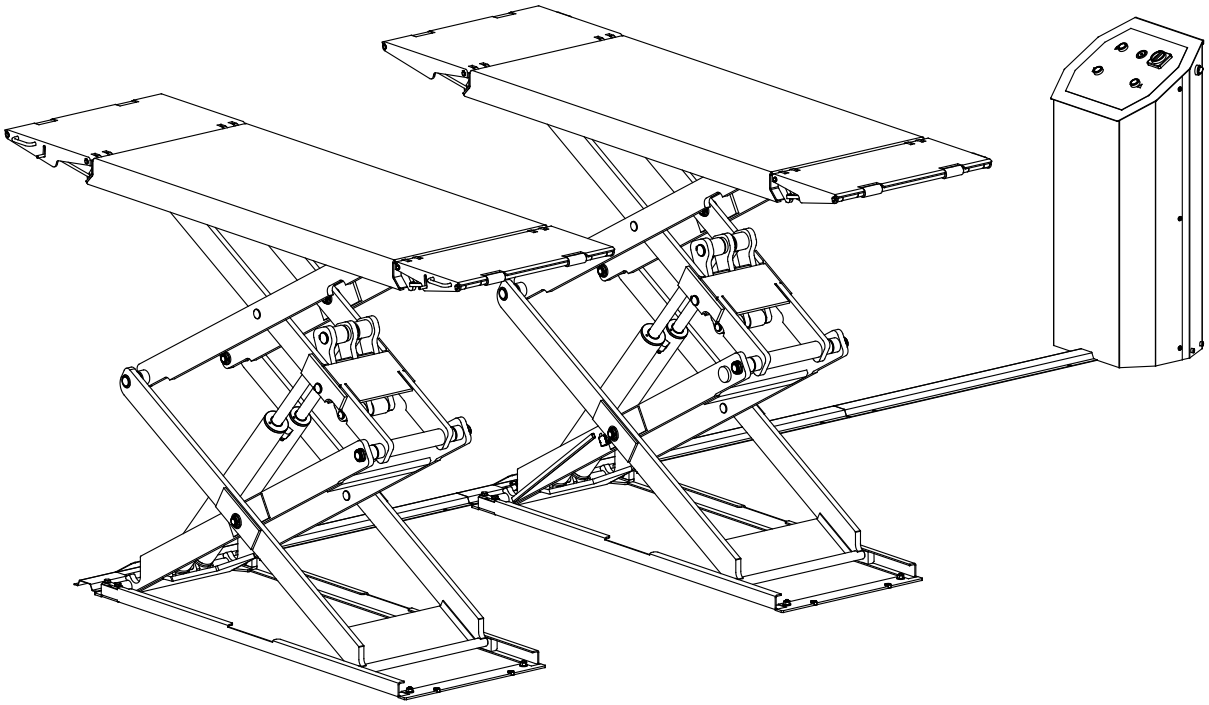
UPLIFTING COMPANY

AUTOP STENHOJ

MagiX 35 DS

Operation and maintenance instructions

(ORIGINAL VERSION)



Instruction manual ALWAYS KEEP ready to hand on the unit

Read the operating instructions before working with the unit

Manual no.: T62354-GB
Date: 14.06.2021

Before taking into operation check system components, control, emergency stop and safety equipment for condition, damage and correct function!

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Internet.: www.autopstenhoj.com

Table of contents

1 General

1.1 Information about the operating manual

This operating manual describes the installation, operation and maintenance of the machine.
Strict compliance with all the specified notes on safety and instructions is essential for safe working and proper handling of the equipment.

Apart from that, all accident prevention instructions valid at the place of use and the general safety regulations must also be adhered to.

This operating manual is part of the product and should always be kept in the immediate vicinity of the machine, accessible for the personnel entrusted with installation, operation, maintenance and cleaning.

For better representation of the explanations, the graphical artwork in this manual is not strictly according to scale, but may slightly vary from the actual design of the machine.

The operating manuals of the supporting components apply alongside this operating manual.
Please observe the notes contained therein - especially the safety notes.

1.2 Explanation of symbols

Important safety and machine-technical notes in this operating manual are marked with symbols. The notes must be adhered to in order to avoid accidents, personal injuries and damage to property.

WARNING!
This symbolizes dangers that can lead to adverse effects on health, injuries, permanent physical damage or to death.
Adhere at all costs to the notes specified regarding work safety, and be particularly careful in these cases.

WARNING! Danger of electric current!
This symbol draws attention to dangerous situations involving electrical currents. There is a danger of serious injury or death if the safety notes are not complied with. The work may only be carried out by qualified electricians.

ATTENTION!
This symbolizes notes, which if not complied with, can lead to damages, malfunctions and/or breakdown of the machine.

NOTE!
This symbol highlights tips and information that are to be observed for efficient and disruption-free operation of the machine.

1.3 Warranty and liability

All information and notes in this operation manual are provided under due consideration of valid regulations, the latest technical status of development as well as our years of expertise and experience.
The translation of this operation manual has also been made to the best of our knowledge.
We do not accept any liability for errors in translation. The version marked of the operation manual marked with “Original version” on the front page of the operation manual supplied with the lift shall be binding.
For optional design versions, the use of additional ordering options or the implementation of the latest technical modifications the actual scope of delivery may differ from the descriptions and illustrations in this manual. If you have any questions please contact the manufacturer.


NOTE!
This operation manual must be thoroughly read before starting any work with the equipment, especially before commissioning ! The manufacturer assumes no liability for damages or disruptions that occur as a result of non-compliance with the operation manual.

This operation manual must be kept at the lift and accessible for all persons working on or with the lift. Handing over the manual to third party is not permitted and is subject for compensation. Further rights remain reserved.

We reserve the right to technical changes to the product within the framework of improving the usability and further development.

This lift is guaranteed, covering faults duew to manufacturing or material defects, provided that the installation, operation and maintenance instructions are observed. The warranty implies that during the warranty period the manufacturer is committed either to repair or to replace – after own decision - defective spare parts fitted in the lift. No other warranty claim can be put in under warranty.

1.4 Spare parts

IMPORTANT: Spare parts used in the lifts are quality tested and comply with the criteria laid down in DS/EN 1493:2010. Please note that the use of safety spare parts or other essential components which do not fulfill these criteria may result in the type approval becoming void and the lift will thereby no longer keep the safety regulations defined by the manufacturer together with the relevant authorities.

The manufacturer’s product/deficiency liability and warranty cannot be claimed if concrete damages or failures are a result of the use of spare parts not originating from the factory.

1.5 Copyright protection

This operating manual is to be treated as confidential. It is solely intended for persons having to work on or with the equipment. Passing this operating manual on to third parties without a written confirmation is not permitted. If this should be required, please contact the manufacturer.


NOTE!
Contents, texts, drawings, pictures and other representations are protected by copyright law and are subject to further commercial protection rights. Any misuse is punishable.

Reproduction of any kind - even in form of excerpts - as well as the utilization and/or disclosure of its content without the written consent of the manufacturer is not permitted.
Violations oblige to compensation. Further rights remain reserved.

1.6 Waste disposal

If no agreement concerning take-back or waste disposal has been made, disassembled components must be passed on for recycling after correct dismantling:

- Metal material residues must be scrapped
- Plastic elements must be forwarded for recycling of plastics
- Other components must be sorted by material properties


ATTENTION!
Electric scrap, electronic components, lubricants and other auxiliary materials must be treated as hazardous waste and must only be disposed of by specially approved waste disposal companies!

Consumables like greases, oils, conserving and cleansing agents must be removed from the device in a type specific and environmental manner. Use suitable and approved storage containers for the repective consumables. Mark these containers according to their content, filling level and data and store them until final waste disposal in such a way, that any accidental use is ruled out.

2 Safety

This section offers an overview of all important safety aspects for an optimal protection of personnel against danger and ensures safe and disruption-free operation of the machine.
In addition to this, concrete notes on safety to avert danger are provided and marked with symbols in the individual chapters. Furthermore, any pictograms, signs and labels on the machine are to be observed and kept legible at all times.

2.1 General

At the time of development and manufacture the equipment complies with the valid and established technical rules and regulations and is safe to operate. However, danger may arise from this machine if it is used unprofessionally by untrained personnel, or if it is used improperly or not for the purpose it is intended for. Each person entrusted with work on or with the machine must have read and understood the operating manual before starting work.
The customer is advised to demand a written confirmation that all relevant persons have read the operating manual.
Changes of any kind as well as attachments or conversions to the machine are prohibited.

Safety, warning and operation related decals on the machine must always be kept in legible condition. Damaged decals or stickers must be immediately replaced.
Specified settings and adjustment ranges must be strictly complied with.

On the following page you can find an example of the EC Certificate of Conformity.
The original certificate is part of the technical documentation supplied with the lift.

UPLIFTING COMPANY
AUTOP STENHOJ

Declaration of Conformity

in accordance with the Machine Directive 2006/42/EC, Annex II A

MagiX

Manufacturer: AUTOPSTENHOJ GmbH
Sandkampstraße 90
D-48432 Rheine
Tel. (DE) +49 5971 / 860202
Tel. (DK) +45 76 82 13 30

We hereby declare that the below mentioned machine, by its design and construction and equivalent with the version put on the market by us, complies with the essential fundamental health and safety requirements. In case of any modification in the machine unapproved by us this certificate becomes void.

Type: Scissor lift

Name plate:
(Duplicate)

STENHØJ
AUTOPSTENHOJ GmbH
Sandkampstraße 90
D-48432 Rheine
CE

Lift:
Model: Cap.:
Approval no.: Year:
Serial no:

Relevant EC-Directives:
- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- RoHS2 2011/65/EU

Harmonized standards applied:
- EN 1493:2010
- EN ISO 12100: 2013
- EN 60204-1:2019
- EN ISO 138491: 2016

Responsible for documentation:
CEO for AUTOPSTENHOJ GmbH, Sandkampstraße 90, D-48432 Rheine

Place, date: Barrit,

Signature: i.V.

Signer information: Wolfgang Naber, Engineering Manager

2.2 Customer's responsibility

This operating manual should always be kept in the immediate vicinity of the machine, accessible for the personnel entrusted with installation, operation, maintenance and cleaning.
The machine must only be operated in technically perfect and safe condition.
Always ensure free access to all safety features and check these at regular intervals.

Details concerning industrial safety refer to directives of the European Union valid at the time the machine was manufactured. The customer is obliged to determine compliance of work safety measures specified with the current status of legal statutes and to observe any new regulations over the entire period in which the machine is used. Outside of the European Union, the laws on industrial safety and regional directives and regulations valid at the place of use of the machine are to be complied with.
The generally valid notes on industrial safety and accident prevention instructions as well as the valid environmental protection regulations applicable at the place of use are to be observed and adhered to alongside the notes on industrial safety in this operating manual.

The customer and personnel authorized by him/her are responsible for the disruption-free operation of the machine as well as for unambiguous determination of responsibilities during installation, operation, maintenance and cleaning of the machine.

Details of the operating manual are complete and must be adhered to without limitation!

Furthermore, the customer must also ensure that:
- Other dangers that result from special working conditions at the place of use are determined in a risk assessment.
- All other instructions and notes on safety that result from the risk assessment of workplaces on the machine are summarized in operating instructions.

2.3 Intended use

Operational safety is only guaranteed when adhering to the intended use of the device.

This lifting device is specially developped to lift motor cars and we strongly recommend not to lift any other equipment with this automotive lift.

The lifting platform has been designed and built for the use inside workshops.
Use of the lift for undersealing of cars and car wash is not allowed.
Riding, climbing and/or standing on the lifting platform as well as using it for lifting or lowering loads other than the ones specified above or installing and operating it outside in an unprotected environment is prohibited.

! ATTENTION!
Any other use of the device that differs from this or exceeds this is prohibited and is not considered unintended use!

Claims of any kind against the manufacturer and/or his authorized representatives resulting from damage caused by unintended use of the device are excluded. The customer is solely liable for any damage occurring during unintended use.
Intended use also includes correct adherence to assembly, operating, maintenance and cleaning instructions.

2.4 Work safety

Compliance with the notes on safety can help to avoid personal injury and material damage when working on the machine. Failure to comply with these notes will cause a considerably risk of injury for persons and danger of damage or destruction of the machine.
Non-compliance with the safety regulations causes the exclusion of any liability or compensation claims against the manufacturer or his representative.

2.5 Personal safety equipment

In principle, the following is to be worn when working on or with the machine:

Protective working clothes
Tight fitting work clothing (minimal tear strength, no wide sleeves, no rings or other jewelers etc.)
Safety gloves

Safety boots
for protection against heavy falling down objects and slipping on non-skid proof ground

2.6 Dangers which may arise from the machine

The machine was subjected to a risk analysis. The resultant construction and design of the machine corresponds to the current status of technology.
However, certain remaining risks cannot be avoided!

This device works with electrical voltage.

WARNING! Danger of electric current!
Electrical power can cause severe injuries. There is a danger to life caused by electric current if the insulation or individual components are damaged.

Switch off the main switch and secure against switching on again before maintenance, cleaning or repair work.
Switch off the power supply before starting work in the electrical system and make sure that the system is dead.
Do not remove any safety features or do not modify such installations in a way that would adversely affect their function.

The equipment is supported by hydraulic components.

WARNING! Danger of injury!
Hydraulic power can cause severe injuries. In case of damage to individual components fluid may escape under high pressure and cause injury and material damage!

Always relieve all pressures before starting work in the hydraulic system.
Do not remove any safety features or make them inoperative as a result of modifications.
Do not change any pressure settings beyond the values specified in this operating manual.

2.7 Operating personnel

The device must only be operated and serviced by authorized, trained and instructed expert persons who:
- are at least 18 years of age and
- have been thoroughly instructed in operation and
- can provide evidence of their suitability to operate lifting platforms and
- have been entrusted in writing by the operating company to operate the lifting platform

An instructed person is someone who has been trained and, if necessary, instructed practically in the tasks entrusted to him/her and the possible dangers resulting from improper actions; and who has been instructed both about the necessary protective features and about protective measures.

Qualified personnel include those who can assess the work entrusted to them and recognize potential dangers based on their specialist training, knowledge and experience as well as their knowledge of appropriate conditions.

If personnel do not have the necessary knowledge, then they are to be trained accordingly.
The equipment must only be operated and serviced by persons who are able to perform their work in a reliable manner. For this purpose, any mode of operation that adversely affects the safety of persons, the environment or the machine is to be avoided. Persons who are under the influence of drugs, alcohol or medication that affects their responsiveness may under no circumstances carry out work on or with the machine.

The employment of personnel must be based on the applicable regulations concerning age and qualification.

The responsibilities concerning operation and maintenance must be clearly specified in order to avoid uncertainties in competence.

The operator must ensure that unauthorized persons keep a sufficient clearance to the equipment.

The operator is obliged to report immediately any changes to the equipment which adversely affect the safety to the operator.

2.8 Behavior in case of danger or accidents

2.8.1 Preventive measures

- Always be prepared for accidents or fire !
- Keep first aid equipment (first aid kit, blankets, etc.) and firefighting equipment close to hand.
- Make personnel familiar with the location and use of safety, accident reporting, first aid and rescue equipment and have this training confirmed.
- Clear access routes for rescue vehicles.

2.8.2 If the worst comes to the worst: Do the right things!

- Shut down the machine immediately.
- Inform the responsible person at the place of use.
- Alarm a physician and the fire brigade.
- Rescue persons from the danger zone, start first aid measures.
- Keep access routes for rescue vehicles clear.

3. Technical data

3.1 Type designation

Example: MagiX 35 DS 230-400/3/50

- 230-400/3/50 = Mains voltage
- DS = Double Scissor lift
- 35 = Capacity: 35 = 3.500 kg
- MagiX = Series designation: MagiX

3.2 Name plate

The name plate is located on the control post and contains following information:

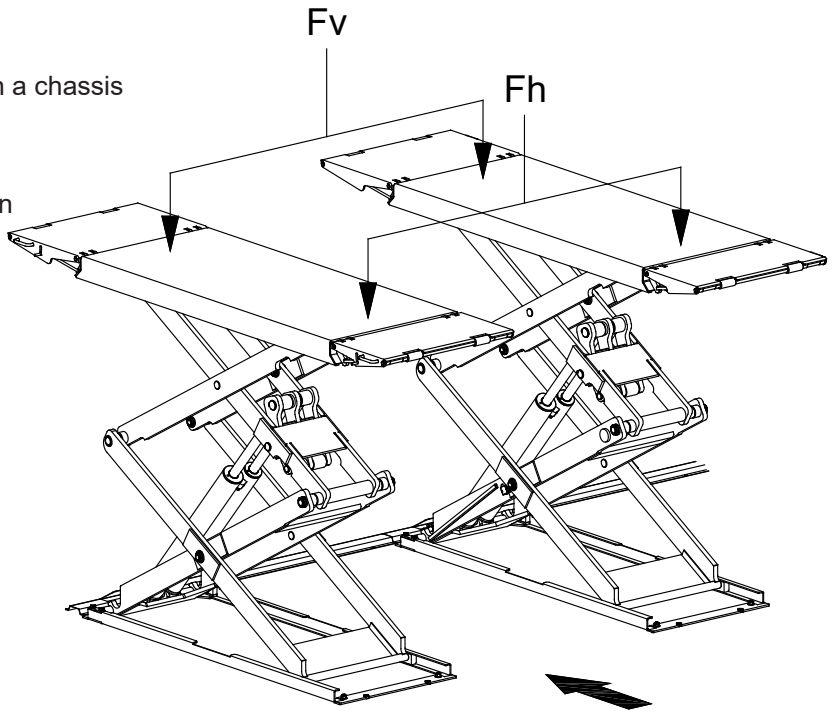
- Manufacturer
- Serial no.
- Model no.
- Year of manufacturing
- Capacity

3.3 Load distribution

Front load ratio (Fv) : rear load ratio (Fh)
FV : Fh = 3 : 2 and 2 : 3

This assumption is base on a vehicle with a chassis frame size from 1.00 m to 1.70 m.

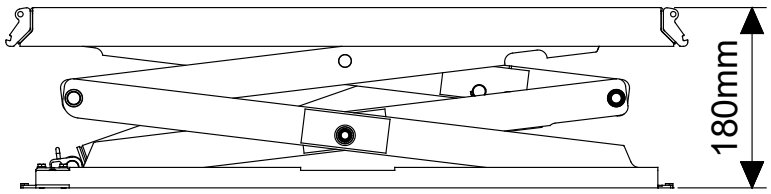
= Recommended drive-on direction



3.4 Technical specifications

Max. lifting capacity	3500 kg *
Max. lifting height	2000 mm
Height of platform	100 mm
Length of platform	1480 mm
Width of platform	625 mm
Lifting time	≤40 s
Lowering time	≤38 s
Total length of lift	2200 mm
Total width of lift	2150 mm
Weight	from 850 to 900 kg
Voltage	230-400V, 3ph, 5Hz
Power	2.2 kw
Pressure valve pressure	260 bar **
Hydraulic oil	12 L (see oil specifications)
Working temperature	-10° / +40°C
Noise level	< 70 db
Installation place	Indoor

*) Full lifting capacity will only be achieved at the height of 180 mm.



**) The pressure is set from the factory and must not be changed.

Characteristics:

- Low voltage controls (24V).
- Double hydraulic-volumetric synchronism.
- Hydraulic system equipped with safety mechanism in case of failure due to broken or cut tubes.
- Hand lowering device in case of power failure.
- Acoustic signal in lowering phase.
- Platforms levelling control.

4. Structure and function

4.1 Description

The MagiX 35 DS is a double scissor lift for 3500 kg capacity, especially suitable for passenger cars and light vans.

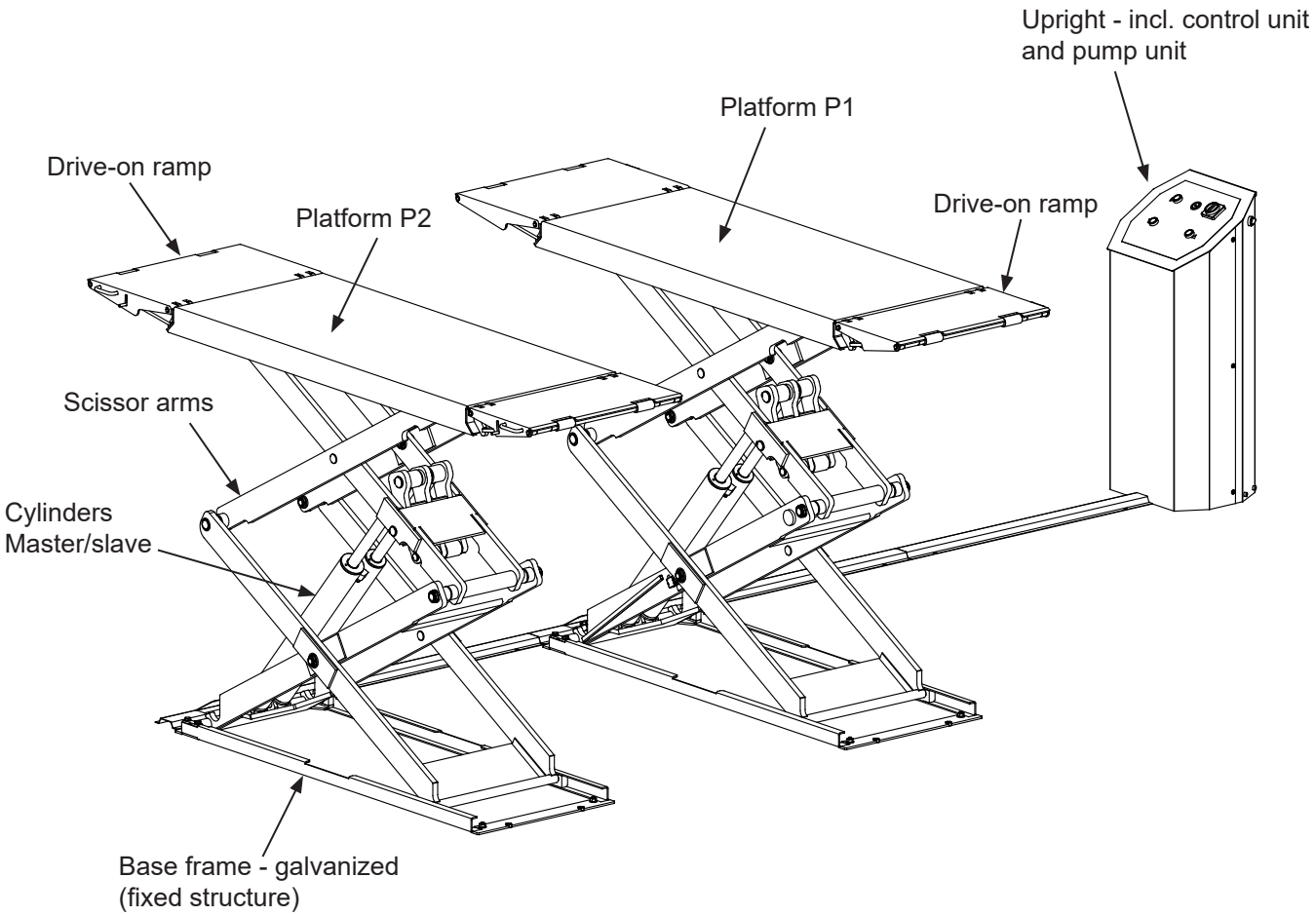
The lift is operated by means of dead-man controlled push buttons and can be stopped at any height between the min height and the max height.

The lift is electro-hydraulical with a double circuit oil system ensuring the lift against unintentional lowering.

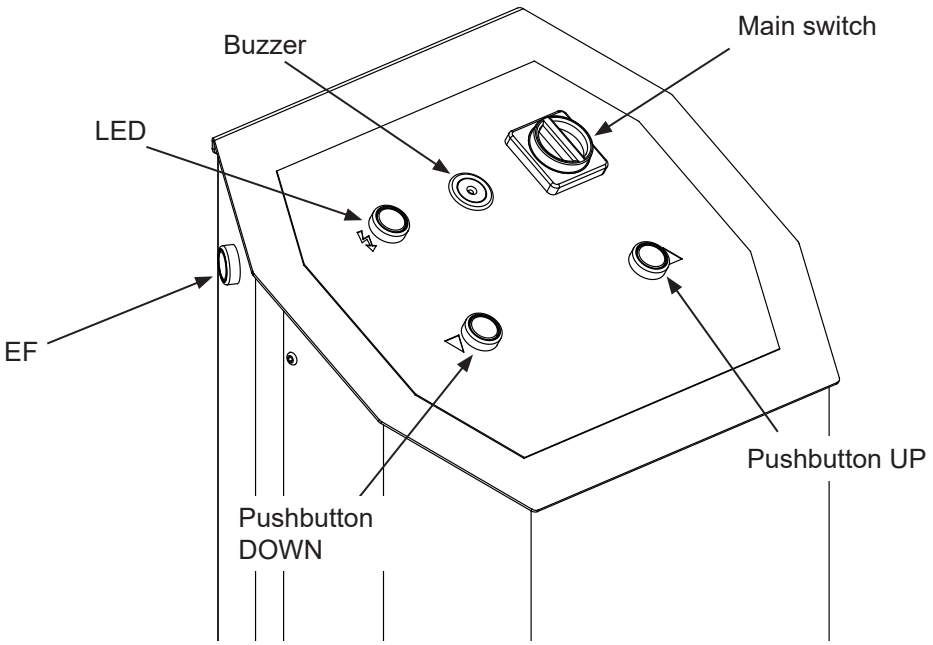
All mechanical frames, such as platforms, drive-on ramps, base frames and arms have been built in steel plate to make the frame stiff and strong while keeping a low weight.

Do not use lift in washing bays, for underbody sealing or in paint shops; nor in areas with explosion danger. Likewise lift must not be used for lifting just part of a vehicle.

The lift is equipped as follows:

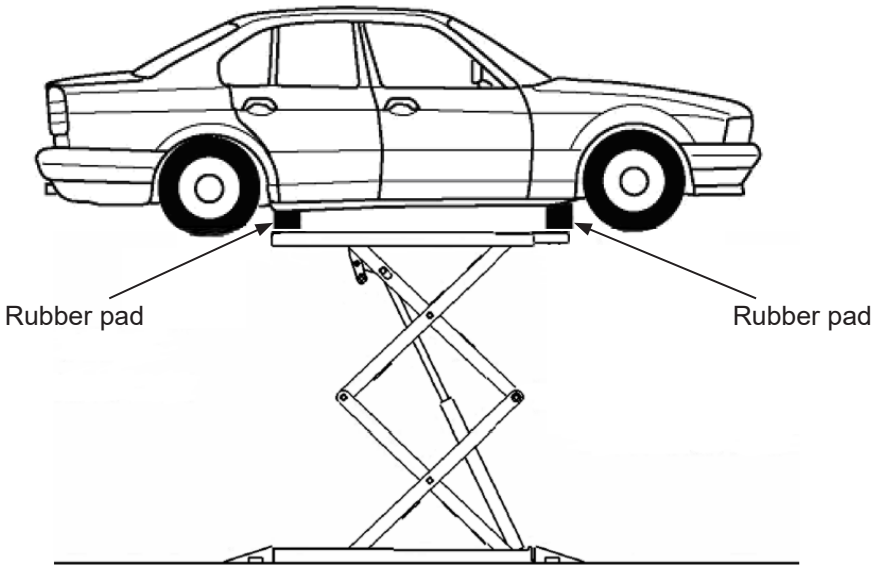


Control unit:



Push button UP	When pressed, motor and lifting mechanism are operated
Push button DOWN	When pressed, lowering electro vales are operated
LED	Indicates that the control board is powered.
Main switch	The switch can be padlocked to prevent use of the lift during maintenance
EF	By-passing top limit switch
Buzzer	In the last 400mm of vertical stroke, when a crushing hazard is present, it emits a sound to signal the presence of the hazard itself.

The vehicle is gripped on the chassis by means of 4 rubber pads (supplied), leaving the wheels of the vehicle free.



4.2 Safety functions

- **ANTI-SHEARING SAFETY:** The lift is equipped with a device that stops its lowering phase at about 400 mm from the floor. To restart and close the lift release the lowering button and press it again. During the lowering phase, under 400 mm, the device will produce a warning acoustic signal (beep).

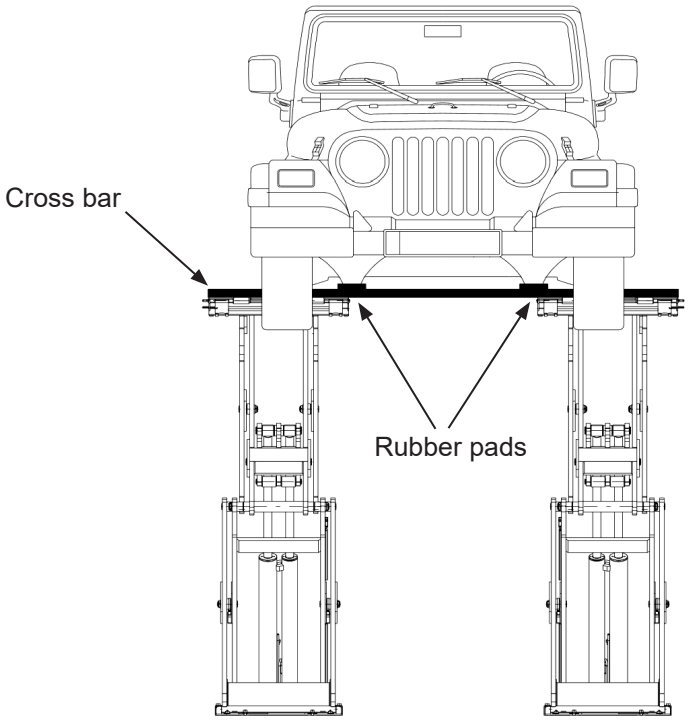
- **SAFETY VALVE FOR AUTOMATIC LOWERING CUT OUT:** Parachute valves able to automatically lock a single or double-acting cylinder in case a sudden increase in velocity occurs. The valves are located inside the cylinders and prevent the load from falling down in case of sudden pipe bursting or cutting.

- **“HOLD TO RUN” CONTROL”:** The car lift is equipped with a “hold-to-run” control. Lowering and lifting operations are stopped immediately by releasing button controls.

- **DOUBLE-CIRCUIT HYDRAULIC SAFETY:** The lift is equipped with a double hydraulic system working independently. Each separate circuit is able to hold but not to lift the whole rated load. This is to guarantee that the load can be held in position and lowered even in case of a faulty line, whereas lifting operations are not possible.

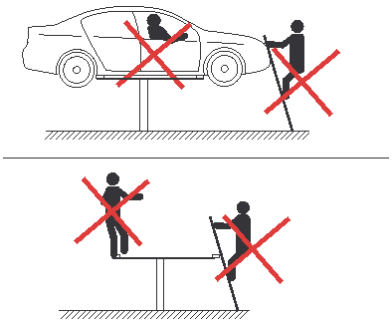
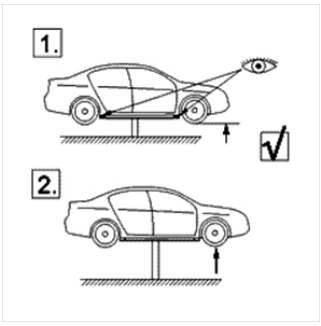
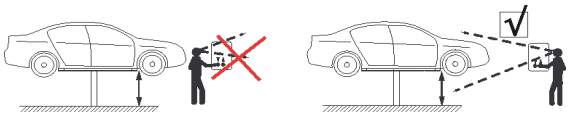
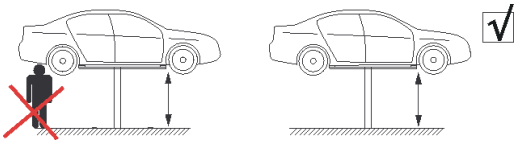
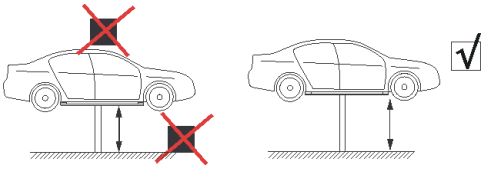
- **MAIN SWITCH:** Main switch deactivates all functions of the lift; padlock the switch to prevent unauthorized personnel from using the lift.

- **PLATFORMS SYNCHRONIZATION CONTROL SYSTEM:** The photocell placed on P2 platform controls, through the reflector placed on platform P1, and if the photocell does not intercept the reflector, due to objects blocking the lift during the descent phase, the lift stops automatically with a maximum difference in height of 100 mm between the two platforms. To return to normal operation, lift to remove the obstacle and press the button again.



In case of vehicles such as offroads, vans or other vehicles with very narrow or very wide support points, it is required to use a crossbar on which the rubber pads are positioned.

4.3 Symbols of short operating instructions

	The lifting platform must only be operated by authorized persons. Strict compliance with the comprehensive operating manual is mandatory, especially in case of faults
	Climbing up or standing on lifted load or load bearing device is strictly prohibited.
	After slight initial lifting the operator must check that the load is correctly positioned on the load bearing device. Only then the load may be lifted further.
	Always keep an eye on load bearing device and load when moving the lifting platform.
	No persons must be in the movement range of load bearing device or load while the lifting platform is in motion.
	The movement range of load and load bearing device must be kept clear of any obstructions.

5 Transport, packing and storage

5.1 Safety notes

WARNING! Danger of injury!
There is a danger of injury from falling parts when lifting, swinging and lowering.
The machine can be damaged or destroyed by improper transporting.

For this reason, fundamentally observe the following safety notes:

Only use permissible lifting tackle and sling gear with sufficient bearing capacity.
Only secure the machine on the fastening points provided; do not fasten onto projecting machine parts or eyelets of attached components. Make sure the sling gear is secure !
Ropes and chords must be equipped with safety hooks. Do not use any torn or worn ropes. Do not lay ropes and chords on sharp edges and corners, do not knot and do not twist. Pay attention to the centre of gravity of the machine when fastening tackle.
Never lift, swing or lower loads over people.
Always move the machine with the greatest of care and attention.

WARNING! Danger of life!
Suspended loads can fall down and lead to severe injuries. Do not stand or pass under suspended loads when transporting with lifting tackle!

5.2 Transport inspection

Check delivery immediately on receipt for completeness and transport damage.
Do not accept delivery or only accept under proviso if there is externally recognizable transport damage. Note the scope of damage on the transport documents/delivery note of the carrier. Start complaints procedure.
Complain about hidden deficiencies as soon as they are discovered as compensation claims can only be asserted within the applicable complaints period.

5.3 Packaging

If there is no returns agreement for the packaging, separate materials according to type and size and direct to further use or re-cycling.

ATTENTION!
Always dispose of packaging materials in an environmentally friendly manner and in accordance with the applicable, local disposal guidelines. If necessary, commission a re-cycling company.

NOTE! Good for environmental protection!
Packaging materials are valuable raw materials and can continue to be used in many cases or sensibly reconditioned and re-cycled.

5.4 Storage

Keep packed goods packed up until installation and store such items as specified on the externally attached installation and storage information.
Store packing units only under the following conditions:

- Do not keep in the open-air.
- Store in a dry and dust-free environment.
- Do not subject to aggressive media.
- Protect against direct sunlight.
- Avoid mechanical vibrations.
- Storage temperature: 15 to 25 °C
- Relative humidity: max. 60 %
- For longer periods of storage (> 3 months), check the general condition of all parts and the packaging at regular intervals. If necessary touch up or renew the conservation.

6 Installation and start-up

6.1 Installation

In order to come up to your expectations now and in the future the lift must be installed in strict accordance with the installation instructions and maintained according to our recommendations.

As agreed, the equipment will be installed by employees of the manufacturer or by authorized partner companies.
Unauthorized assembly or installation work is not permitted.

WARNING! Danger of injury!
Improper installation and assembly can lead to severe personal injury and/or material damage. Installation and assembly work may only be carried out by trained technical staff while observing the safety instructions.

Contact your distributor for the name and address of the nearest authorized service shop.

6.2 Start-up

As agreed, initial start-up of the equipment will be carried out by employees of the manufacturer or by authorized partner companies.
Unauthorized initial start-up is not permitted.
The machine is handed over to the customer following set-up, initial start-up and implementation of test runs by the manufacturer. After this the machine can be operated in strict compliance with the information in the operating instructions.

WARNING! Danger of injury!
Start-up may only be carried out by qualified technical personnel while observing the safety instructions.

6.3 Instructions for start-up and bleeding

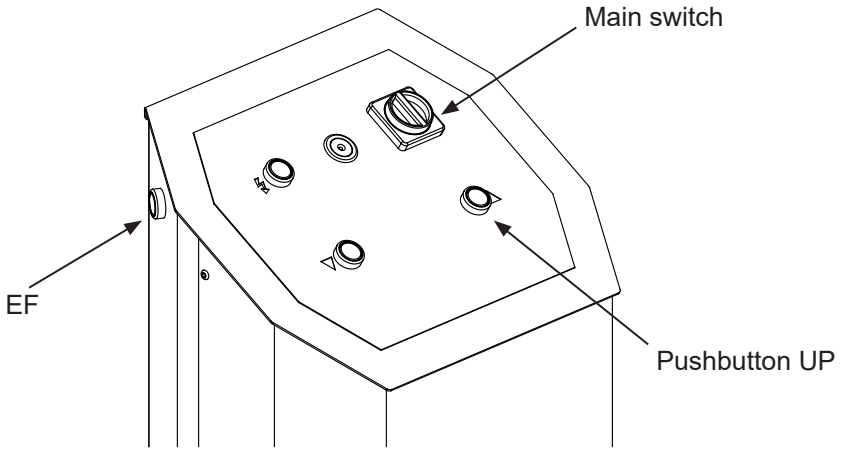
Be sure that the operating area is cleared of people.

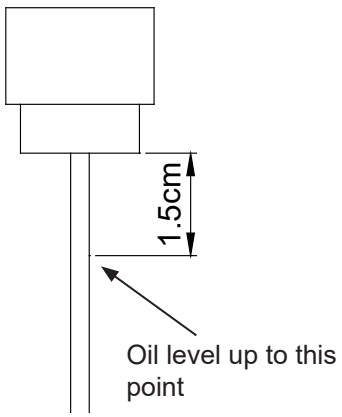
Be sure that hydraulic hoses and electric cables, connecting the control unit to the lift, are protected by metallic covers. These covers must be supplied as o.e. with the lift.

NOTE: These operations must be performed without load

1. Turn main switch onto ON.
2. Fill tank with oil. When lift is in bottom position the oil level measured on dipstick must be as shown below.
3. Check that all solenoid valves for manual lowering are perfectly closed.
4. Push UP button ▲ until max height is reached. If lift does not move, check motor: if motor is spinning, check if direction of rotation is correct; otherwise, invert phases on the electric line.
5. Put sufficient oil into the tank to execute the bleeding procedure.
6. Push **EF** button, which is located on the side of the upright, and by-pass top limit switch, push UP button ▲ in pulses of 2-3 seconds until hydraulic circuit is full. **It is very important to keep pulsing UP button ▲ until oil returns to tank through both return hoses.**
7. When oil level in tank is calm (i.e. no longer sinks), the procedure is completed. This operation makes self-bleeding of cylinders and self-levelling of scissor members possible. **Lower scissor members to bottom position and bleeding procedure has to be repeated from bottom position, as described in step 6, at least 3 times.**
8. Operate lift up and down from bottom to top position a few times, without load. If scissor members are at level, bleeding procedure has been fulfilled. If not, repeat procedure at step 6 - 7.
9. After checking that the lift is well aligned (max. difference allowed is 1 cm at the beginning/ending), it can be loaded and operated.

NOTE: OVER TIME AN UN-LEVELLING OF THE SCISSOR MEMBERS COULD OCCUR, DUE TO MINOR OIL LEAKS IN THE HYDRAULIC CIRCUIT. IN THIS CASE, THE BLEEDING PROCEDURE HAS TO BE REPEATED AS FROM STEP 6 - EVERY 6 MONTHS - ALWAYS **WITHOUT LOAD**.





7 Operation

7.1 Safety

Please read the paragraphs “Work safety”, “Personal safety equipment” and “Operating personnel”.

WARNING! Danger of injury!
During lifting and lowering movements the lifting platform generates dangers which could lead to severe injury, such as crushing or shearing off of limbs or by heavy objects slipping off or falling down.

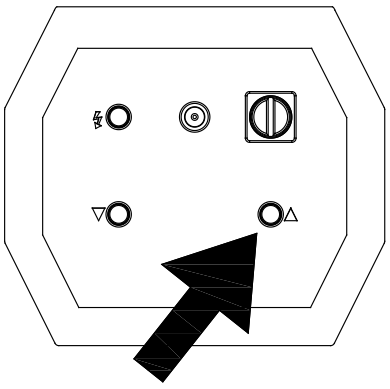
In order to avoid accidents the following should be noted when operating lifting platforms:

- During the up or down movement of the lifting platform the danger zone and the immediate vicinity of the lifting platform should be free of persons. The distance between persons and the lifting platform should be at least 2 m.
- Accessing the load bearing devices, riding on, climbing onto and standing on the lifted platform is strictly prohibited.
- Do not load the lifting platform beyond the max. permitted load bearing capacity.
- Observe the permitted load distribution (see section “Technical Data”).
- Load the lifting platform evenly. Possible shifting of the vehicle’s centre of gravity caused by the disassembly of vehicle components must be taken into account.
- Do not initiate any vibration of the lifting platform while performing assembly work on the vehicle.
- Always keep the main switch locked to avoid unauthorized operation and unintended switching on.

7.2 Operation

Placing of vehicle:
- The lift must be lowered to absolute bottom position, with drive-on ramps on the floor.
- Vehicle must be driven straight on to the lift, so that upper plates are loaded in center line – re-position vehicle if necessary. It is very important to respect this point.
- If drive-on ramps are used check that ratchet on underside is fully engaged.
- Place rubber blocks corresponding to lifting points of vehicle.

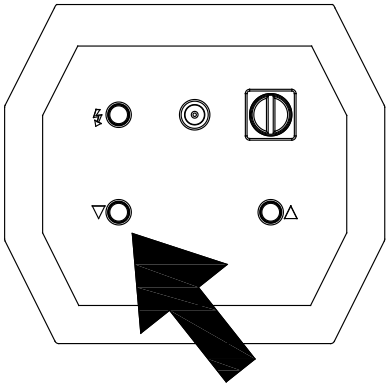
Raising:
- Check once again that lift is loaded on center line of upper plates.
- Check that no persons, tools, equipment or the like are in immediate vicinity of vehicle or lift.
- Push UP button ▲. Raise vehicle app. 100 mm and check that it is correctly and stably supported.
- Raise vehicle to working height. Keep an eye on vehicle and lift during the entire lifting movement.



Working on vehicle:
- Make sure that vehicle stays stable during work; especially in case heavy items (motor/rear axle) are removed from vehicle.

Lowering:

- Check that no persons, tools, equipment or the like are in immediate vicinity of vehicle or lift.
- Push DOWN button ▼; lift will lower. Keep an eye on both vehicle and lift during the entire lowering movement.
- In a height of 400 mm lowering stops, and an alarm signal is activated. Let go of DOWN button ▼ and check that no persons or other items are in immediate vicinity of the vehicle and lift.
- Lowering continues when pushing DOWN ▼ again. The alarm signal continues during the remaining part of lowering movement.
- Remove rubber blocks when lift is in bottom position and lower drive-on ramps - if they have been used - by lifting up ramps until ratchets on underside are released.



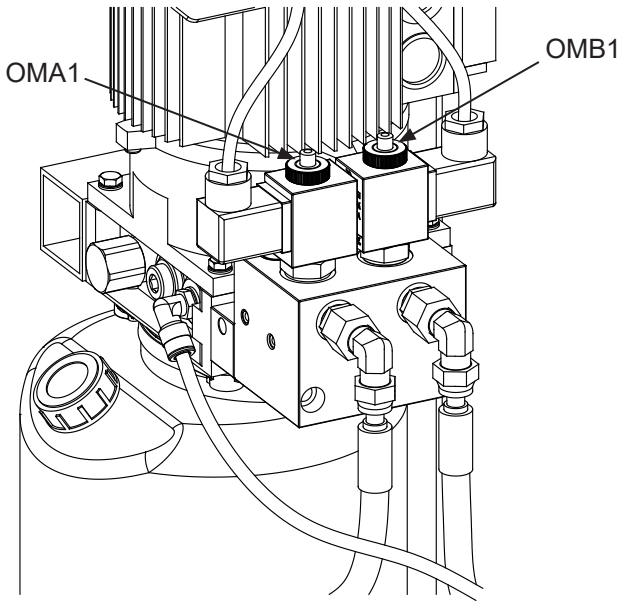
7.3 Emergency lowering

If the lift cannot perform lowering operations because of power supply interruption, faulty hydraulic valves or trouble in the electrical system, the lift can be lowered manually.

WARNING !

During emergency lowering all normal safety functions are out of operation. Therefore proceed with utmost caution and consideration during the entire procedure.
Emergency lowering operations should be performed only by authorized personnel, specially trained for operating the lift.

- Make sure there are no obstacles blocking the lowering phase;
- Turn off main switch
- Remove front plate for upright
- Loosen screws at solenoid valves for manual lowering **OMA1 - OMB1** (approx. 1/2 turn)
- Lift will now lower to bottom position; speed can be increased or decreased by turning the screws.
- Constantly check the area around the lift, and tighten **OMA1 - OMB1** screws in case of danger or in case the lowering phase should be interrupted.
- During the manual lowering phase, the presence of the operator is required in close contact with the solenoid valves, in order to ensure immediate closing of screws and blocking of the lowering in case of danger (otherwise reaction would not be immediate and this might cause damage to persons and equipment).
- When lift has reached bottom position re-tighten screws at **OMA1 - OMB1.**

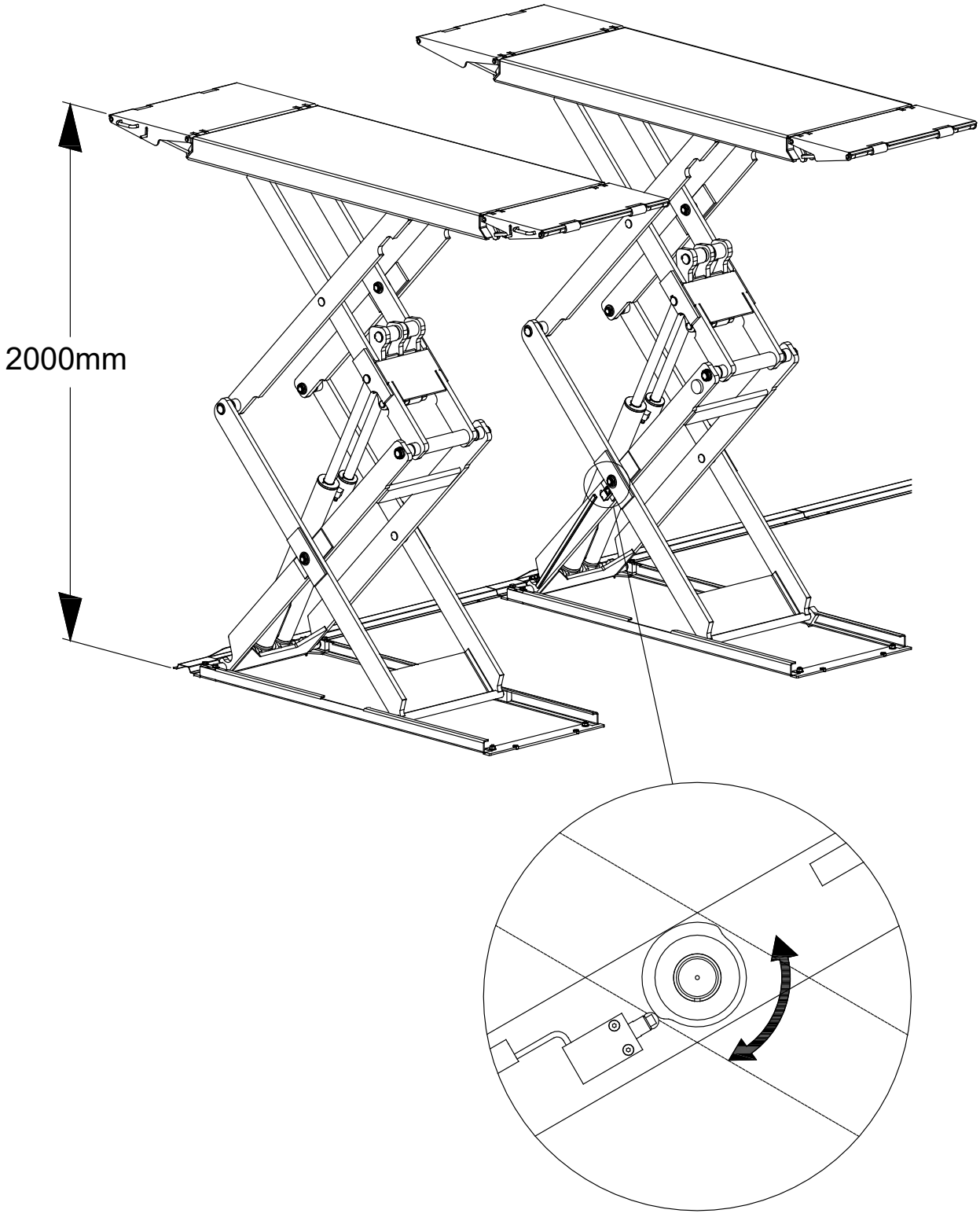


7.4 Adjustment of top limit switch

Raise lift to 2000 mm.

Turn cam disc on right scissor member (according to drive-on direction) until breaking switch is activated; tighten afterwards pointed screws on cam disc.

Raise and lower lift a couple of times and check once again that height still is 2000 mm.



8 Maintenance

8.1 Safety

WARNING! Danger of injury!
Improperly performed maintenance work can lead to severe physical injury or damage to property. Any work related with care and maintenance must only be carried out by qualified and authorized expert personnel.

Strictly observe when performing maintenance work:
- Switch off the system and secure against switching on again.
- Perform work only with the device stopped.
- Secure movable parts against unintended movement.
- See paragraph “Personal safety equipment”

WARNING! Poisoning hazard!
Lubricants are harmful to health! Skin damage (rashes, inflammation, allergies, etc.) can occur on contact of skin with oils and lubricating greases.

Therefore:
- Please observe instructions and safety data sheets from the manufacturer !
- Lubricants are not to be consumed or swallowed. In case of unintended consumption seek medical advice immediately (bring along the packing).
- When handling lubricants, use suitable skin protective and skin-care products or oil-resistance gloves.
- Rinse any spatters in the eye immediately with a lot of water!
- If the skin is dirtied by any lubricants, wash off immediately with soap and water.

WARNING! Danger of injury!
Lubricants which fall on the ground are a source of danger as they present a risk of slipping. Lubricants are to be adsorbed and removed by spreading sawdust or oil adsorption and afterwards scrapped according to local environment regulation.

8.2 Intervals for preventive maintenance

Lift should be checked at shorter intervals if used a lot.

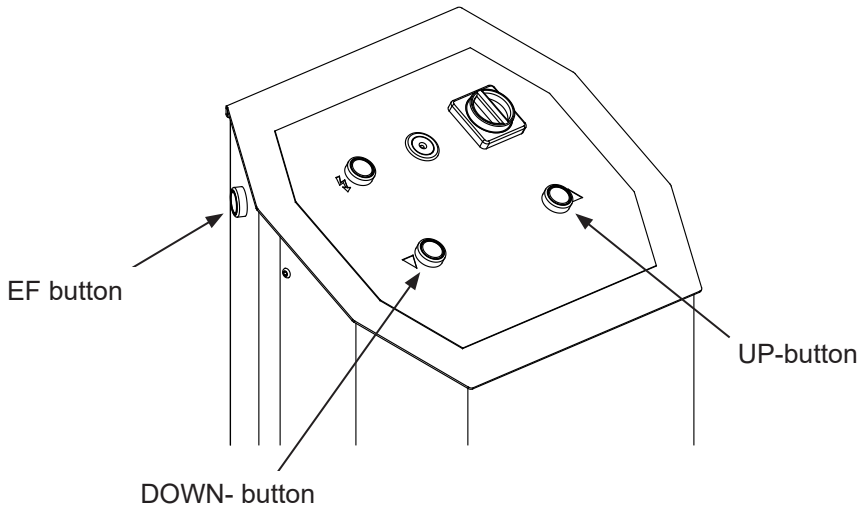
Intervals	Action
At every lifting movement	• Check that no loose items (e.g. screws, spare parts, stones, etc.) are lying on bed plate of lift or under drive-on ramps. These might cause great damage on lift. • Check that alarm signal works and is audible. • Clean lifting platforms, rubber blocks and area around lift.
Every week	• Lubricate all bushings and hinges with oil.
Every month	• Clean upper and lower sliding blocks and lubricate with grease.
Every 3 months	• Check oil level on pump unit. Dip stick must show 0-10 mm when lift is in bottom position. See oil specifications at end of present manual. • Change oil on pump unit after first 3 months of operation. • Check hydraulic system visually for leakages.
Every 6 months	• Bleed lift (see below).
Every 12 months	• Complete overhaul to be carried out by authorized service engineer. • Check visually that no locking rings, screws, etc. are loose or missing. • Change oil on pump unit. • Re-tighten expansion bolts with 25 Nm torque.

8.3 Bleeding

(To be carried out WITHOUT load)

Push UP-button ▲ and EF button (on the side of the upright) to raise lift to max height, whereby the cylinders are filled up with oil and air is ”driven” out the system. Lower lift again to bottom position by pushing DOWN-button ▼.
Repeat this step as often as necessary to be sure that cylinders have been filled up and all air has been expelled from the system.
Check oil level and fill up if necessary.

Repeat this procedure once every 6 months.



8.4 Cleaning

Cleaning of lifts to prevent corrosion damages.

Corrosive fluids as brake fluid, oil, fuel or other solvents must be wiped off immediately, otherwise damage will occur to the coating.
Special attention must be paid to the corrosive effect of salt in fall and winter periods.
The cleansing agents must not have any abrasive effect, nor contain solvents.

The lift must be cleaned at least once a week.

The lift must be cleaned with a non-corrosive cleansing agent.
Clean and wipe the lift according to the following scheme:

When:	Where:	How:	Remarks:
Every week	Platforms	Clean and wipe	
	Scissor arms		
	Drive-on ramps		

The manufacturer does not accept any claim concerning the paint peeling off or corrosion damages caused by missing or insufficient cleaning or maintenance.

Repair of damages:
Repair of damages on the coating must be carried out immediately in order to minimize the extent of the repair.

The damages will typically be:
Damages which do not affect the metal surface but affects the coating itself
Damages going down into the metal surface.

Repairs:
Contact the manufacturer for guidance.

Please state RAL number of paint.

9 Inspections

Before commissioning the lift must be inspected according to the local national health and safety regulations.

Operational safety and reliability can only be guaranteed when the condition and function of the lift are inspected at regular intervals – still according to the local national safety regulations.

10. Malfunctions

10.1 Actions in case of malfunctions

In case of breakdown check the following points:

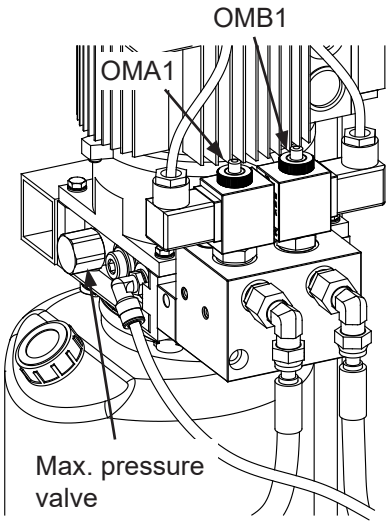
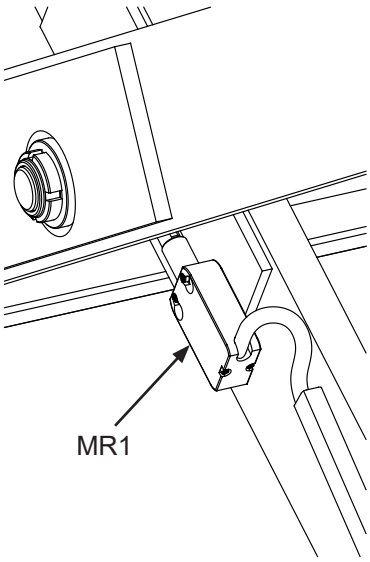
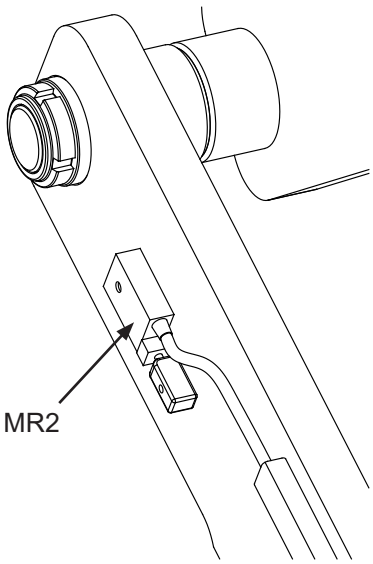
1. Electricity cut
2. Main fuses
3. Electric motor
4. Obstruction under lift

If these points are found in order but the lift is still not working, the safety system has probably been activated, and the lift must not be started or repaired by unqualified staff. Contact the nearest authorized service shop.

Do not start repairing the lift until the main switch has been cut off.

Do not disconnect the safety system and do not operate the lift after breakdown and prior to repair.

10.2 Trouble shooting chart

Pictures for trouble shooting chart		
Picture 1	Picture 2	Picture 3
		

Symptom:	Possible cause:	Solution:
The UP-button ▲ is pressed, the lift does not move and the motor does not run	Main switch is off	Check and activate
	Power supply is interrupted	Check and activate
	Motor contactor is faulty	Check the contactor coil operation and make sure it is activated when supplied with 24V
	Blown fuse on 24 volt power supply	Check the fuse on the transformer and replace it if necessary
	Faulty transformer	Check the input and output voltage of the transformer
	The motor thermal switch is activated for overheating	Wait for 10 minutes and try starting again; then, using a tester, make sure the contact is closed
The UP-button ▲ is pressed, the motor runs but the lift does not move	Wrong rotation direction	Switch the phases and check that the motor turns in the direction indicated by the arrow
	The load to lift is too heavy, the MAX PRESSURE valve (picture 1) is discharged	The lift is being used with an exceeding load, beyond the specified loading capacity
	The oil level in the tank is too low	Check the oil level by using the specific cap/dipstick and refill
	One or both solenoid valves for emergency lowering OMA1-OMB1 (picture 1) on the hydraulic block are open	Check and tighten the screws
	Lowering valve gaskets (OR) on the block are damaged or loose	Check the gaskets and replace if necessary
	Oil filter is clogged	Check and clean
	Faulty hydraulic pump	Check that oil comes out from one of the A1-A2 outlets on the hydraulic block after disconnecting the corresponding pipe. Replace the pump if oil does not come out from the A1-A2 outlets
	Blocked cylinders	Contact technical assistance

The DOWN-button ▼ is pressed, the lift does not lower, instead produces a continuous warning signal	Stop and go micro MR1 (picture 2) is damaged or improperly installed; wire cut or disconnected	Check connections and eventually replace micro if supposed damaged
The DOWN-button ▼ is pressed but the lift does not lower	Make sure there are no obstacles blocking the lowering phase.	Remove the obstacle and carefully check the area before operating the lift
	Make sure the main switch is on and power supply is not interrupted	Check and supply power to the lift
	Blown fuses	Check and replace the fuses on the electric card, on the transformer or on the electric supply after eliminating the cause of the short-circuit
	Faulty transformer	Check the input and output voltage of the transformer
	Valve coils are faulty or not supplied	Check whether valves are activated with 24V directed to the coils
	MR2 photocell (picture 3) improperly installed, intercepted (activated) or damaged; wire cut or disconnected	Check connections, check if there are elements intercepting the micro or replace it if supposed damaged
	Damaged or faulty valves	Unscrew the valves on the hydraulic block one by one and make sure they move freely when supplied with 24 volt solenoids
	Damaged electric card or PLC	Check if relays of electro valves work; replace the electric card or PLC if supposed damaged
The lift is closed but one of the two platforms is higher	Make sure there are no obstacles blocking the closing phase	Remove the obstacle and carefully check the area before operating the lift
	Platforms are not levelled	Should this problem occur, check the car lift first, and check for oil leaks from cylinders or pipes. To level again the platforms, do the operation as at point 6/7 - chapter 6.3

11. Service

11.1 Spare parts ordering

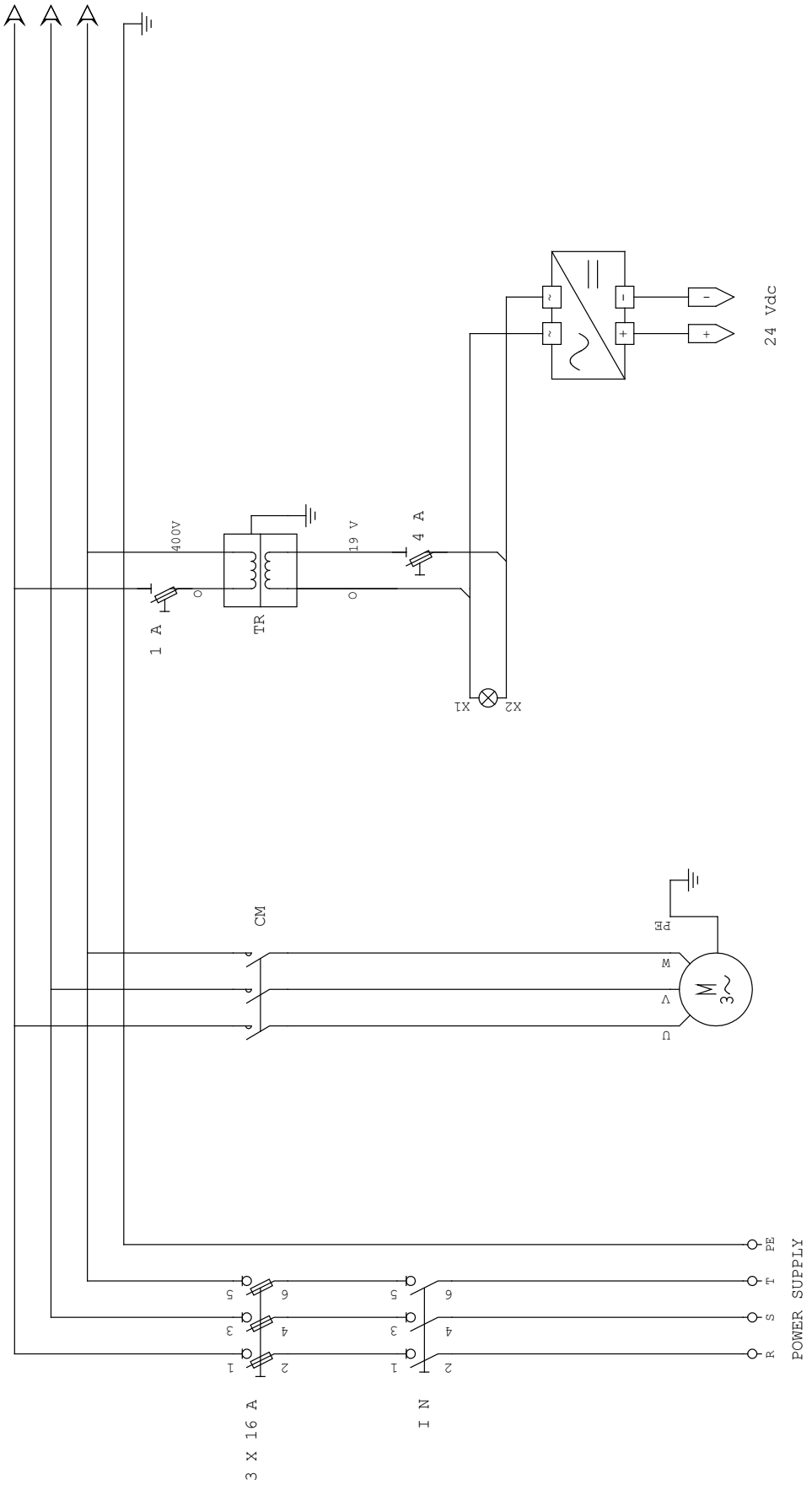
To ensure correct deliveries of spare parts orders, please always state the following information:
part number, designation, quantity (in the spare parts list) and serial number and year of manufacturing (on the name plate) of the lift.

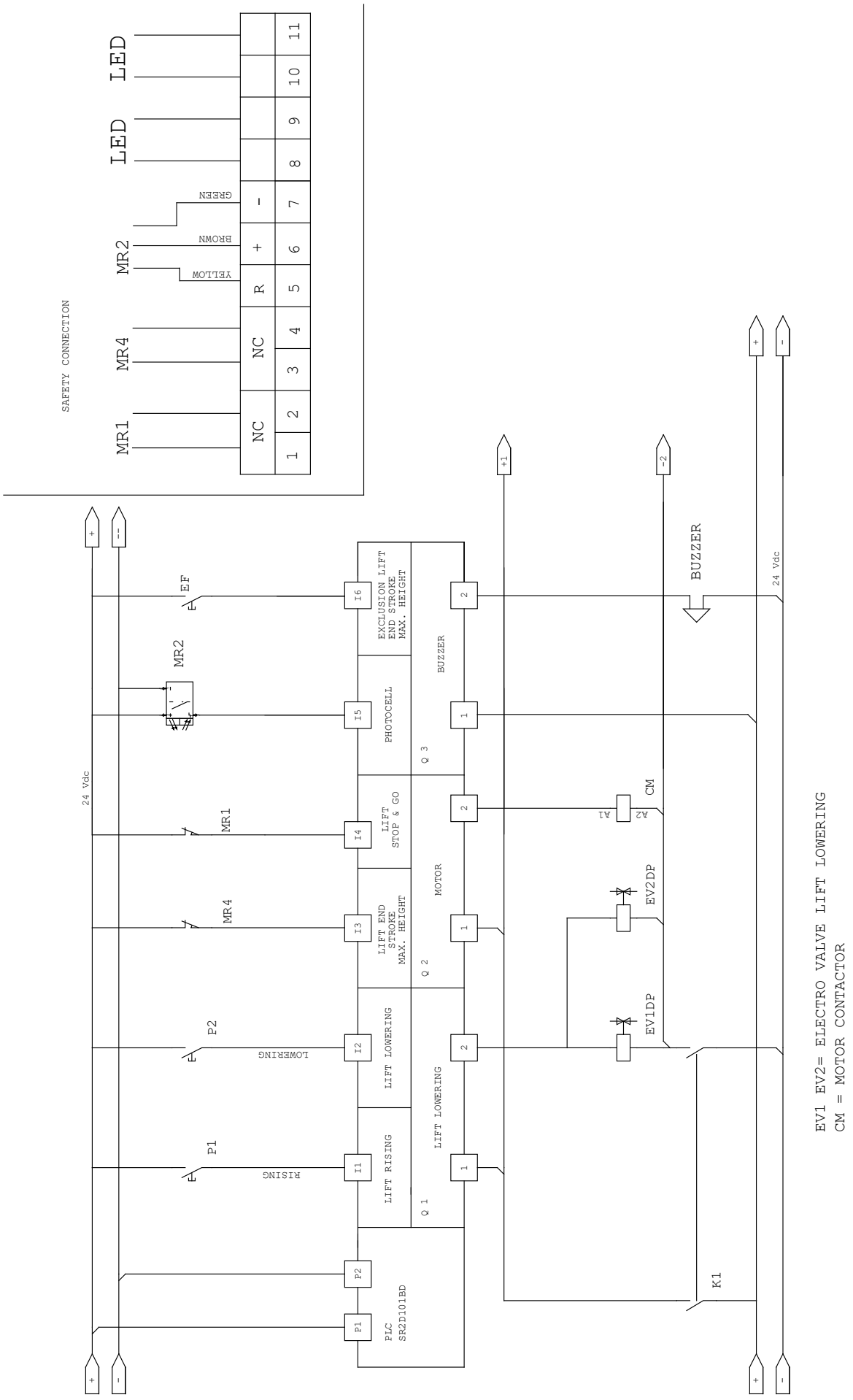
12. Oil specifications

	- Semi-hydraulic lift (oil in lift cylinder)	- Full-hydraulic lift - High-pressure No lift - 4-post hydraulic lift - Mistral H - Multiflex	- Scissor lift (3T) - 2-post hydraulic surface-mounted - Micro 20/26	Lubrication oil for high-pressure lift
Additives:	Anti-foam, anti-corrosion, anti-oxidation			
Other characteristics:	Water-separating			
Viscosity: (cSt=mm²/s)	75-120 cSt (40°C)	215 cSt (0°C) 32 cSt (40°C)	140 cSt (0°C) 22 cSt (40°C)	65 - 110 (40°C)
Viscosity index:	Min. 90	150	90	min. 70
Pour point:	Max. -10°C	Max. -10°C	Max. -10°C	Max. -10°C
ARAL	Aral vitam gf 100			Aral konit 30
AVIA	Abilub hydr.oil rsl 100			Avilub mk 2000
BP	Energol hlp 100	Bratran hv 32/shf 32	Bartran hv 22	Vannellus m 2030
CHEVRON	Hydraulic oil 100	Mechanism lps 32		EP industrial oil 68
GALP	Hidrolep 100			NR 30
ESSO STATOIL	Nuto hp 100	Hydraway hv 32	Hydraway hv 22	Protectway 32
FINA	Hydran tsx 100	Hydran ts 32	Hydran ts 22	Arusan 30
GULF - Q8	Q8 haydn 100	Q8 haydn 32	Q8 haydn 22	Q8 wagner 68
MOBIL	Mobil dte 18	Mobil dte 24	Mobil dte 22	Mobilarma 524
NYNÄS	Td 39 ex			Td 31 ex
OK	Ok hydraulic oil 65	Super hydr. oil 32		Ultima eph 68
SHELL	Tellus oil (S) 100	Tellus oil 32	Tellus oil 22	Remula x 20 w
NOROL	Hydraulikolje hm 100			Lagringsolje sae 20
TEXACO	Rando oil 150	Rando oil hd 32	Rando oil hd 22	Regal oil R&O 100
IGOL	Sonhodro 100 / hydro 30			Relax
VALVOLINE	Ultramax hlp 100	Ultramax hvlp 32	Ultramax hvlp 22	Ultramax hlp 68
SUNOCO	Sonvis 8100 wr 100	Sunvis 832 wr-hv	Sunvis 822 we-hv	Sunfill 2630
CASTROL	Hyspin aws/awh 100	Hyspin awh 32	Hyspin aws 22	Rustilo 652

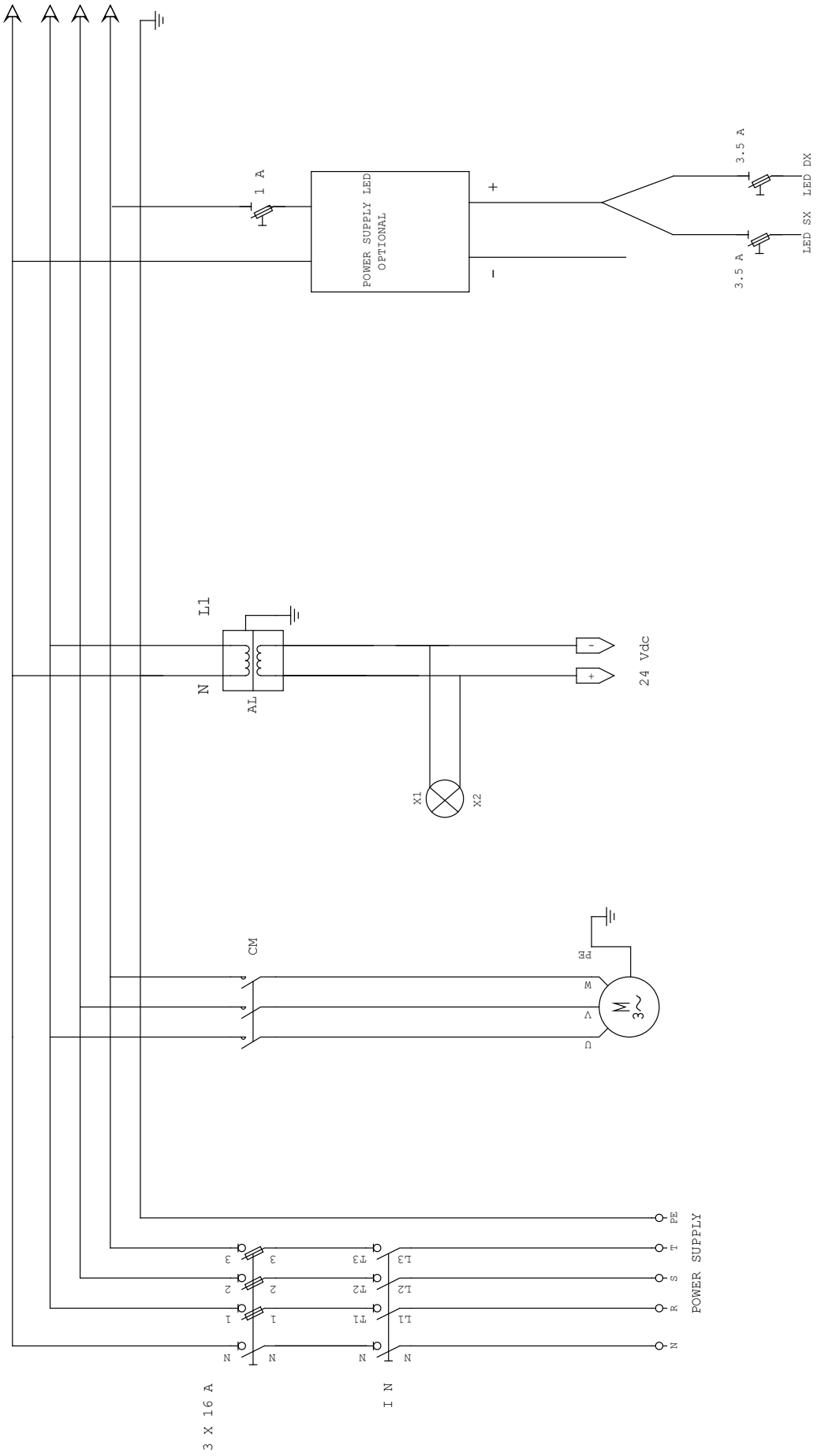
13 Electrical diagram

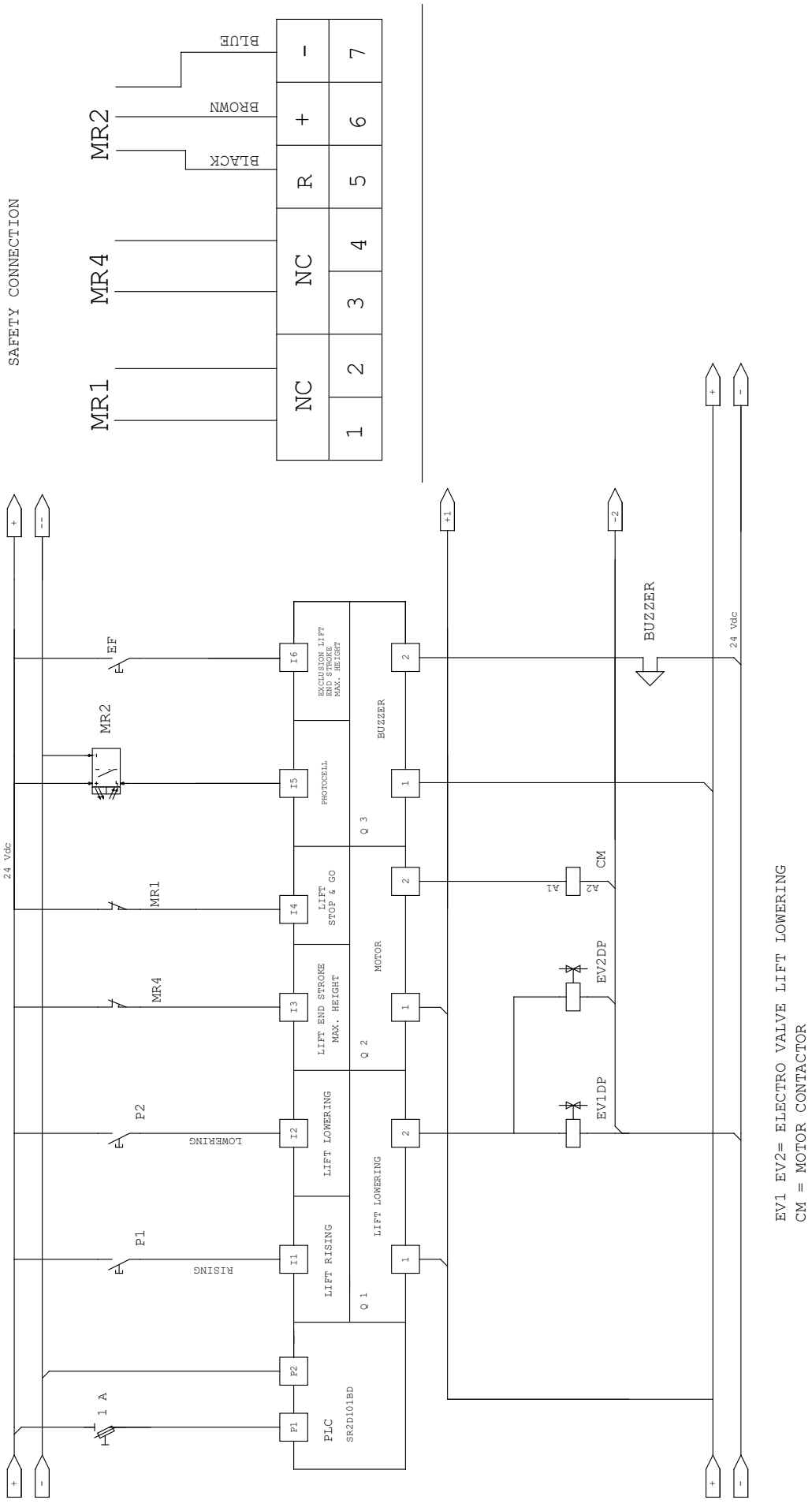
13.1 Electrical diagram until 10.06.21



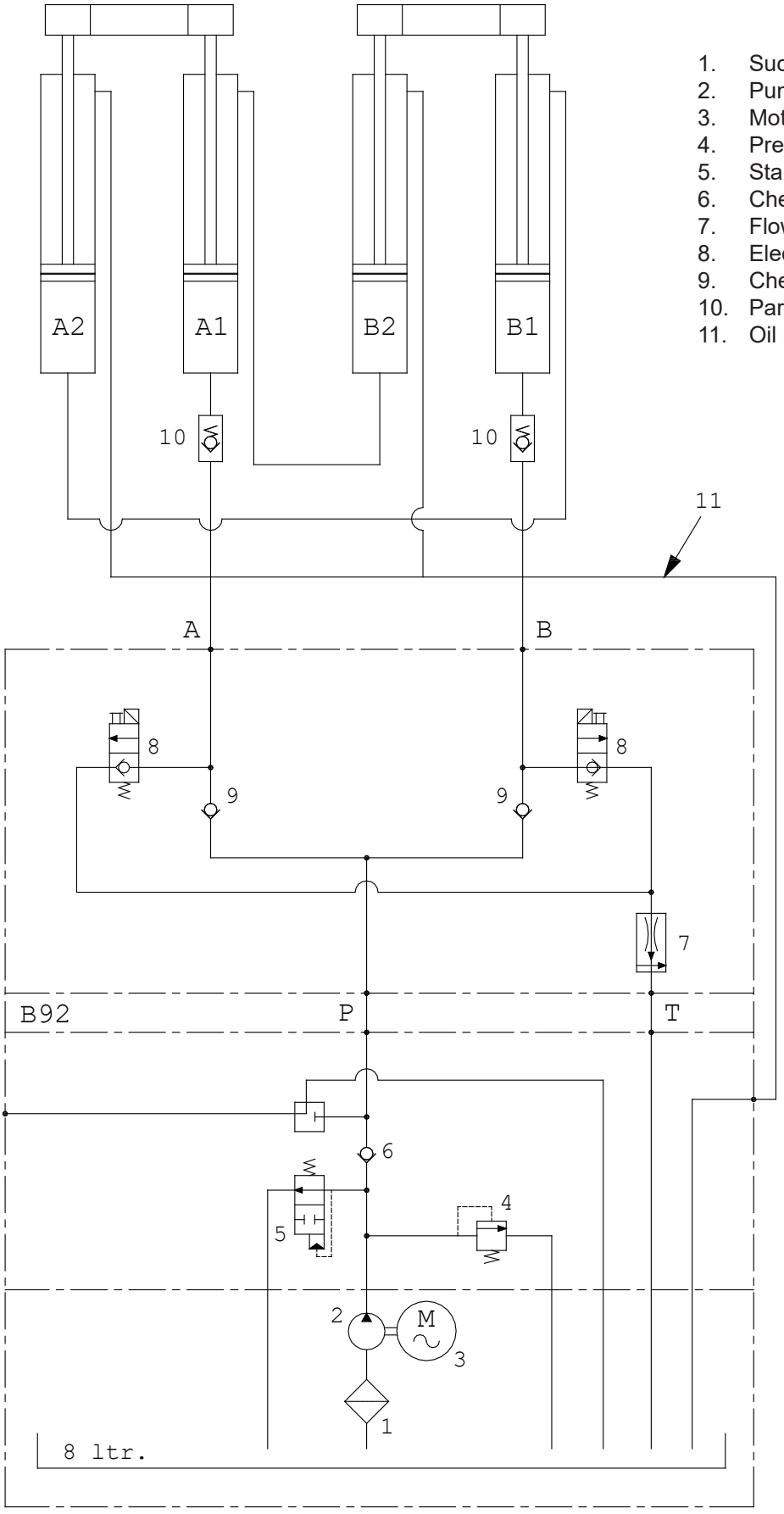

SAFETY CONNECTION
MR1
MR4
MR2
LED
LED
NC
NC
R
+
-
1
2
3
4
5
6
7
8
9
10
11
YELLOW
BROWN
GREEN
24 Vdc
EF
MR2
MR1
MR4
P2
LOWERING
P1
RISING
I6
I5
I4
I3
I2
I1
EXCLUSION LIFT
END STROKE
MAX. HEIGHT
PHOTOCELL
LIFT
STOP & GO
LIFT END
STROKE
MAX. HEIGHT
LIFT LOWERING
LIFT RISING
Q 3
Q 2
Q 1
BUZZER
MOTOR
LIFT LOWERING
PLC
SR2D101BD
P2
P1
+1
-2
BUZZER
24 Vdc
CM
A1
A2
EV2DP
EV1DP
K1
EV1 EV2= ELECTRO VALVE LIFT LOWERING
CM = MOTOR CONTACTOR

13.2 Electrical diagram from 10.06.21




SAFETY CONNECTION
MR1
MR4
MR2
NC
NC
R
+
-
1
2
3
4
5
6
7
BLACK
BROWN
BLUE
24 Vdc
EF
MR2
MR1
MR4
P2
P1
LOWERING
RISING
1 A
PLC
SR2D101BD
I1
I2
I3
I4
I5
I6
P1
P2
LIFT RISING
LIFT LOWERING
LIFT END STROKE MAX. HEIGHT
LIFT STOP & GO
PHOTOCELL
EXCLUSION LIFT END STROKE MAX. HEIGHT
Q 1
Q 2
Q 3
MOTOR
LIFT LOWERING
BUZZER
BUZZER
CM
A1
A2
EV2DP
EV1DP
+1
-2
EV1 EV2= ELECTRO VALVE LIFT LOWERING
CM = MOTOR CONTACTOR

14 Hydraulic diagram



1. Suction filter
2. Pump 5CC
3. Motor 2.2 kW
4. Pressure control valve 260 bar
5. Start-up valve
6. Check valve
7. Flow restricting valve 8l./min.
8. Electro valve EV1-EV2
9. Check valve
10. Parachute valve
11. Oil return