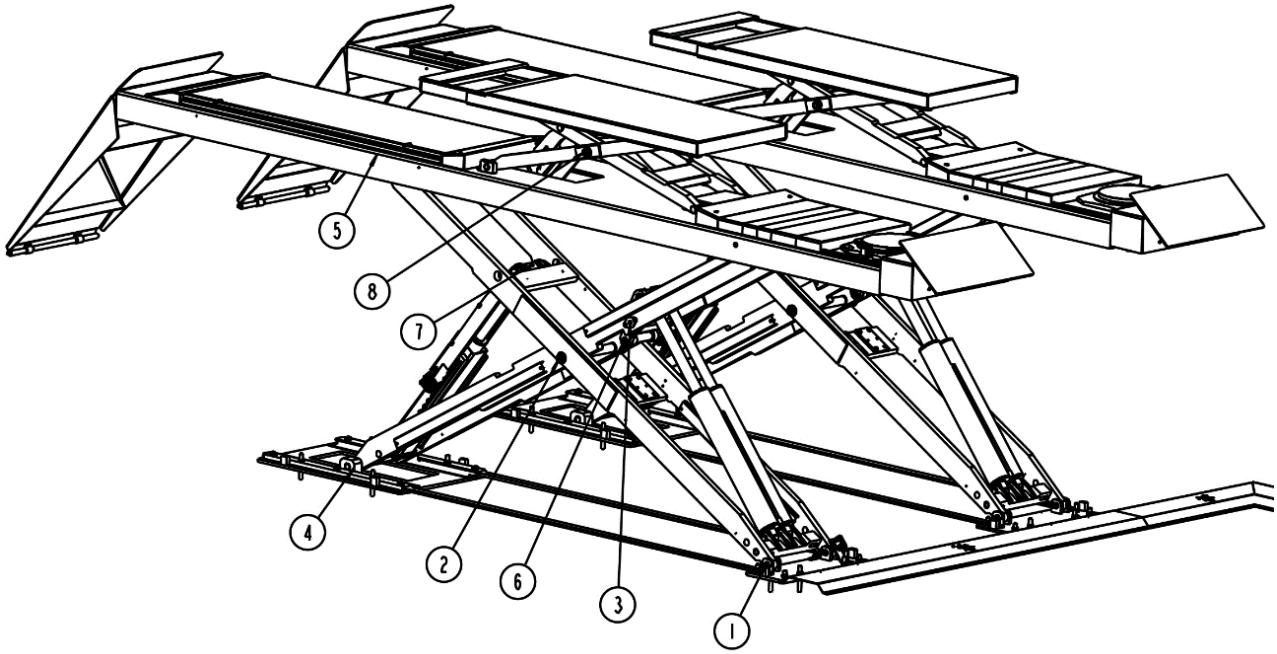
ATTENTION: If the problem could not be solved by yourself, please do not hesitate to contact us for help. The problems will be assessed and resolved much faster if further details or pictures of the problem could be provided.

Problem	Cause	Solution
Motor does not run and does not start.	Loose cable connection	Check and establish a fixed connection
	Motor burnt out	Exchange
	Damaged limit switch or its cable connection is loose	Adjust or replace limit switch
Motor runs but does not lift.	The motor runs in the wrong direction of rotation	Check cable connection
	Overflow valve is not screwed on properly or is jammed	Clean or adjust
	Damaged gear pump	Exchange
	Oil level too low	Top up oil
	Hose connection is loose	Retraction
	The throttle valve is not screwed on properly or is jammed	Clean or adjust
Platform lowers slowly after lifting.	An oil pipe has a leak	Clean or replace
	Oil cylinder not tightened	Replace seal
	The one-way valve is leaking	Clean or replace
	Solenoid valve not working correctly	Clean or replace
	Bleeder valve leaks	Check and establish a fixed connection
Lifting too slowly.	Clogged or defective oil filter	Clean or replace
	Oil level too low	Top up oil
	The overflow valve is not in the correct position	Adjustment
	Hydraulic oil too hot (over 45°C)	Change oil
	Worn cylinder seal	Replace seal
Lowering too slowly.	Jammed throttle valve	Clean or replace
	Contaminated hydraulic oil	Clean or replace
	Blocked overvoltage protection valve	Exchange
	Blocked or crushed oil hose	Clean or replace

11. Maintenance / servicing

Simple and inexpensive routine maintenance can ensure that the lift operates normally and safely. Follow the following routine maintenance schedule in relation to the actual working condition and frequency of use of your lift.

Lubricate the following components and moving parts with lithium grease:



No.	Component	Method	Repetition
1	Control buttons	Check whether the control buttons function as "press and hold to move" and whether they fulfil the specified function.	Daily
2	Limit switch max. height	Press the "UP" button and check that the lift does not continue to rise at maximum lifting height.	Daily
3	Pneumatic filter	Check the filter to ensure that it is not leaking. Check and ensure that the water level is below the maximum mark and the oil level is above the minimum mark.	Daily
4	Hydraulic block and valves	Check whether the valves are leaking. Clean or replace the valve if leaks occur.	Monthly
5	Oil hoses and connections	Before using the lift, check that there are no leaks.	Daily
6	Pneumatic hoses and connections	Before using the lift, check that there are no leaks.	Daily
7	Safety catches	Press the control buttons to check whether both mechanical latches can be engaged and disengaged simultaneously.	Daily
8	Glider	Apply grease to the tracks to ensure smooth running. Check whether the glides are worn. Replace worn glides.	Monthly
9	Terminals in the control unit	Open the control unit, check the cable clamps and tighten them if any clamps have come loose.	Every 3 months
10	Joint axis	Apply grease to the moving parts	Every 3 months
11	Fixing anchor	Check whether the tightening torque is still present. Tightening torque: 80Nm	Every 3 months

No.	Component	Method	Repetition
12	Self-locking nuts	Check whether the tightening torque is still present. The torque should be at least 330 Nm.	Every 3 months
13	Mounting bracket of the wheel-free jack	Check with a torque spanner. The torque should be at least 55 Nm.	Every 3 months
14	Lifting platform synchronisation	Check the synchronisation of both lifting platforms. Ensure that both platforms lift and lower synchronously.	Daily
15	Hydraulic oil	Change the oil 6 months after the first use and then once a year. Check the hydraulic oil and change the oil if the oil turns black or if there is dirt in the oil tank.	Annually
16	Complete lifting platform	Run the lift several cycles with and without nominal load. The lift should move smoothly and evenly without any unusual noises.	Every 3 months

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

12. Care / Conservation

Long-term protection for the powder coating: special measures to extend the service life.

The steel parts undergo blasting, degreasing and powder coating processes during production. Corrosion occurs if the powder coating is damaged and no appropriate maintenance measures are taken. Especially in winter, with dripping water or salt water, rust can form in corners, edges and gaps. On the road surface, the powder coating can be damaged by repeated driving, allowing moisture to penetrate, similar to a "stone chip" on a bonnet. Untreated areas begin to rust. The lower plastic glides of the scissor mechanism can also damage the powder coating due to dirt or foreign objects.

As a precautionary measure, we recommend the use of penetrating oil or cavity wax in the lower areas of the scissor mechanism and Polytrol on the carriageways as additional corrosion protection.

In the event of rust formation, affected areas should be derusted over a large area and treated with Brunox or a similar product. The paint can then be repaired in the appropriate colour (blue = RAL 5015, grey = RAL 7000, semi-gloss) using a roller and the appropriate hardener (brush-on hardener) for the 2K paint.

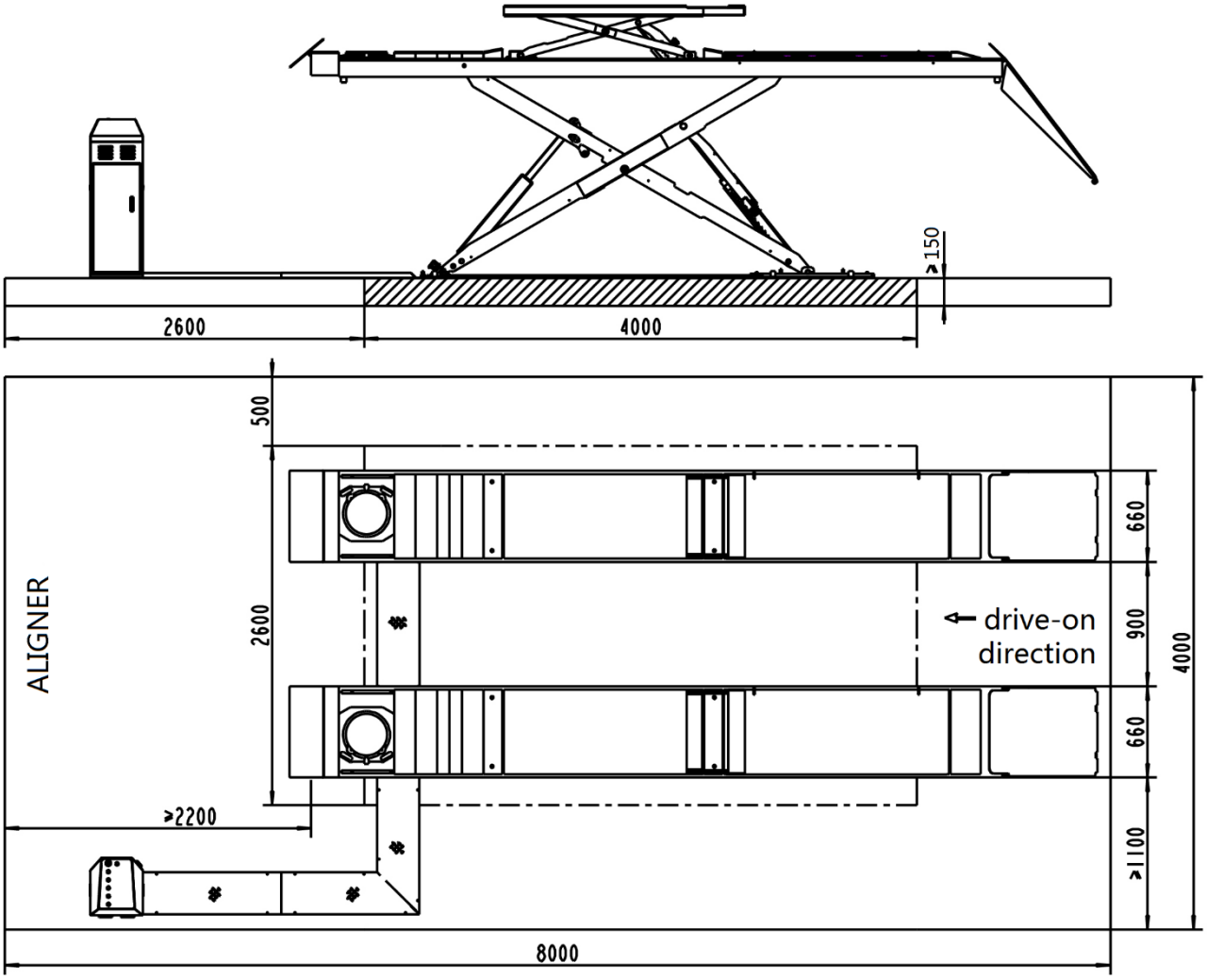
13. Appendix

13.1. Foundation plan for fixed installation

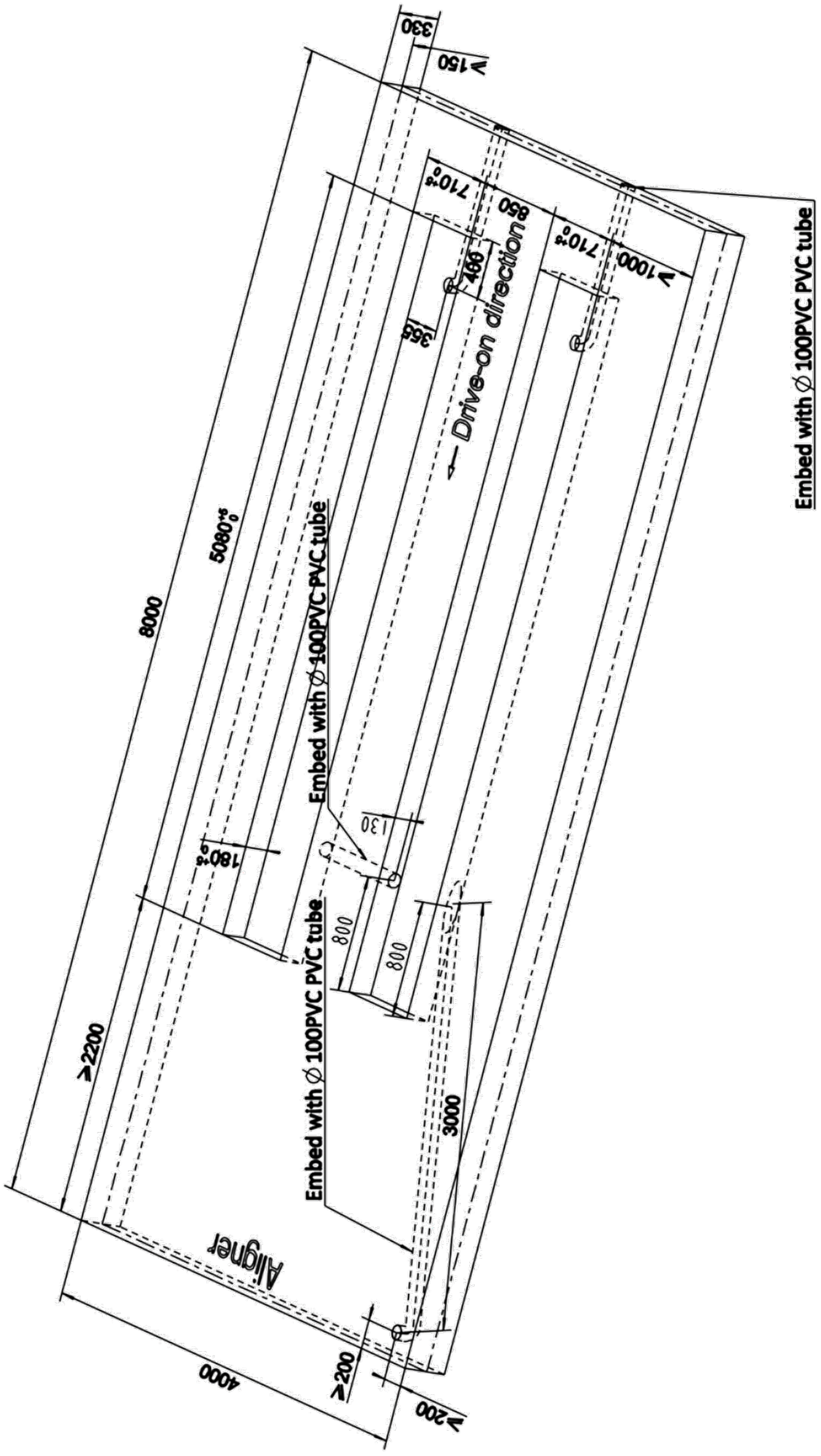
Indoor installation only.

There must be a distance of at least 1 metre between the lifting platform and fixed elements (e.g. a wall) in all lifting positions. There must be sufficient space for vehicles to drive in and out.
Concrete foundation C20/25 with a minimum thickness of 150 mm.
Surface: Horizontal and even (gradient of max. 0.5%).
Embedded L40 angle iron around the pit for edging. (For underfloor installation)
Newly poured concrete floors must be cured for at least 28 days.
If no drainage pipes are available, a water collection pit must be planned. (ONLY VALID FOR UNDERFLOOR INSTALLATION)

Floor plan for above-ground installation

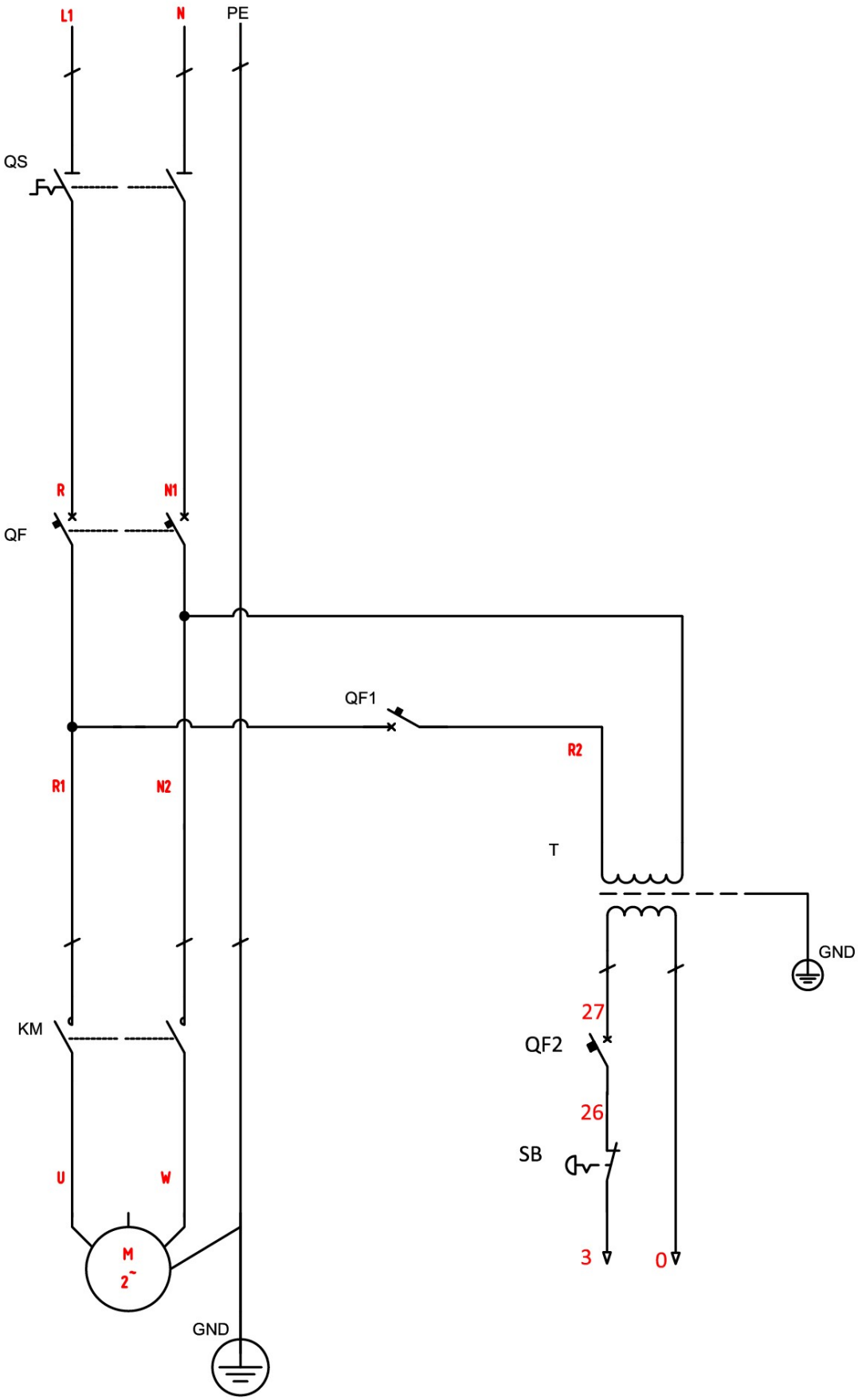


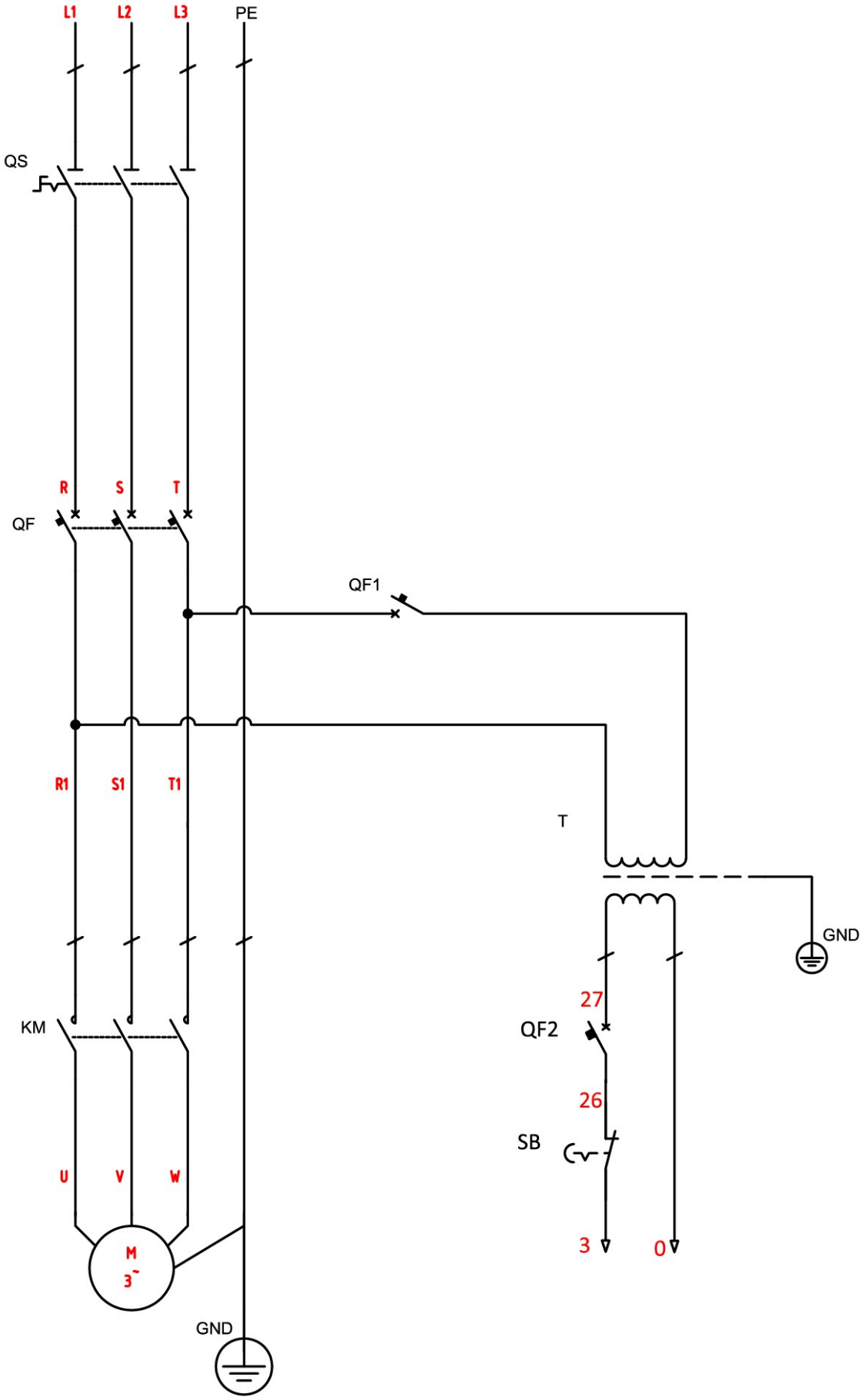
Floor plan for **underfloor** mounting

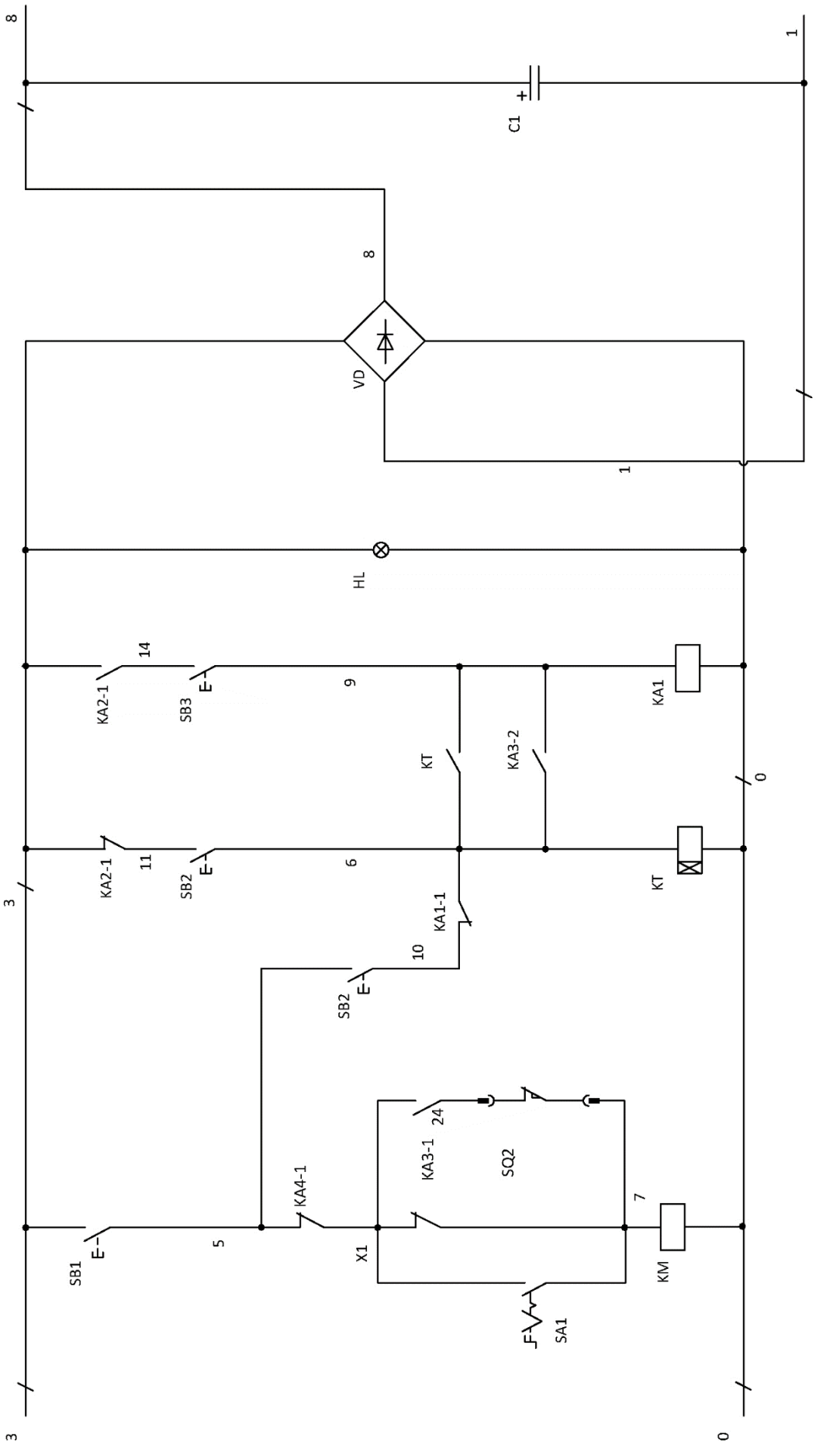


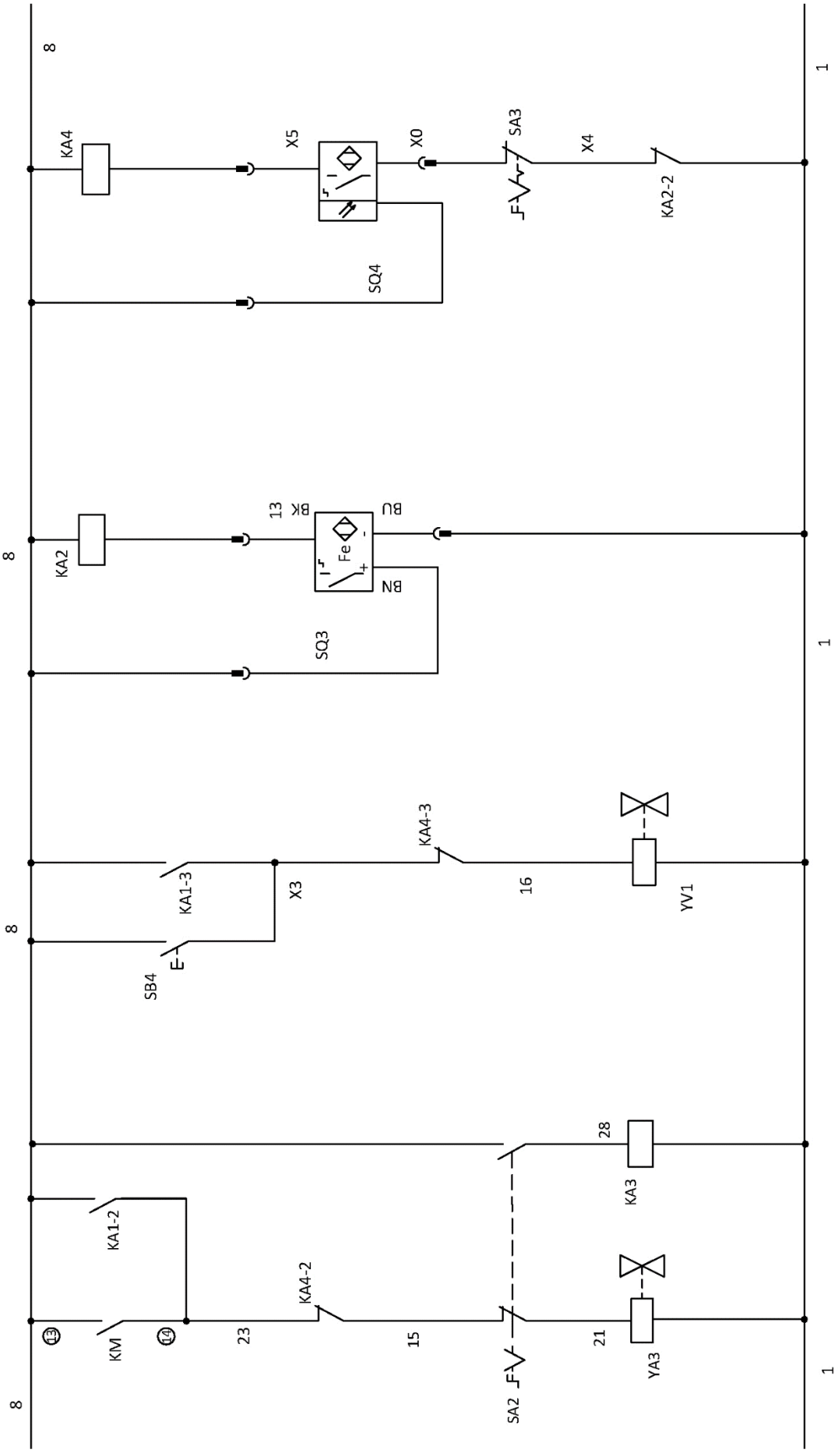
13.2. Electrical circuit diagram and parts list

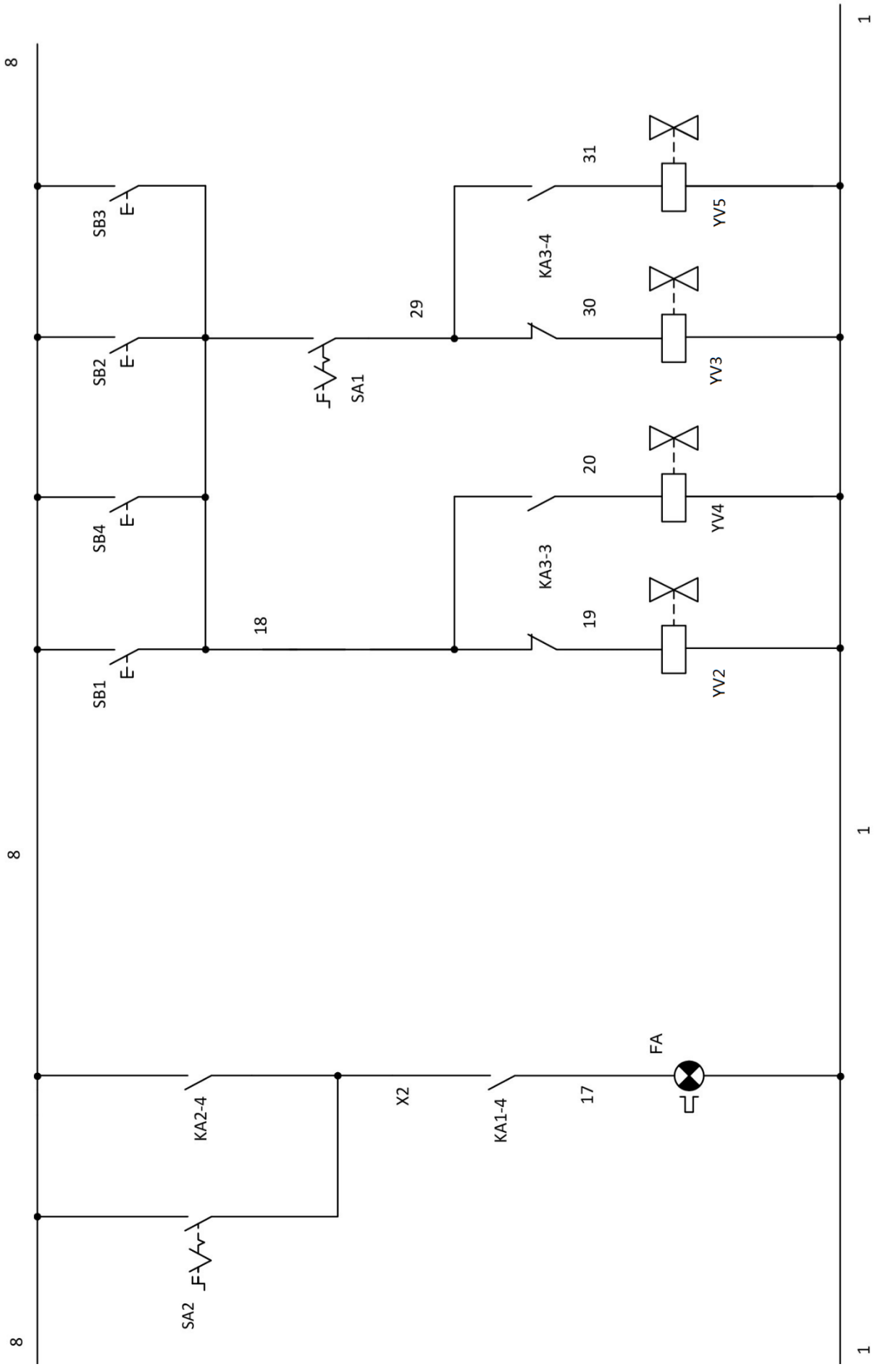
(Note: For specific voltage requirements, the actual voltage of your lift may vary based on the diagram below).

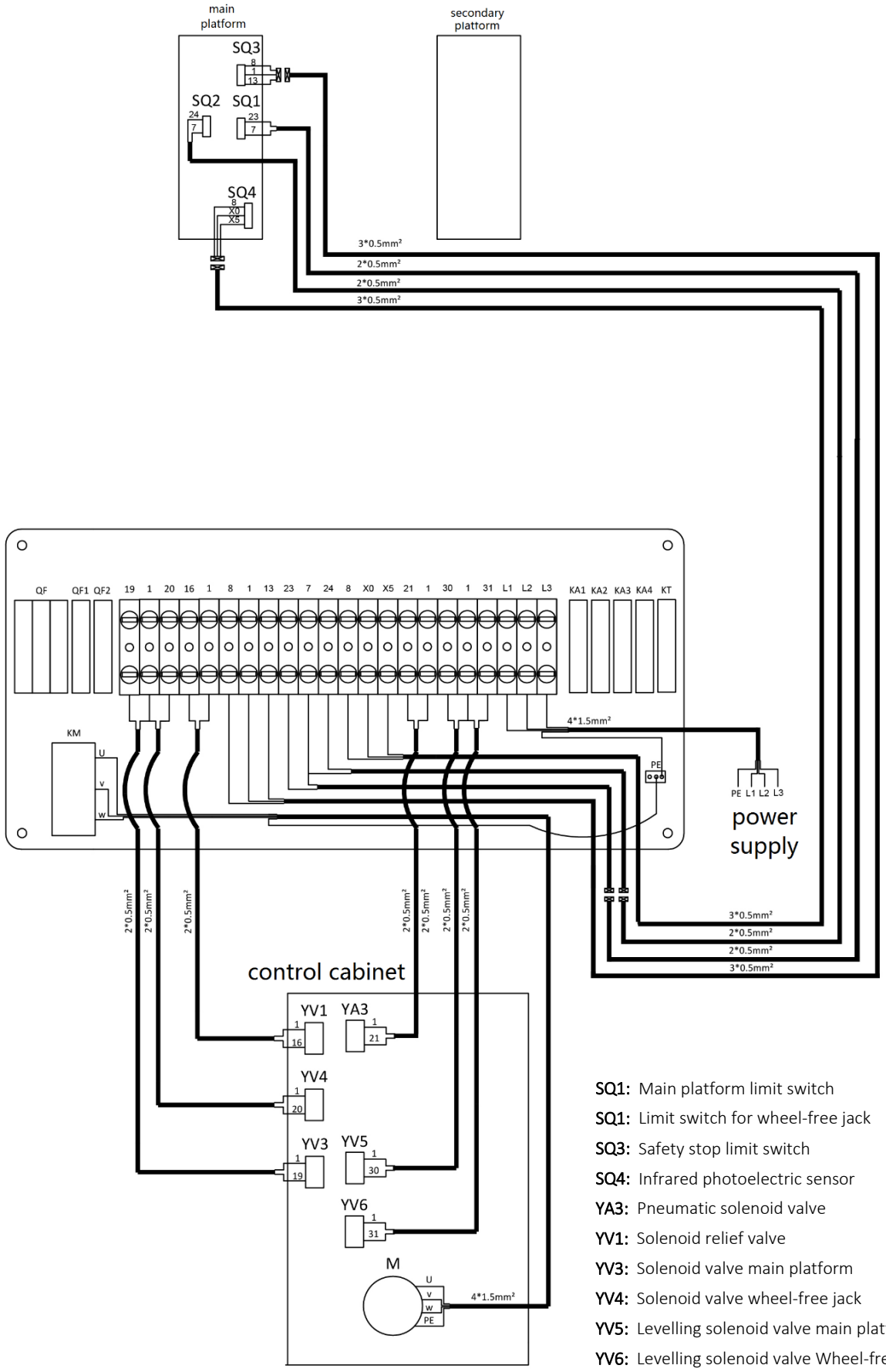



L1
L2
L3
PE
QS
R
S
T
QF
QF1
R1
S1
T1
T
GND
27
QF2
26
SB
KM
U
V
W
M
3~
3
0
GND


8
1
C1
8
VD
1
HL
KA2-1
14
SB3
9
KA1
KT
KA3-2
0
KA2-1
11
SB2
6
KT
3
KA1-1
10
SB2
KA3-1
24
SQ2
KA4-1
7
SB1
5
X1
KM
SA1
3
0


8
KA4
X5
X0
SA3
X4
KA2-2
1
SQ4
8
KA2
13
BK
BU
Fe
BN
SQ3
1
8
KA4-3
KA1-3
X3
16
YV1
SB4
8
28
KA3
KA1-2
KA4-2
13
KM
14
23
15
21
YA3
SA2
1
8


8
8
8
1
1
1
SB3
SB2
SB4
SB1
SA1
SA2
KA3-4
KA3-3
KA2-4
KA1-4
YV5
YV3
YV4
YV2
FA
29
31
30
20
18
19
17
X2

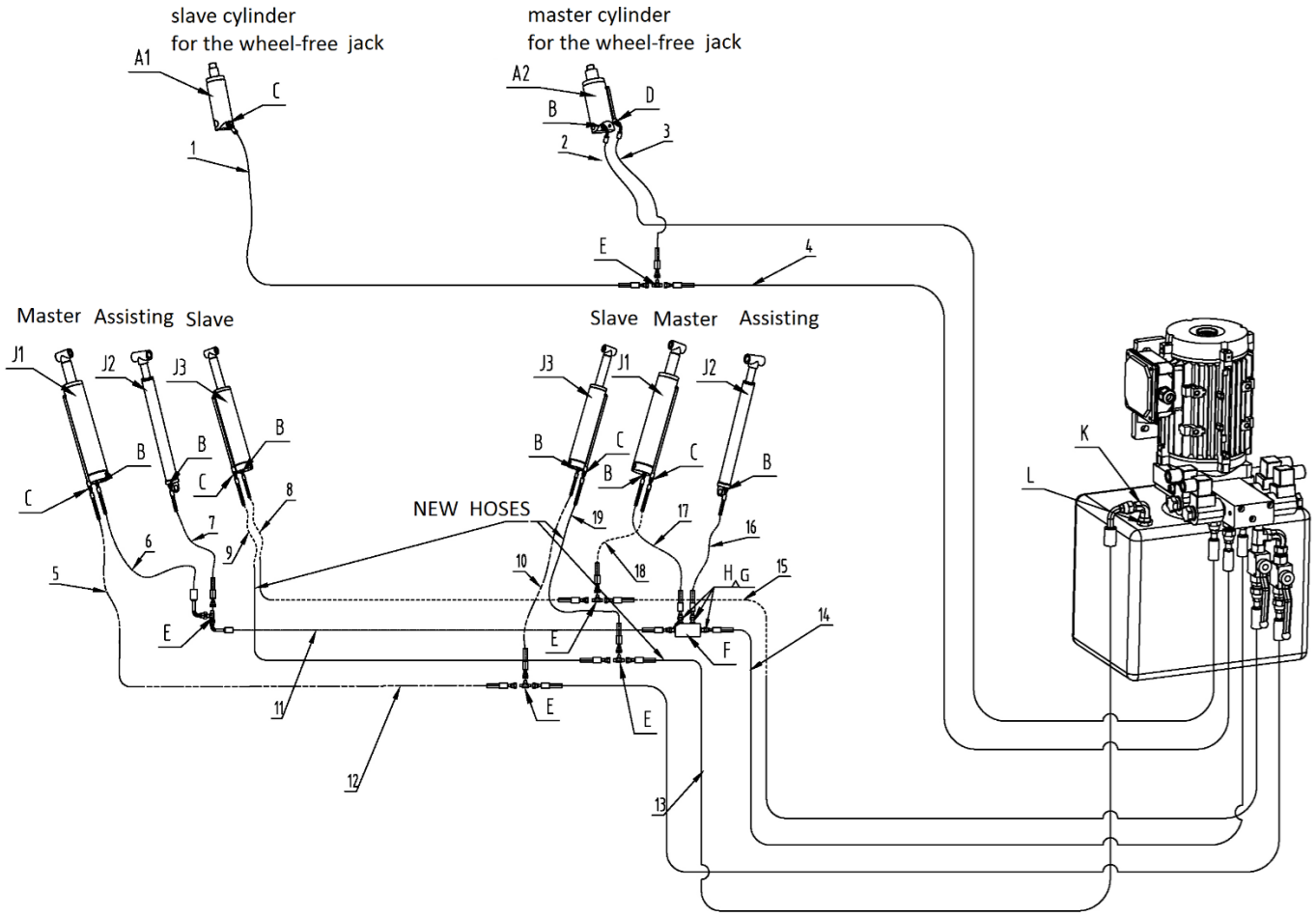


SQ1: Main platform limit switch
SQ1: Limit switch for wheel-free jack
SQ3: Safety stop limit switch
SQ4: Infrared photoelectric sensor
YA3: Pneumatic solenoid valve
YV1: Solenoid relief valve
YV3: Solenoid valve main platform
YV4: Solenoid valve wheel-free jack
YV5: Levelling solenoid valve main platform
YV6: Levelling solenoid valve Wheel-free jack

Pos.	Code	Description	Qty
T	320101128	Transformer （380V/400V/415V）	1
M	320203104	Motor (400V/3.5KW -3PH-50HZ-2P)	1
SQ1	320301003	Limit switch (no this switch for version with auto-bleeding cylinders)	1
QF	320801001	Circuit breaker (3.5kW-3Ph)	1
QF1	320803001	Circuit breaker	1
QF2	320803005	Circuit breaker	1
KM	320901011	AC contactor (3.5kW-3Ph/dual)	1
SQ1	320301003	Limit switch	1
SQ2	320301011	Limit switch	1
SQ3	320302002	Proximity switch	1
SQ4	320306025	Photoelectric switch	1
SA1	320303018	Selection switch	1
SA2,SA3	320303019	Selection switch	2
QA	320304001	Power switch	1
SB3,SB4	320401038	Button	2
SB1,SB2	320401044	Button	2
SB	320402002	Emergency stop	1
KA2;KA3;KA4	320601001	Relay	3
KA1	320601002	Relay	1
	320601011	Relay holder	4
	320601018	Relay feet fixer	8
KT	320602009	Integrated time relay	1
C	321001004	Capacitor	1
VD	321002001	Bridge rectifier	1
HL	321201001	Power indicator	1
FA	321202001	Alarm buzzer	1

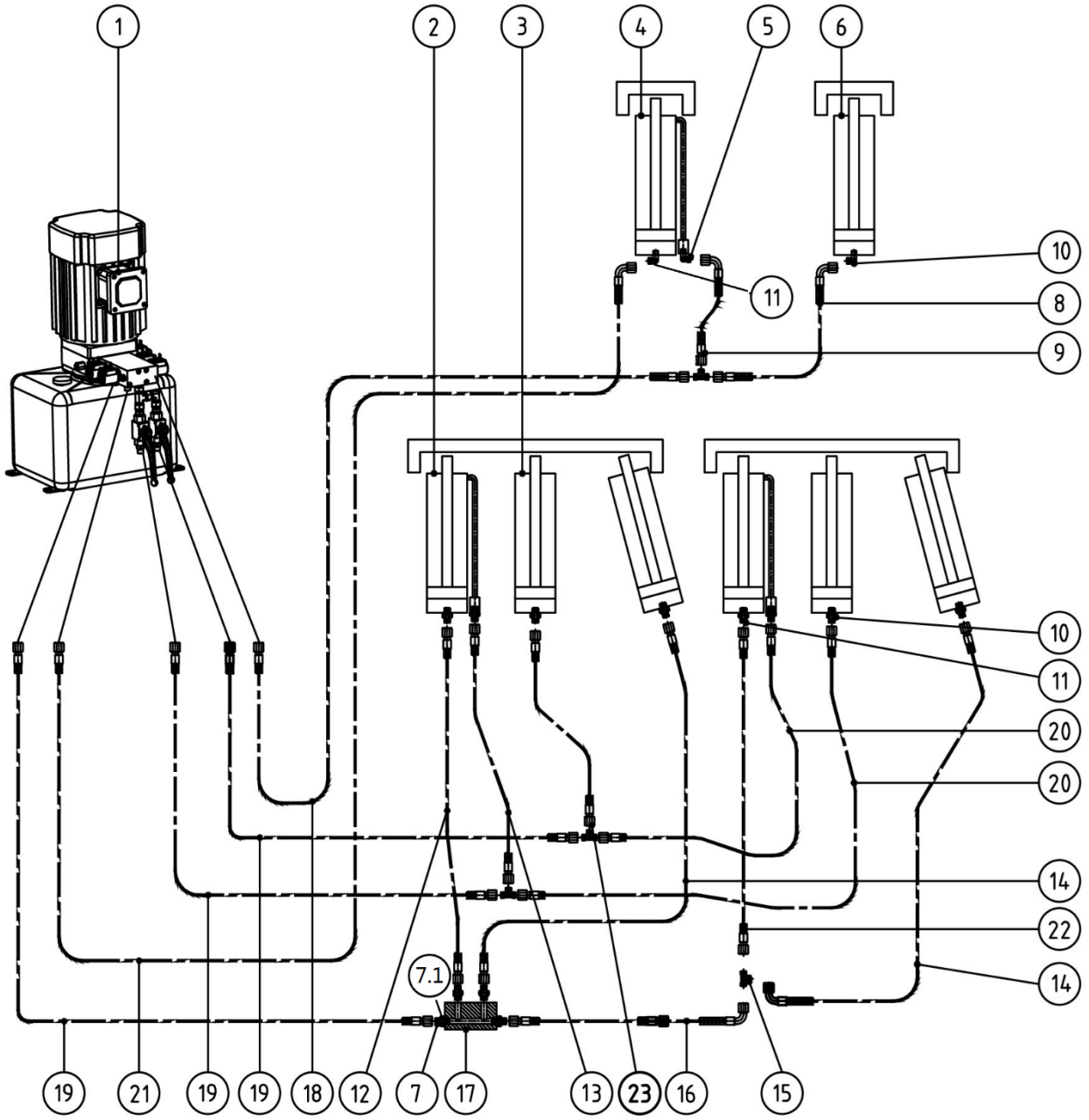
NOTE: The transformer is different for different power supply voltages. Please ask our customer service when ordering spare parts.

13.3. Hydraulic diagram and parts list



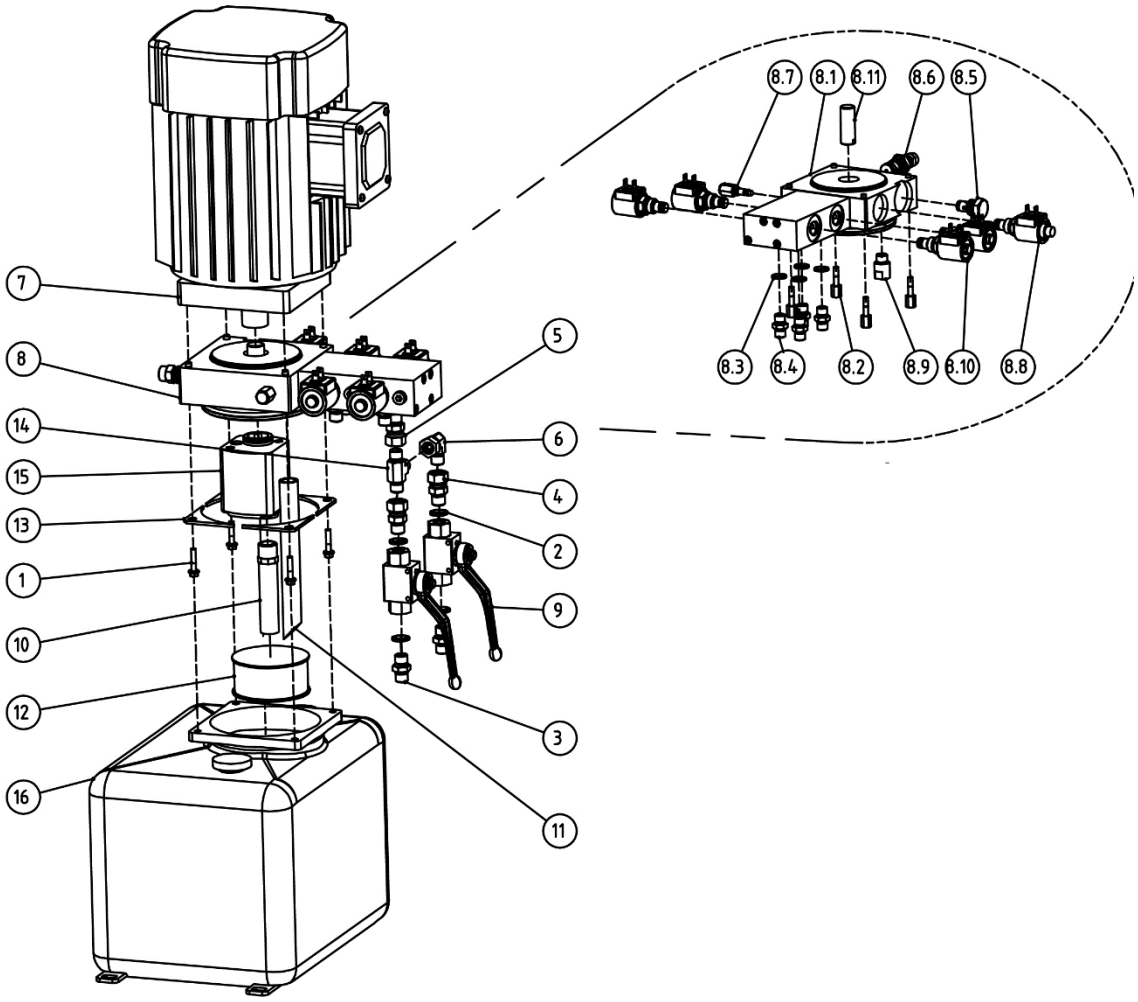
Pos.	Code	Description	Specification	Qty
A1	615025014	Slave cylinder	6604B-A12-B1	1
A2	615025012	Master cylinder	6604B-A11-B1	1
B	615019006	Straight restrictive valve	6501-A4-B15	7
C	615019005	Tube connector B	6501-A4-B16	5
D	410210011	Right-angle connector	6603B-A9-B4	1
E	410210181	3-way connector	6603B-A9-B7	5
F	410250271	4-way connector	6604B-A29	1
G	207103025	Composite washer	13_7X20X1_5	4
H	310101010	Straight connector	G1/4---G1/4	4
J1	625000011	Master cylinder	YG90/102-50-625	2
J2	625000025	Assisting cylinder	YG75-85-45-595	2
J3	625000012	Slave cylinder	YG75/85-45-625	2
K	310102035	Adjustable right-angle connector	EW-G1/4SR-G1/4 I60	1
L	310101079	Transfer connector	M20*2-G1/4	1
1	624001817	RIAT oil hose	L=6650mm	1
2	624001820	RIAT oil hose	L=9200mm	1
3	624001818	RIAT oil hose	L=5400mm	1

Pos.	Code	Description	Specification	Qty
4	624001819	RIAT oil hose	L=4270mm	1
5	624001281	Oil hose	L=2250mm	1
6	624002105	Oil hose	L=530mm	1
7	624001260	Oil hose	L=3800mm	1
8	624001281	Oil hose	L=2250mm	1
9	624008216	Oil hose	L=2200mm	1
10	624001845	Oil hose	L=570mm	1
11	624001815	Oil hose	L=1700mm	1
12	624001248	Oil hose	L=3700mm	1
13	624008217	Oil hose	L=4100mm	1
14	624001248	Oil hose	L=3700mm	1
15	624001248	Oil hose	L=3700mm	1
16	624001260	Oil hose	L=3800mm	1
17	624001045	Oil hose	L=530mm	1
18	624001846	Oil hose	L=600mm	1
19	624008208	Oil hose	L=550mm	1



POS.	Code	Description	Specification	Qty
1	610025642	Power unit	400V-3Ph-50HZ-3.5KW	1
2	615025004B	Main cylinder of the main lift	6604B-A4-B1	2
3	615025017B	Secondary cylinder of the main lift	6604B-A4-B2	4
4	615025012	Main cylinder of the secondary lift	6604B-A11-B1	1
5	410210011	Right angled connector	6603B-A9-B4 (NPT-1/4)	1
6	615025014	Secondary cylinder of the secondary lift	6604B-A12-B1	1
7	310101010	Right angled connector	6603B-A9-B4 (NPT-1/4)	4
7.1	207103019	Composite washer	M14	4
8	624001817	Rubber oil hose	L=6650	1
9	624001818	Rubber oil hose	L=5400	1
10	615019005	Tube connector B	6501-A4-B16	7

POS.	Code	Description	Specification	Qty
11	615019006	Straight connector with throttle valve	6501-A4-B15	3
12	624001045	Rubber oil hose	L=530	1
13	624001845	Rubber oil hose	L=570	1
14	624001260	Rubber oil hose	L=3800	2
15	410210181	Three way connector	6603B-A9-B7	4
16	624001815	Rubber oil hose	L=1700	1
17	410250271	Four way connector	6604B-A29	1
18	624001819	Rubber oil hose	L=4270	1
19	624001248	Rubber oil hose	L=3700	3
20	624001281	Rubber oil hose	L=2250	2
21	624001820	Rubber oil hose	L=9200	1
22	624002105	Rubber oil hose	L=530	1
23	624001846	Rubber oil hose	L=600	1



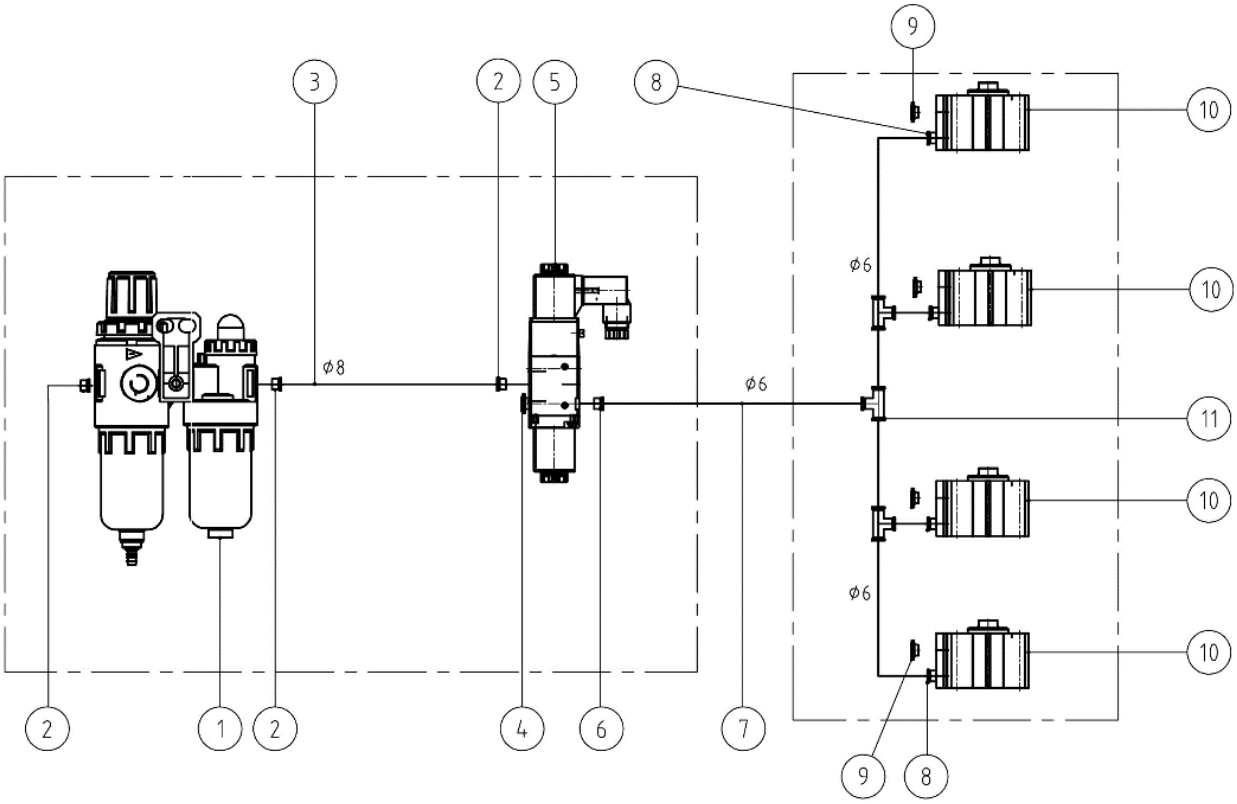
POS.	Code	Description	Specification	Qty
1	201103001	He flange screw	M5*25	4
2	207103025	Composite washer	G1/4	4
3	310101010	Straight connector	G1/4-G1/4	2
4	310101042	Adjustable straight connector	6604-BJMSC-G1/4	2
5	310101044	Adjustable straight connector	6604-BJMSC-M1415-G1/4	1
6	310102035	Adjustable right angle connector	EW-G1/4SR-G1/4 I60	1
7	320203104	Motor IE2	400V/3.5KW -3PH-50HZ-2P	1
8	330101044	Composite hydraulic block	6603GN-E	1
8.1	-	Hydraulic block	YF-8	1
8.2	202109064	Hex socket cylinder head screw	M6*30，	4
8.3	207103025	Composite washer	G1/4	4
8.4	310101010	Straight connector	M1415-G1/4	4
8.5	330302001	Single way valve	DYF-C	1
8.6	330304001	Over flow valve	EYF-C	1
8.7	330305002	Throttle valve	JYF-TJLD-C	1
8.8	330308006	Solenoid unloading valve	DHF06-220H/DC24	1
8.9	330308008	Levelling valve	HZYF-C1	1
8.1	330308008	Levelling valve	DHF06-228H/DC24	4

POS.	Code	Description	Specification	Qty
8.11	330404001	Coupling	YL-A	1
9	330307001	Two way ball valve	GE2G1/4111AB	2
10	330401001	Oil sucking tube	YX-BL-170	1
11	330402001	Oil back tube	YH-D	1
12	330403001	Oil sucking filter	YG-C	1
13	410010091	Reinforced plate	6254E-A4-B12	4
14	410210181	Three way connector	6603B-A9-B7	1
15	330201014G	Gear pump	CBK-F242-G	1
16	330405017B	Oil tank	6503-A13	1

13.4. Sealing rings

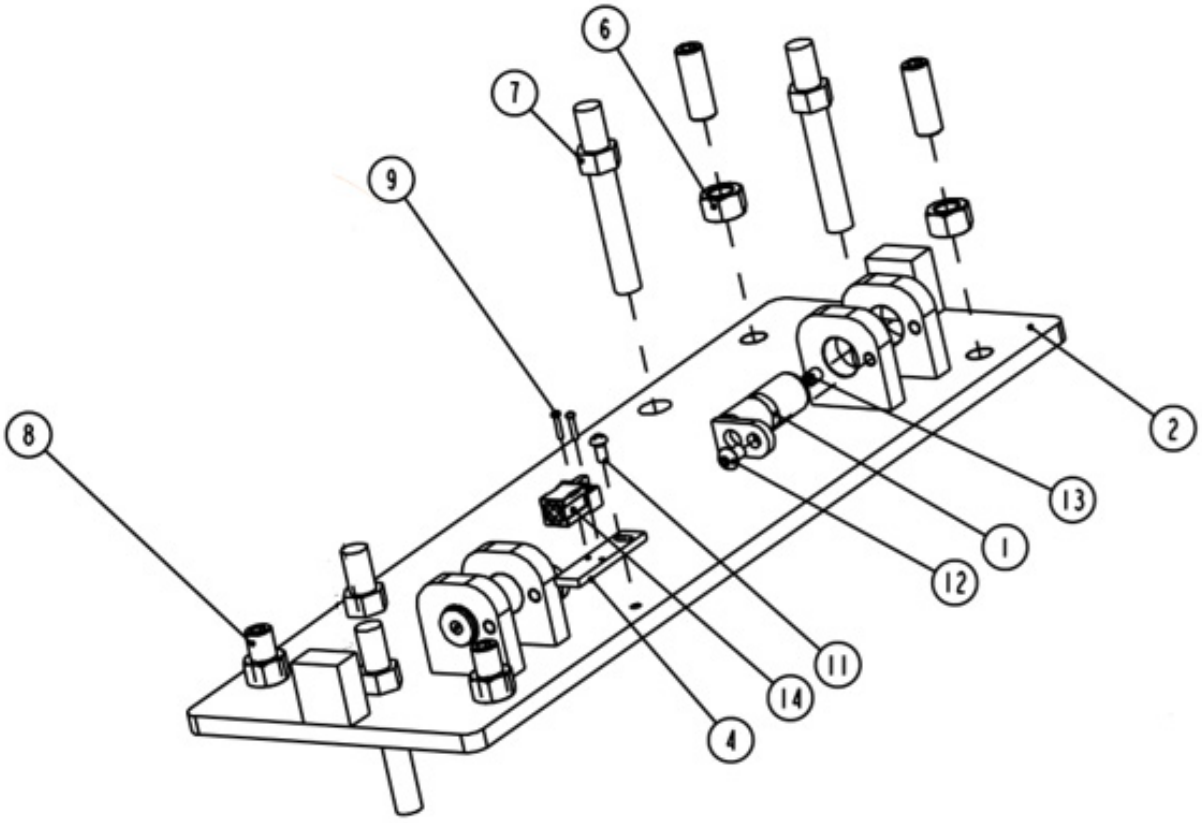
Cylinder code	Cylinder name	Seal ring code	Descriptions	Specification	Qty
625000011	Master cylinder of the main lift	207101159	Piston seal ring	90*74.5*6.3	1
		207106108	Support ring	85*90*9.7	2
		207101169	O ring	82.5*3.55	1
		207107038	Stop ring	85.6*91*1.25	1
		207107039	Seal ring	50*60*7	1
		207106089	Support ring	50*55*9.7	2
		207105046	Dust-proof ring	50*58*6	1
625000012	Slave cylinder of the main lift	207101163	Piston seal ring	75*59.5*6.3	1
		207106109	Support ring	70*75*9.7	2
		207101170	O ring JISB2401	69.4*3.1	1
		207107031	Seal ring	45*55*7	1
		207106102	Support ring	45*50*9.7	2
		207105042	Dust-proof ring	DH45*53*6	1
625000025	Assisting cylinder of the main lift	207104010	Type U seal ring	75*67*6.3	1
		207107040	Stop ring	67*75*2	1
		207106109	Support ring	70*75*9.7	1
		207105050	Dirt collecting ring	75*67*6.2	1
		207101170	O ring JISB2401	69.4*3.1	1
		207106102	Support ring	45*50*9.7	2
		207105042	dust-proof ring	DH45*53*6	1
615025012	Master cylinder of the wheel-free jack	207103033	Type Y seal ring	B7-100*85*9	2
		207103023	Type Y seal ring	BS60*70*6	2
		207105009	Dust-proof seal ring	DHS60（60*68*6）	1
615025014	Slave cylinder of the wheel-free jack	207102008	Type Y seal ring	B7-80*65*9	1
		207105008	Dust-proof seal ring	DHS45（45*53*6）	1

13.5. Pneumatic diagram and parts list

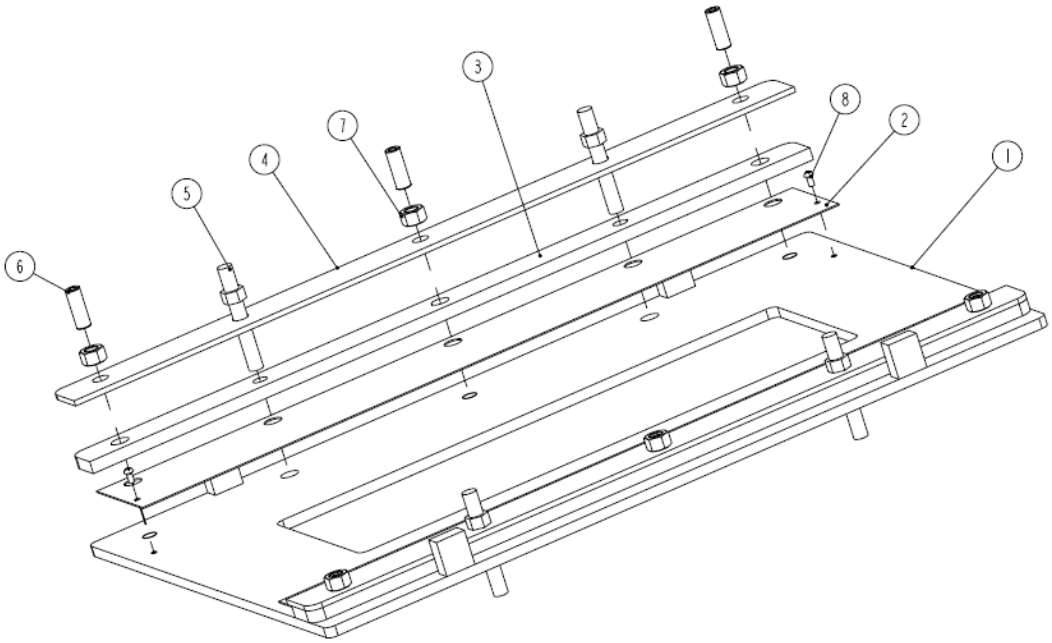


POS.	Code	Description	Specification	Qty
1	321004006	AFC Air filter combination	AFC2000	1
2	310102015	Quick bending air hose connector	KLL8-02	3
3	123010101	Air hose	D=6	1
4	310201002	Silencer	SLM02 R1/4 (M12)	1
5	310401001	Pneumatic solenoid valve	3V210-08DC24V	1
6	310101015	Quick straight air hose connector	KLC8-02	1
7	123010101	Air hose	D=6 200	1
8	310101024	Quick straight air hose connector	KLC6-01	4
9	310201003	Silencer	SLM01 R1/8 (M8)	4
10	310501005	Pneumatic cylinder	CQ2B32*30	4
11	310103005	Quick three-way air hose connector	KLE-6	3

13.6. Exploded views and parts list

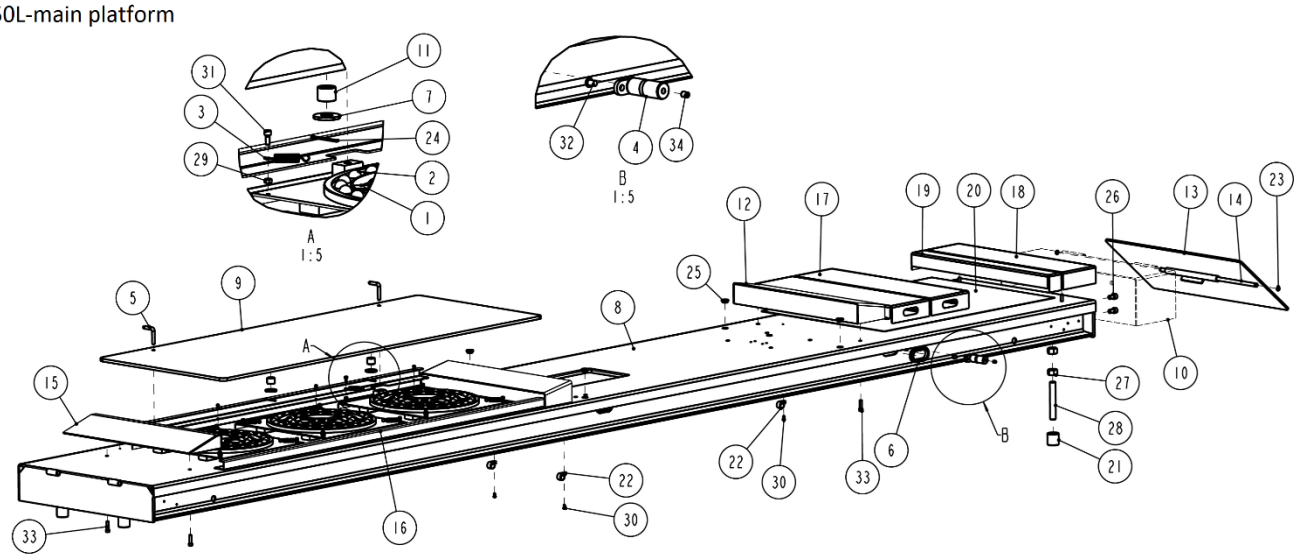


POS.	Code	Description	Specification	Qty
1	612019504	Shaft of the support holder	65012-A1-B5	2
2	614025056	Base A	6604V2-A1-B1	1
4	410250013	Plate for down limit switch	6604V2-A1-B3	1
6	203101009	Hex nut M16	M16-GB6170	4
7	201201005	Expansion bolt	M16X120	4
8	202205002	Hex socket flat head tapping screw	M16X50-GB77	4
9	202101002	Cross socket cap head screw	M3X15-GB818	2
11	202109027	Hex socket cylinder head screw	M8X12_GB70_1	1
12	202110004	Hex socket cap head screw	M8X12_GB70_2	2
13	208106002	Pressed oil cup M8	M8YP_GB7940_4	2
14	320302002	Proximity switch	PL-05P	1



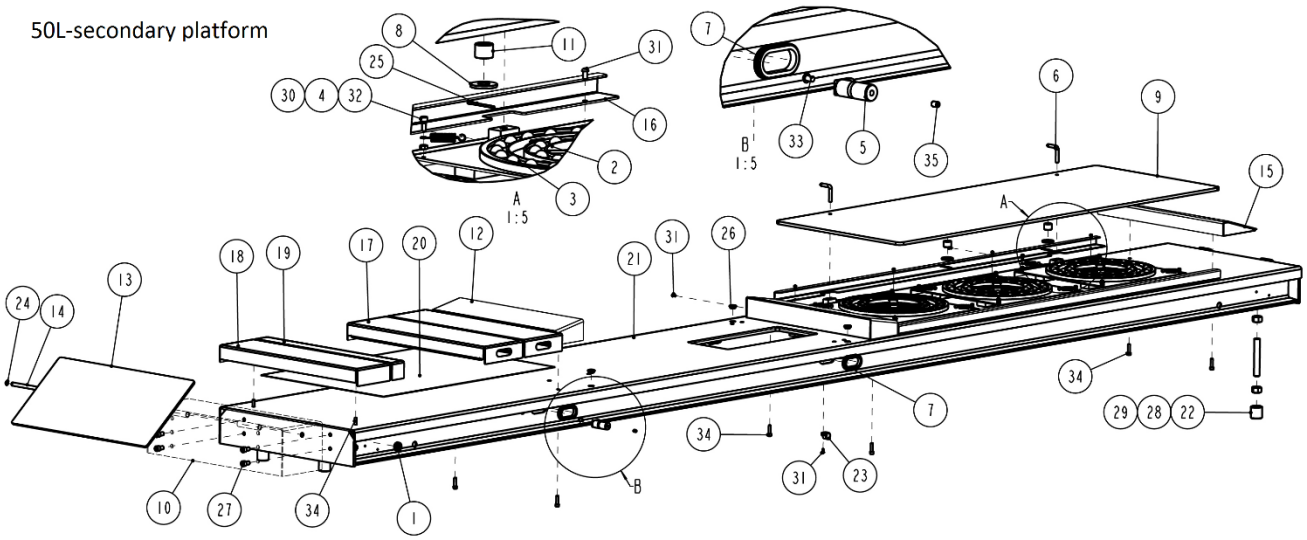
POS.	Code	Description	Specification	Qty
1	614025058	Large base frame	6604V2-A2-B1	1
2	410253550	Pad plate for slider	6604V2-A2-B2	2
3	410253683B	Pressure plate for Base B	6604V2-A2-B3	2
4	410255153	Anti-roll plate for Base B	6604V2-A2-B4	2
5	201201005	Expansion bolt	M16X120	4
6	202205002	Hex socket flat head tapping screw	M16X50-GB77	6
7	203101009	Hex nut	M16_GB6170	6
8	202101029	Cross socket cap head screw	M6X12-GB818	4

50L-main platform



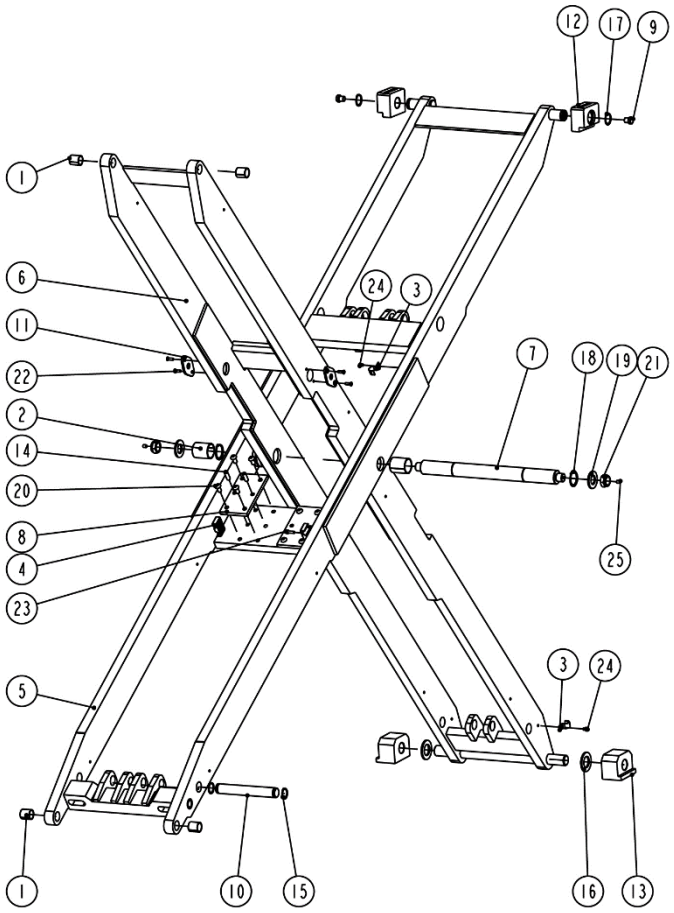
POS.	Code	Description	Specification	Qty
1	420270100B	Ball holder	6435B-A4-B20	3
2	420270110	Ball	6435B-A4-B21	120
3	410274481	Pull spring	6435B-A4-B31	12
4	612019504	Shaft	65012-A1-B5	2
5	410250221B	Bolt	6604B-A16	2
6	420250050B	Protective sheath	6604B-A17	4
7	410250011	Washer	6604B-A1-B5	2
8	614025061C	Main platform	6604V2-A4-B1	1
9	614025062B	Slip plate	6604V2-A4-B2	1
10	614025063	Box	6604V2-A4-B3	1
11	420250010	Nylon sheath	6604V2-A4-B5	2
12	614025071	Mid ramp	6604V2-A4-B7	2
13	614025066B	Small ramp	6604V2-A4-B10	1
14	410250211	Ramp shaft	6604V2-A4-B12	1
15	614025067B	Slope plate	6604V2-A4-B13	1
16	410901756	Decorative plate	6604V2-A4-B20	2
17	410902033	Box (200mm)	6604V2-A4-B21	2
18	614901380	Fixed Box (175mm)	6604V2-A4-B22	1
19	614901381	Box (70mm)	6604V2-A4-B23	1
20	420680084	Magnetic rubber pad	6604V2-A4-B24	1
21	420260010	Adjustable nylon slider	6605B-A1-B8	4
22	208101036	Clip	D20	3
23	204301002	Circlip	D12-GB894_1	2
24	206201004	Cotter pin	D3X45-GB91	2
25	420680068	Rubber pad	DC-20	4
26	202109050	Hex socket cylinder head screw	M12X20-GB70_1	4
27	203101012	Hex nut	M20-GB6170	8
28	202205005	Hex socket flat head tightening screw	M20X140-GB77	4
29	203101004	Hex nut	M6-GB6170	12
30	202110003	Hex socket button head screw	M6X12-GB70_2	13
31	202109020	Hex nut M6	M6X15-GB70_1	12
32	202110004	Hex socket button head screw	M8X12-GB70_2	2
33	202109031	Hex socket cylinder head screw	M8X30-GB70_1	8
34	208106002	Pressed oil cup M8	M8YP-JB9740_4	2

50L-secondary platform



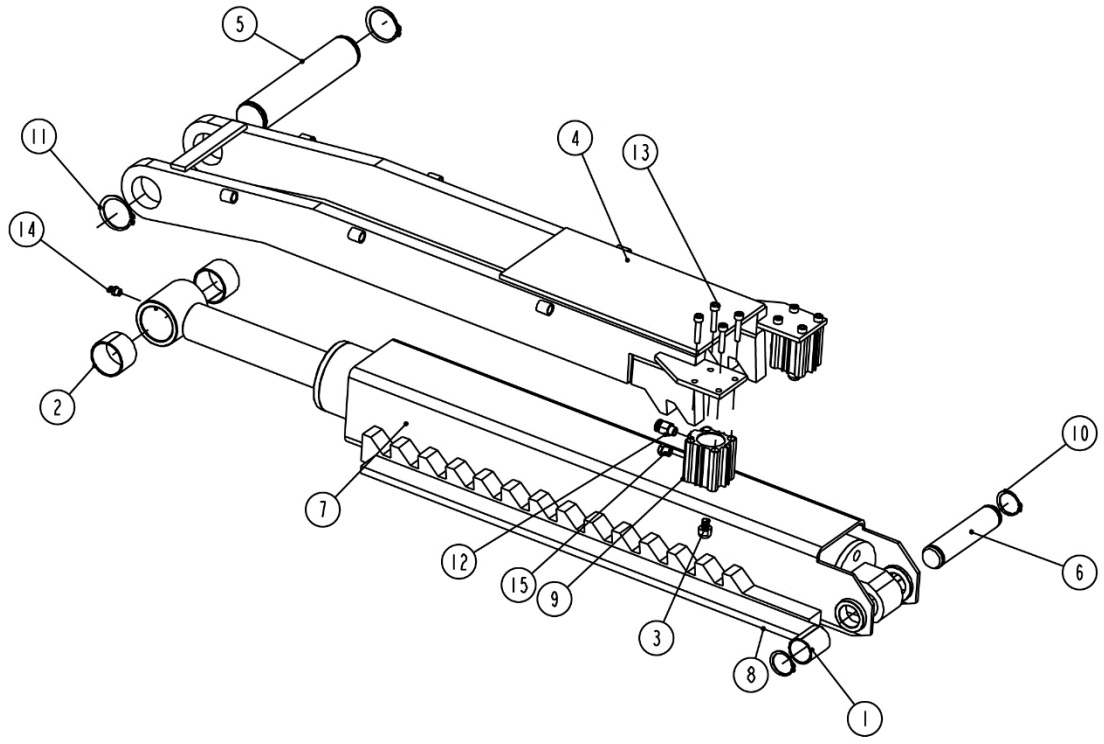
POS.	Code	Description	Specification	Qty
1	420040020	Protective ring D20	6254E-A22	1
2	420270100B	Ball holder	6435B-A4-B20	3
3	420270110	Ball	6435B-A4-B21	120
4	410274481	Pull spring	6435B-A4-B31	12
5	612019504	Shaft	65012-A1-B5	2
6	410250221B	Bolt	6604B-A16	2
7	420250050B	Protective sheath	6604B-A17	2
8	410250011	Washer	6604B-A1-B5	2
9	614025062B	Slip plate	6604V2-A4-B2	1
10	614025063	Box	6604V2-A4-B3	1
11	420250010	Nylon sheath	6604V2-A4-B5	2
12	614025071	Mid ramp	6604V2-A4-B7	2
13	614025066B	Small ramp	6604V2-A4-B10	1
14	410250211	Ramp shaft	6604V2-A4-B12	1
15	614025067B	Slope plate	6604V2-A4-B13	1
16	410901756	Decorative plate	6604V2-A4-B20	2
17	410902033	Box (200mm)	6604V2-A4-B21	2
18	614901380	Fixed Box (175mm)	6604V2-A4-B22	1
19	614901381	Box (70mm)	6604V2-A4-B23	1
20	420680084	Magnetic rubber pad	6604V2-A4-B24	1
21	614025308B	Secondary platform	6604V2-A4B-B1	1
22	420260010	Adjustable nylon slider	6605B-A1-B8	4
23	208101036	Clip	D20	1
24	204301002	Circlip	D12-GB894_1	2
25	206201004	Cotter pin	D3X45-GB91	2
26	420680068	Rubber pad	DC-20	4

POS.	Code	Description	Specification	Qty
27	202109050	Hex socket cylinder head screw	M12X20-GB70_1	4
28	203101012	Hex nut	M20-GB6170	8
29	202205005	Hex socket flat head tightening screw	M20X140-GB77	4
30	203101004	Hex nut	M6-GB6170	12
31	202110003	Hex socket button head screw	M6X12-GB70_2	11
32	202109020	Hex nut M6	M6X15-GB70_1	12
33	202110004	Hex socket button head screw	M8X12-GB70_2	2
34	202109031	Hex socket cylinder head screw	M8X30-GB70_1	8
35	208106002	Pressed oil cup M8	M8YP-JB9740_4	2



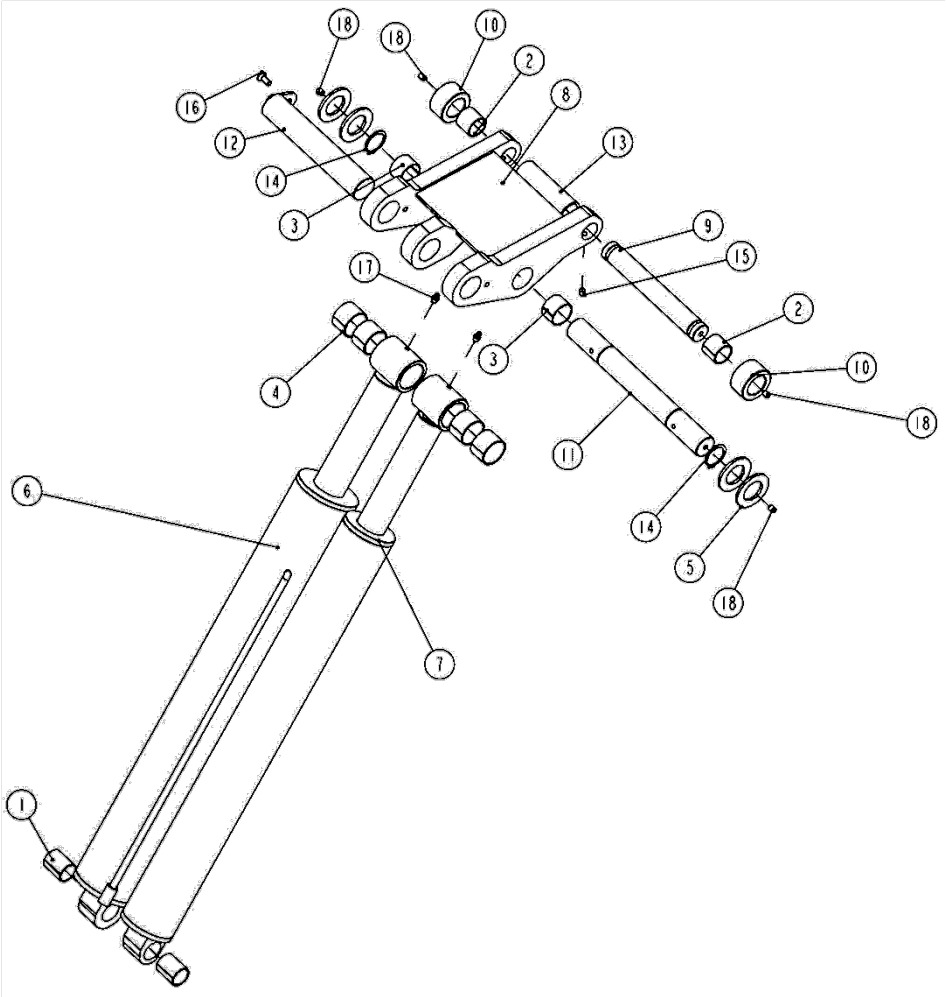
POS.	Code	Description	Specification	Qty
1	205101052	Bearing	2530_SF-2X	4
2	205101060	Bearing	4050_SF-2X	2
3	208101036	Oil hose clip	D21.5	2
4	420270070	Oil hose protective sheath	6435B-A3-B27	2
5	614025059B	Outside support arm	6604V2-A3-B1	1
6	614025060	Inside support arm	6604V2-A3-B2	1
7	410252281	Mid shaft of support bracket	6604V2-A3-B3	1
8	410250061	Rotor wheel pad	6604V2-A3-B4	2
9	420210060B	Padding block	6603B-A5-B6	2

POS.	Code	Description	Specification	Qty
10	410252321	DOWN cylinder shaft	6604V2-A3-B6	1
11	410251751	Shaft retaining block	6604V2-A3-B7	2
12	420260020B	Platform slider	6605B-A6-B1-C2	2
13	420260030B	Base slider	6605B-A6-B2-C2	2
14	206101008	Post pin	D10X30_GB119	4
15	204301010	Circlip	D28-GB894_1	2
16	204101015	Flat washer D30	D30-GB95	2
17	204301011	Circlip	D30-GB894_1	2
18	204301014	Circlip	D40-GB894_1	2
19	204101014	Flat washer C	M27	2
20	202110007	Hex socket button head screw	M10X20_GB70_2	8
21	203103018	Hex locking nut	M24ZS	2
22	202103012	Cross socket flat head screw	M6X16-GB819	4
23	202109020	Hex socket cylinder head screw	M6X15-GB70	2
24	202101027	Cross socket cap head screw	M6X8-GB818	2
25	208106002	Pressed oil cup M8	M8YP_GB7940_4	2



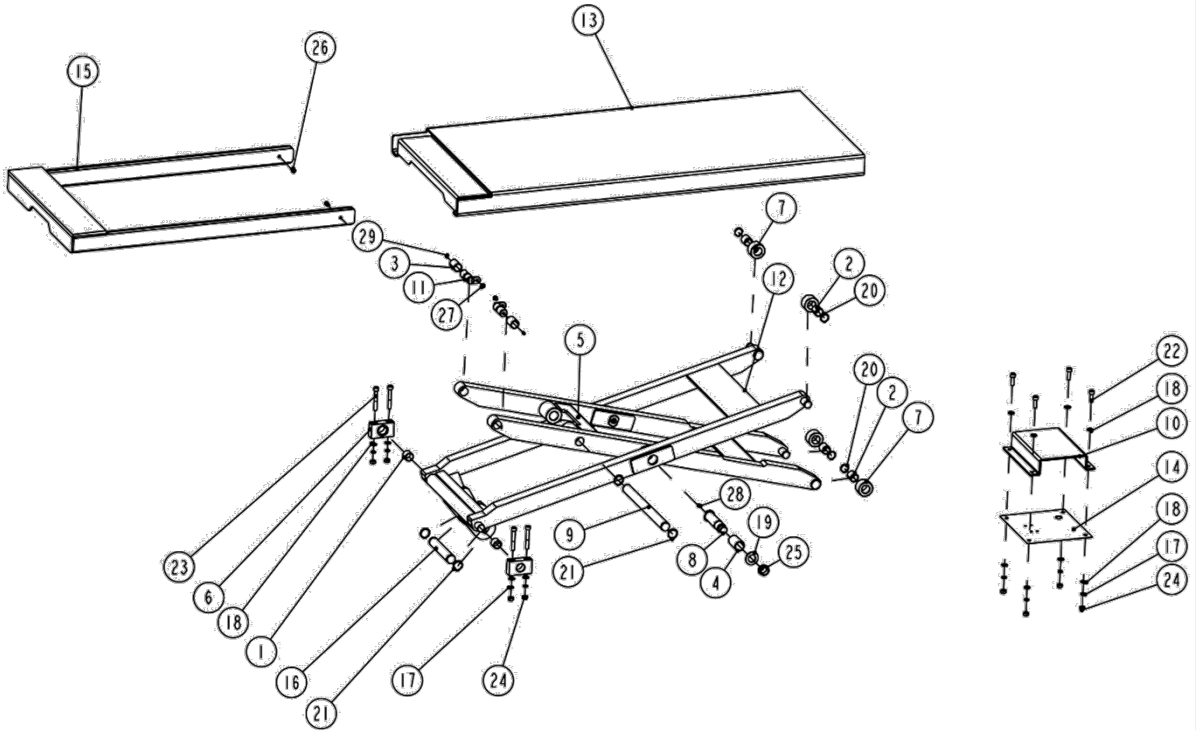
POS.	Code	Description	Specification	Qty
1	205101015	Bearing	2840_SF-2X	1
2	205101034	Bearing	4030_SF-2X	2
3	420210020	Hex socket button head screw	6603B-A3-B9	2
4	614025069B	Mechanical lock	6604V2-A5-B3	1
5	410252381B	Shaft	6604V2-A5-B4	1

POS.	Code	Description	Specification	Qty
6	410252391B	Shaft	6604V2-A5-B5	1
7	625000025	Assisting cylinder	YG75-85-45-595	1
8	614025070	Oil cylinder sheath	6604V2-A5B-B2	1
9	310501005	Air cylinder	CQ2B32-30D	2
10	204301012	Circlip	D28_GB894_1	2
11	204301014	Circlip	D40-GB894_1	2
12	310101024	Pneumatic straight connector	KCL6-01	2
13	202101033	Cross socket cap head screw	M6*20	8
14	208106001	Oil cup	M8YB_GB9740_1	1
15	310201003	Silencer	PSV1_8	2



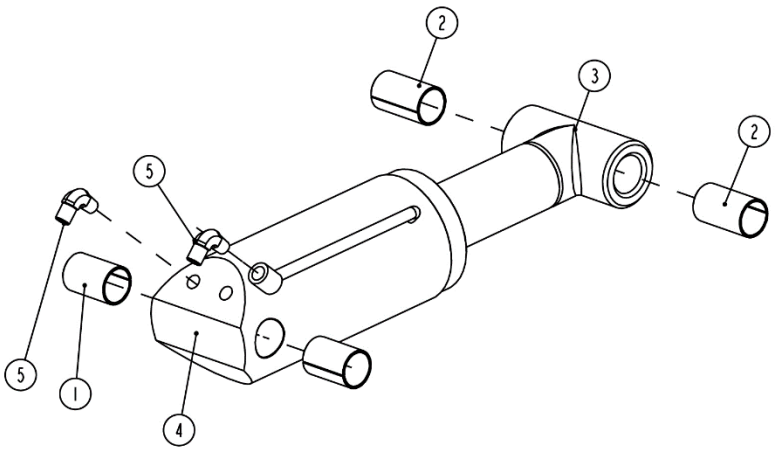
POS.	Code	Description	Specification	Qty
1	205101015	Bearing	2840	2
2	205101054	Bearing	3030_SF-2X	2
3	205101026	Bearing	3525_SF-2X	2
4	205101034	Bearing	4030_SF-2X	4
5	410200111	Spacer	6503-A3-B4	4

POS.	Code	Description	Specification	Qty
6	625000011	Master cylinder	YG90/102-50-625	1
7	625000012	Slave cylinder	YG75/85-45-625	1
8	614025045	Start plate	6604V2-A6-B1	1
9	410252401	Wheel shaft of start plate	6604V2-A6-B2	1
10	410250231	Start rotor wheel	6604V2-A6-B3	2
11	410252411	Mid shaft of start plate	6604V2-A6-B4	1
12	614025081	UP shaft of oil cylinder	6604V2-A6-B5	1
13	410252430	Spacer	6604V2-A6-B6	1
14	204301012	Circlip	D35-GB894_1	2
15	202206007	Hex socket tapping screw M8*12	M8X12-GB78	2
16	202111007	Hex socket flat head screw M8*20	M8X20_GB70_3	1
17	208106001	Oil cup	M8YB_GB9740_1	2
18	208106002	Pressed oil cup M8	M8YP_GB7940_4	4

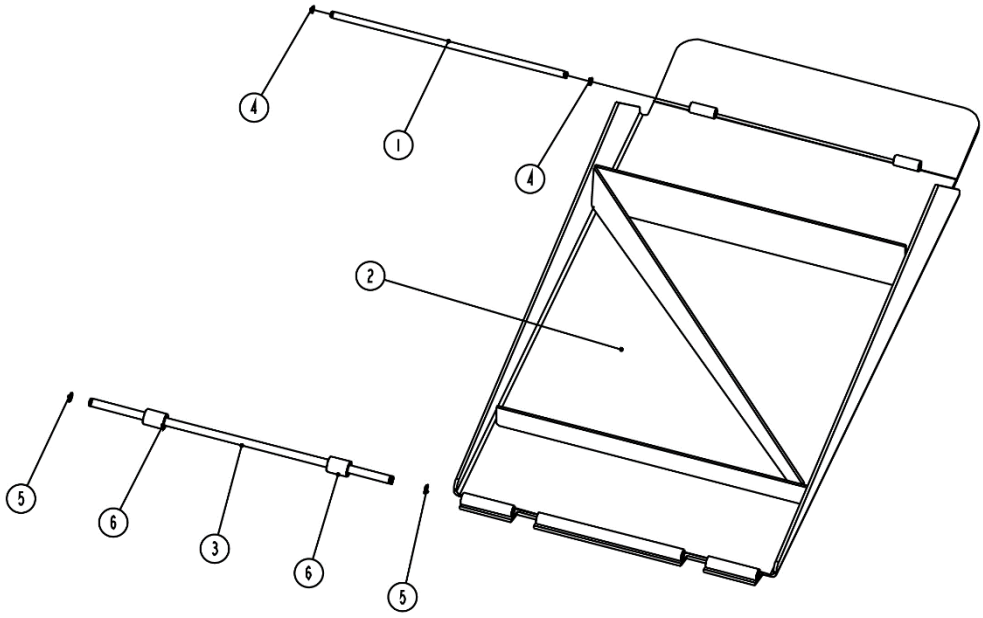


POS.	Code	Description	Specification	Qty
1	205103003	Flange bearing	2525_SF-1X	2
2	205101012	Bearing	2530_SF-1X	4
3	205101094	Bearing	2540_SF-2X	2
4	205101025	Bearing	3058_SF-2X	2
5	614027270B	Inside connection rod of the secondary lift	6435BWF-C05	1
6	410276701	DOWN holder of secondary lift	6435BWF-C03-20	2
7	410276711B	UP and DOWN wheel	6435BWF-C03-21	4
8	410276721C	Middle shaft	6435BWF-C03-22	2
9	410276731	Piston shaft	6435BWF-C03-23	1

POS.	Code	Description	Specification	Qty
10	410276813	Limit switch plate of secondary lift	6435BWF-C11-1	1
11	612019504	Bracket holder shaft	65012-A1-B5	2
12	614025046B	Outside bracket of the secondary lift	6604V2-A7-B1	1
13	614025048	Platform of the secondary arm	6604V2-A7-B3	1
14	410254430C	Anti-abrasive plate	6604V2-A7-B4	1
15	614025050	Extension platform	6604V2-A7-B5	1
16	410254541	DOWN shaft of the secondary lift	6604V2-A7-B7	1
17	204201005	Spring washer	D10_GB93	8
18	204101006	Flat washer	D10_GB95	12
19	204101012	Flat washer	D24-GB95	2
20	204301009	Circlip	D25-GB894_1	4
21	204301011	Circlip	D30-GB894_1	4
22	202109043	Hex socket cylinder head screw	M10X30_GB70	4
23	202109080	Hex socket cylinder head screw	M10X70_GB70	4
24	203101006	Hex nut	M10_GB6170	8
25	203103018	Hex locking nut	M24ZS	2
26	202109027	Hex socket button head screw	M8X12-GB70	2
27	202110004	Hex socket cap head screw	M8X12_GB70_2	2
28	208106001	Straight pressed oil cup	M8X1_GB7940_1	2
29	208106002	Pressed oil cup M8	M8YP_GB7940_4	2



POS.	Code	Description	Specification	Qty
1	205101023	Bearing	3050_SF-1X	2
2	205101025	Bearing	3058_SF-2X	2
3	410212090	Three way oil cylinder connector (small)	6603B-A3-B8	1
4	615025012	Drive cylinder of the jack	6604V2-A8-B1	1
5	410210011	Right angle connector	EEB-WJT-002	2



POS.	Code	Description	Specification	Qty
1	410250211	Ramp shaft	6604V2-A4-B12	1
2	614025055B	Ramp	6604V2-A9-B1	1
3	410250161	Ramp wheel shaft of the JACK	6604V2-A9-B2	1
4	204301002	Circlip	D12_GB894_2	2
5	204301012	Circlip	D15_GB894_1	2
6	420180010	Small wheel	MR30-A22-B5	2

Modifications and major repairs

Kind	Date / Name

Notes

EC-declaration of conformity

The company

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

hereby declares that the **scissor vehicle lift**

TWSA-40 | 4000 kg
(EE-6604x)

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 1493:2010	**Vehicle Lifts**
EN 60204-1:2008	**Safety of machinery**

CE Certificate

MDC306 Issue 1

date of issue: 11.04.2022
place of issue: Helsinki
technical file no.: SHES210901784801-01/02/03

Certification body

SGS Fimko Ltd,
Takomotie 8,
FI-00380 Helsinki
Notified Body Appointment No.: 0598

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

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

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Authorized signatory: Michael Glade
Bensheim, 12.04.2022 Qualitätsmanagement

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