World Leader in Lift Productivity

# GLP 35

## Scissor Lifts

TÜV Rheinland


OPERATION & MAINTENANCE MANUAL



Rev. C 112104 01/01/2008

# EC Declaration of Conformity

**according to Appendix II of the EC Machine Directive 98/37/EC**

| | |
|---|---|
| The manufacturer: | BlitzRotary GmbH<br>Hüfinger Straße 55<br>78199 Bräunlingen, Germany |
| hereby declares that the following described product: | Scissor lift platform<br>Machine type: GLP 35 |

fulfils the safety and health requirements of the following EC directives:

Machine directive 98/37/EC, electromagnetic compatibility 89/336/EEC, low voltage directive 73/23/EEC

| **Applied harmonised norms** | |
|---|---|
| DIN EN ISO 12100 Part 1 | Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology |
| DIN EN ISO 12100 Part 2 | Safety of machinery - Basic concepts, general principles for design - Part 2: Technical guidelines |
| DIN EN 294 | Safety of machinery; safety distances to prevent danger zones being reached by the upper limbs |
| DIN EN 349 | Safety of machinery; minimum gaps to avoid crushing of parts of the human body |
| DIN EN 418 | Safety of machinery; emergency off device, functional aspects; general principles for design |
| DIN EN 1050 | Safety of machinery - guidelines for risk assessment |
| DIN EN 1493 | Vehicle lifting platforms |
| DIN EN ISO 13849-1 | Safety of machinery - safety-related components of control units - Part 1: General principles for design |
| DIN EN 60204-1 | Safety of machinery - Electrical equipment of machines - Part 1: General requirements |
| DIN EN 61000-6-2 | Electromagnetic compatibility (EMC) - Part 6-2: generic standards; interference immunity for industrial areas |
| DIN EN 61000-6-4 | Electromagnetic compatibility (EMC) - Part 6-4: generic standards; generic standard for interference emission in industrial areas |
| GUV-G 945 | Basic principles for the testing of lift platforms |
| **Testing center:** | TÜV Rheinland Industrie Service GmbH<br>Alboinstraße 56<br>12103 Berlin, Germany |
| **Registration no.:** | 01/205/0496/08 |

Bräunlingen, Germany 2008-01-01 Carsten Rohde

## Contents

# 1 Identification and warranty

## 1.1 Manufacturer


| | |
|---|---|
| Manufacturer: | BlitzRotary GmbH |
| Street: | Hüfinger Straße 55 |
| City/country: | 78199 Bräunlingen, Germany |
| Phone: | +49 (0) 771 - 92 33-0 |
| Fax: | +49 (0) 771 - 92 33-99 |
| E-mail: | europe@rotary.com |
| Internet: | www.rotarylift.com |


## 1.2 Product description

| | |
|---|---|
| Machine type: | GLP 35 |
| Machine no.: | |
| Year of construction: | 2008 |

## 1.3 Operating manual

We reserve the right to make modifications as regards content. BlitzRotary GmbH is not liable for any errors in this documentation. Liability for secondary damages arising in connection with the delivery or use of this documentation is excluded to the extent that legal regulations permit.

## 1.4 Warranty

Every machine is covered under a 12-month warranty for material defects and faulty assembly, providing this assembly was performed by us. The warranty extends to all parts which are sent to us for inspection free of charge within twelve months after delivery. We will examine the parts in order to determine whether the damage has arisen under normal conditions of use. The warranty is void if the machine is overloaded, improperly handled, or spare parts have been improperly installed and thereby cause damage.

## 1.5 Transport damage

All deliveries are to be insured by the customer. We will not honor any claims related to transport responsibility. Our responsibility only extends to the transfer of the machine in new factory condition to the carrier. Should you find any damage on the machine, do not use it. Note the type of damage immediately on the bill of lading. Contact the carrier in order to review the claim.

## 1.6 Ordering of spare parts

**Please specify the following data when ordering:**

- Machine type
- Machine no.
- Year of construction
- Part name

# 2 Product description

## 2.1 Mechanical design

**The machine consists of the following main components:**

- Two lifting units, each of which are made up of:
  - underframe
  - scissor assembly
  - running rails
- Control column with integrated hydraulic unit

## 2.2 Functional description

By pressing the «Lift» control on the control device, the electric motor of the hydraulic unit is switched on. The oil pump of the hydraulic unit pumps hydraulic oil into the hydraulic cylinders. The hydraulic cylinders extend and the scissor assembly is pressed apart and lifts the running rails.

By pressing the «Lower» control on the control device, the electronically releasable check valve is opened and hydraulic oil flows back into the hydraulic tank. The platform lowers.

## 2.3 Technical data

| | |
|---|---|
| **Mechanical data** | |
| Load capacity: | 3500 kg |
| Construction height: | 125 mm |
| Usable stroke: | 1795 mm |
| Platform length: | 1500-2000 mm |
| Platform width: | 625 mm |
| Platform surface: | plain sheet |
| Weight: | 850 kg |
| **Electrical data** | |
| Connection: | 3Ph400V/PE/50Hz/16A |
| Power: | 3 kW |
| Current consumption: | 7,3 A |
| Protection type: | IP54 |
| Operating voltage: | 400 V |
| Control voltage: | 24 V |
| **Hydraulics** | |
| Oil fill quantity: | 10 l |
| **Sound emission** | |
| Sound pressure level: | <70 dB (A) |

# 3 Basic safety instructions

## 3.1 General safety information

The machine was designed and manufactured under consideration of a hazard analysis and on the basis of the relevant harmonised norms as well as additional technical specifications. It corresponds to the latest technological standards valid at the time of manufacture and the relevant safety regulations.

The machine is equipped with protective devices and was subject to a safety and acceptance test. However, incorrect operation or improper use can pose a threat to the lives and health of personnel. Damage to the machine itself, other equipment or to the environment cannot be ruled out.

All work on the machine may only be performed by qualified and authorised persons who have read the relevant sections in this operating manual and agree to observe them.

**For transport**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 4 "Transport", page 18*

**For setup**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 4 "Transport", page 18*
- *Chap. 5 "Installation", page 19*

**For startup**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 6 "Starting up", page 24*
- *Chap. 7 "Operation", page 26*

**For operation**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 7 "Operation", page 26*

**For shutting down**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 7 "Operation", page 26*
- *Chap. 8 "Shutting down", page 30*

**For maintenance and inspections**

- *Chap. 2 "Product description", page 6*
- *Chap. 3 "Basic safety instructions", page 8*
- *Chap. 7 "Operation", page 26*
- *Chap. 9 "Maintenance and inspections", page 31*

## 3.2 Proper use

The machine lifts vehicles continuously to any ergonomically favourable height. The permissible load capacity may not be exceeded (see load capacity plate, type plate or *Chap. 2.3 "Technical data", page 7*).

The machine may only be used as intended! Severe injuries or equipment damage can result from improper use! This is not the responsibility of the manufacturer of the machine, but of the operating company!

The machine is designed for the performance of work underneath the load-bearing equipment and the vehicle. It is not approved for supporting or transporting persons.

**The following is especially prohibited:**

- Transport of persons.
- Standing on the platform.
- Operating in areas at risk of explosion.
- Operating in areas requiring a protection type for the electrical equipment higher than IP 54.

## 3.3 Warning and safety notices used

Warning and safety notices contain information designed to point out the unavoidable residual risks involved in handling the machine.

The hazards apply to the following:

- Persons
- Machine
- Equipment
- Environment

### 3.3.1 Structure of the warning notices

The warning notices of this operating manual have an identical basic structure.

Icon | Danger sign | Signal word

**DANGER**

**Type and source of danger**

Possible consequences of non-observance

- Avoidance: measures / prohibitions

### 3.3.2 Explanation of the warning levels

| Warning level | Consequences of non-observance |
|---|---|
| **DANGER** | Immediate danger of severe injuries or death |
| **WARNING** | Severe injuries or death are possible |
| **CAUTION** | Minor injuries are possible |
| ***NOTE*** | Equipment damage |

### 3.3.3 Explanation of the icons

Warning and safety notices are supplemented by visual icons if possible. An icon cannot replace the text! The text must therefore always be read in its entirety!

The following icons are examples.

| Icon | Meaning |
|---|---|
|  | **Warning of a danger to persons** |
|  | **Warning of electrical shock** |
|  | **Warning of points where crushing can occur** |
|  | **Warning of health hazards posed by toxic substances** |
|  | **Warning of environmental hazards** |
|  | **Warning of equipment damage** |
|  | **The following work may only be performed by qualified and authorised persons.** |
|  | **General information for better understanding and optimum handling of the machine** |

## 3.4 Technical condition of the equipment

Safe operation places particular demands on the technical condition of the machine.

- Rebuilding, manipulation or making modifications to the machine is not permitted. This also applies to the use of replacement parts that are not supplied by us.
- Care and maintenance should be performed at the specified intervals.
- Regular inspections are to be carried out.
- Complete and proper functioning of the safety devices during operation must be ensured at all times.
- Connection and setting values must correspond to the specifications.
- Load specifications must be observed.

## 3.5 Obligations of the operating company

The highest possible level of safety can only be achieved in operating practice if all measures required for it have been taken. It is the responsibility of the operating company to plan these measures and monitor their implementation.

**The operating company must ensure the following in particular:**

- The machine is only used as intended (*Chap. 3.2 "Proper use", page 9*).
- The machine is only operated in technically flawless and functional condition.
- The safety devices are regularly checked for proper functioning. The safety devices may not be disabled or have their functions restricted.
- The maintenance and inspection intervals specified in this operating manual are observed (*Chap. 9 "Maintenance and inspections", page 31*).
- All safety and warning notices attached to the machine are present and in legible condition. Notices on the machine that have become damaged or illegible are to be replaced immediately.
- Only qualified and authorised personnel may operate, service and inspect the machine.
- These persons must be regularly instructed in all applicable aspects of work safety and environmental protection, as well as be familiar with and follow the operating manual and the safety instructions contained within it.
- The required personal protective equipment for operating, maintenance and inspection personnel must be made available and used.
- The operating manual should be complete and in legible condition and readily accessible where the machine is in use.
- Further risks must be determined in a risk assessment and the respective danger zone must be identified under consideration of the special work conditions where the machine is in use.
- All additional instructions and safety notices must be summarised in a company directive based on the risk assessment of the workstations on the machine.

## 3.6 General work safety

When the machine is used, dangers due to incorrect operation or misuse may pose a hazard to persons, equipment or the environment.

- The machine may only be operated, serviced and inspected by qualified and authorised personnel who have read the operating manual and perform their work accordingly.
- Only operate the machine in technically flawless and functional condition.
- If damage is detected, immediately switch off the machine, attach a sign informing others that switching back on is prohibited and then inform your supervisor.
- Maintain the cleanliness of the machine and its surroundings.
- Wear personal protective equipment.

## 3.7 Safety instructions in regard to specific energy systems

### 3.7.1 Electrical system

The machine is equipped with an electrical system that operates with high voltage.

- Prior to beginning work, inspect the electrical system for visible signs of damage. Immediately replace damaged components.
- Before performing maintenance work, switch off the current to the electrical system and prevent it from being accidentally switched back on.
- Always keep the control boxes closed.
- Lay lines so that they do not pose a stumbling hazard and so that damage due to falling objects, pinching or abrasion is avoided.
- Do not lay lines around moving components and ensure that the lines cannot catch on any moving components.
- Protect the electrical system from penetration by water or other liquids.
- Regularly inspect lines, especially after maintenance work, for secure fit.

### 3.7.2 Hydraulic system

Hydraulic oil, lubricants and other substances, such as solvents or cleansers, can lead to irritation of the skin, eyes or respiratory tract. These also pose a hazard to the environment.

- Observe the safety instructions of the manufacturer.
- Use personal protective equipment.
- Use a breathing protection mask if necessary.
- Avoid contact with the skin. Should contact with skin arise, wash thoroughly.
- In the event of contact with eyes, rinse and consult a physician.
- Ensure that no substances contaminate the ground or enter the sewer system.
- Dispose of hydraulic oil, lubricants and cleansers in accordance with environmental regulations.

### 3.7.3 Mechanical system

When using and working on the machine, mechanical hazards are present. These hazards are posed in the area of the mechanics underneath the platform.

- Do not reach into or enter the danger zone.
- Avoid standing in the danger zone.
- Remove any foreign objects from the danger zone.

*Fig. 3-1 Mechanical danger zones*

### 3.7.4 Surface temperature

Due to friction, certain components (particularly of the hydraulic system) can have high surface temperatures.

- Before inspections and maintenance work, allow the machine to cool down.
- Use personal protective equipment.
- Check the oil level (*Chap. 9.5.1 "Checking the hydraulic oil level", page 34*). If the oil level is too low, the temperature of the hydraulic system will be additionally increased. This can lead to higher wear.

## 3.8 Safety devices on the machine

### 3.8.1 Deadman control

The deadman control of the machine ensures that the function is only carried out as long as the operator holds the respective control pressed on the control device.

### 3.8.2 Independent hydraulic circuits

Two hydraulic circuits independent of one another prevent the unintended lowering of the platform. In the event of a break in a hydraulic line in one of the hydraulic circuits, the other hydraulic circuit holds the platform.

### 3.8.3 Euro Stop

When lowering the platform, the Euro Stop feature stops the lowering process in order to prevent crushing and other hazards. The sensor for the Euro Stop must be set at the time of initial commissioning (*Chap. 6.3.2 "Euro Stop sensor", page 25*).

### 3.8.4 Main switch

The main switch turns the current supply to the machine on and off.

The main switch is also an emergency off switch. In the event of an emergency, set the switch to the "0" position.

### 3.8.5 Pressure limiting valve

The pressure limiting valve prevents overloading of the hydraulic system. It is factory preset and may not be adjusted by the operating company. When overloaded, the platform can no longer be raised.

### 3.8.6 Line breakage protection in the cylinder connection

The line-break safety device in the cylinder connection interrupts the flow if a break occurs in the hydraulic lines.

## 3.9 Safety and warning notices

The machine is labelled with various notices. The notices should always be present and in legible condition.

| | |
|---|---|
|  | **Note!**<br>Maximum load capacity. |

## 3.10 Safety instructions for personnel

### 3.10.1 Personnel and qualifications

All persons working with the machine must read the operating manual prior to beginning the work and confirm with their signature that they have understood what they have read and agree to observe it.

- Only persons of at least 18 years of age who have been instructed in the machine's operation, and have demonstrated their ability in this regard to the employer, may be delegated with operation of the machine.
- The assignment to the task of operating the machine must be given in writing.
- The respective authorisations of the person must be defined.
- Trainees must receive instruction. The instruction may only be performed by experienced persons authorised to do so and using this operating manual as a basis.
- Instructed persons confirm in writing the scope of instruction received and their successful completion of it.

## 3.11 Safety instructions for auxiliary materials and consumables

### 3.11.1 Hydraulic oils, lubricants and cleansers

Hydraulic oil, lubricants and other substances, such as solvents or cleansers, can lead to irritation of the skin, eyes or respiratory tract. These also pose a hazard to the environment.

- Observe the safety instructions of the manufacturer.
- Use personal protective equipment.
- Use a breathing protection mask if necessary.
- Avoid contact with the skin. Should contact with skin arise, wash thoroughly.
- In the event of contact with eyes, rinse and consult a physician.
- Ensure that no substances contaminate the ground or enter the sewer system.
- Dispose of hydraulic oil, lubricants and cleansers in accordance with environmental regulations.

# 4 Transport

## 4.1 Basic safety instructions

**WARNING**

**Suspended or falling loads**

Severe injuries or death

- The permitted loads of the load hoisting equipment must at least correspond to the dead weight of the machine (see load capacity plate, type plate or *Chap. 2.3 "Technical data", page 7*).
- Wear a protective helmet.
- Do not step under suspended loads.

## 4.2 Transport to the installation location

The transport can be performed with a forklift or a crane. When transporting with a crane, ensure that the machine does not sway too heavily.

*Fig. 4-1 Transport*

# 5 Installation

## 5.1 Basic safety instructions

**WARNING**

**Scissors and castors**

Crushing or amputation of limbs

- Do not reach or step into the danger zone (*Fig. 3-1, page 14*).

***Before setting up the machine***

▶ Inspect the machine for visible signs of damage.

▶ Remove materials and objects from the work area if they are not required.

▶ Observe the location requirements for setup (*Chap. 5.2 "Location requirements for setup", page 19*).

▶ Observe the proper procedure for transport (*Chap. 4 "Transport", page 18*).

*The preparations are completed.*

## 5.2 Location requirements for setup

- Avoid points of crushing and shearing between the machine and its surroundings.
- The machine may not be operated in areas at risk of explosion, nor in places where the electrical equipment requires a protection type higher than IP 54.
- The ambient temperature must lie between -10 °C and +40 °C.
- The installation site must provide a sufficiently load-bearing and level foundation.
- The flooring at the installation site must be of permissible floor loading strength, calculated as follows: (weight of machine + load capacity) + 50 %.
- When selecting the installation site, ensure that any noise emitted from the machine (due to design) is not further amplified.
- Place the controls in a location ensuring the operator has a clear view of the load and the machine, particularly including the danger zone (*Fig. 3-1, page 14*).

  Ensure that the operator has avenues of escape if a danger arises.
- An electrical connection conforming to Chap. 2.3 "Technical data", page 7 is to be made available for the operation of the machine.
- Observe any local regulations and rules for buildings.

The floor must have a minimum compression strength of 20 N/mm².

The retaining bores must have a distance of at least 110 mm from the edge of the concrete.

## 5.3 Assembly at the installation site

### 5.3.1 Setting up

**NOTICE**

**Incorrect setup or assembly**

Incorrect setup or assembly of the machine can lead to equipment damage and increased wear.

- Follow the instructions for setup and assembly.

***Mechanical assembly work***

- ▶ Measure the underframe of the machine and transfer the measurements to the installation site.
- ▶ Measure the height differences at the designated corners.
- ▶ Compensate for the differences at the corners with base plates laid underneath.
- ▶ Erect the machine at the installation site.
- ▶ Check the machine with a water level and employ additional base plates if necessary.
- ▶ Dowel the machine as follows (Fig. 5-2, page 21):
  - ▶ Drill holes (borehole diameter: 16 mm; borehole depth: min. 110 mm).
  - ▶ Clean boreholes.
  - ▶ Insert dowels.
  - ▶ Insert washers and nuts.
  - ▶ Tighten nuts (torque 100 Nm).
- ▶ Lay the control and supply lines.

*The mechanical installation work is complete.*

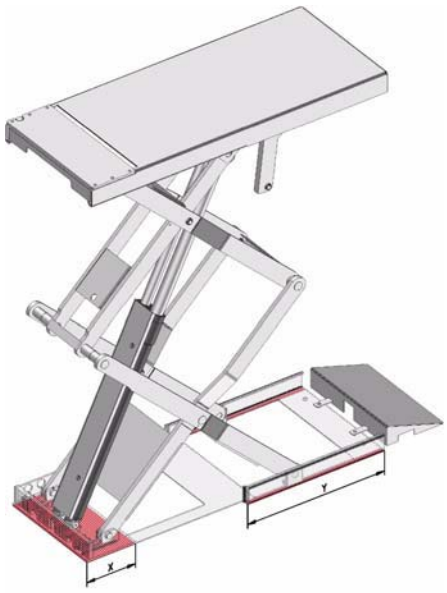



*Fig. 5-1 Fixed bearing area (x) and castor area (y) of the underframe*

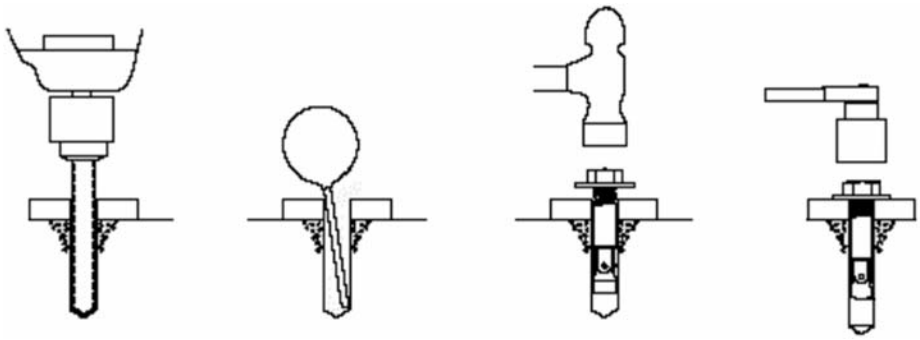


*Fig. 5-2 Fastening to the floor*

***Fitting the hydraulic hoses***

- ▶ The control column can be set up to the right or the left of the scissor lift platform. The connection diagrams for the hydraulic hoses are in the appendix of this operating manual.
- ▶ Place the control column in position.
- ▶ Lay and fit the hydraulic hoses according to the connection diagrams.

*The fitting of the hydraulic hoses is completed.*

## 5.4 Electrical installation

**WARNING**

**High electrical voltage**

Severe injury or death from electrical shock

- Only trained electricians may work on the electrical system.

**CAUTION**

**Laying of cables**

Injury

- Avoid creating stumbling hazards with cables.
- Do not lay control and supply lines around mechanical components.

Secure the machine with a lockable main switch to prevent unauthorised operation or so that the machine can be safely disconnected from the mains electricity supply.

## 5.5 Hydraulic system

Prior to starting up, the hydraulic system must be filled with hydraulic oil and bled afterward.

Recommended hydraulic oils:

- Total Biohydran TMP 46
- BP Biohyd SE 46
- Fuchs Plantohyd 46S
- Esso hydraulic oil HE 46
- Total Equivis UVS 46
- Shell Naturelle HF-E 46

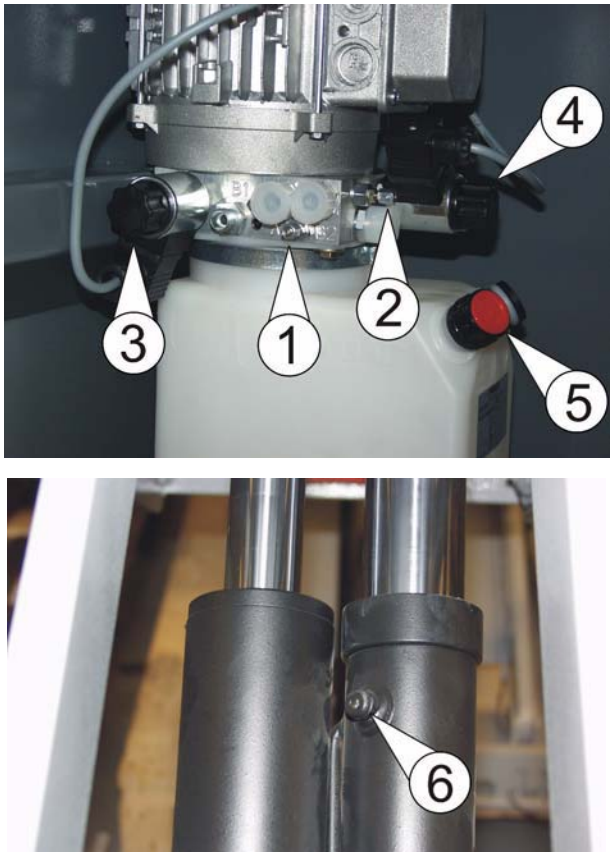



*Fig. 5-3 Hydraulic*

***Filling hydraulic oil***

▶ Remove the bleeder screw (5) from the tank.

▶ Fill the hydraulic oil.

▶ Screw the bleeder screw (5) on the tank.

*The filling of the hydraulic oil is completed.*

***Bleeding the hydraulic system***

▶ Raise the platform to its furthest height.

- ▶ Open the bleeder screw on the hydraulic cylinder (6) by approx. one half revolution.
- ▶ Allow the air to escape.
- ▶ Tighten the bleeder screw (6) on the hydraulic cylinder.
- ▶ Lower the platform slightly.
- ▶ Open valves (1) and (2) by one half revolution.
- ▶ Repeat the following steps until no more air escapes at the bleeder screws on the hydraulic cylinders.
  - ▶ Raise the platform.
  - ▶ Open the bleeder screw on the hydraulic cylinder (6) by approx. one half revolution.
  - ▶ Allow the air to escape.
  - ▶ Tighten the bleeder screw (6) on the hydraulic cylinder.
  - ▶ Lower the platform slightly.
- ▶ Tighten valves (1) and (2).
- ▶ Top up the hydraulic oil if required.

*The bleeding of the hydraulic system is completed.*

# 6 Starting up

## 6.1 Basic safety instructions

Prior to the initial commissioning, a safety inspection must be performed by a qualified and authorised person. This person must confirm and document the technically flawless functioning of the machine.

In Germany, inspection according to GUV-G 945 must be carried out. For this, use the inspection log book in the appendix of this operating manual.

**The following is to be checked:**

- correct installation
- proper functioning of safety devices
- operational readiness

## 6.2 Initial commissioning

***Prior to initial commissioning***

▶ Inspect the machine for visible signs of damage.

If damage is detected:

▶ Do not switch on the machine.

▶ Attach or erect a notice sign prohibiting switching on the machine.

▶ Notify your supervisor of the detected damage.

▶ Only use the machine if all damage has been repaired.

▶ Remove any foreign objects from the danger zone (*Fig. 3-1, page 14*).

▶ Remove materials and objects from the work area if they are not required.

▶ Check and ensure that all safety devices are functioning flawlessly.

*The preparations are completed.*

**Before starting the machine, check and ensure the following:**

- Only authorised persons are in the work area of the machine.
- No one will be endangered by the starting up of the machine.
- Measures have been taken to prevent unintended changes in the position of the load.
- A clear view is available of the load, the machine and particularly the danger zone (*Fig. 3-1, page 14*).
- Avenues of escape are available in the event of danger.

***Starting***

▶ Turn the main switch to "1"

▶ Press the «Lift» control

***Check the following after the first startup:***

▶ All hydraulic hoses for airtightness.

## 6.3 Settings

### 6.3.1 Top position sensor

The top position sensor is located on one of the two lifting units. It must be adjusted so that the lift platform stops *before* the hydraulic cylinders reach the upper limit of travel.

*Fig. 6-1 Sensor for top position*

### 6.3.2 Euro Stop sensor

The sensors for the Euro Stop are located on both lifting units. They are to be adjusted so that the lift platform stops if the distance between the upper edge of the underframe and the lower edge of the upper frame (h) amounts to at least 120 mm to max. 250 mm.

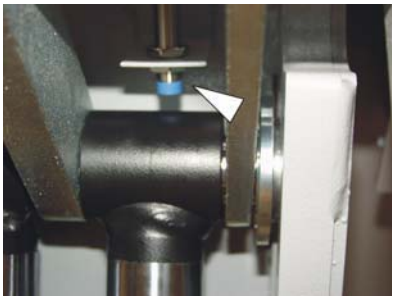


*Fig. 6-2 Euro Stop sensor*

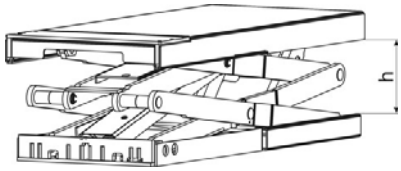



*Fig. 6-3 Euro Stop distance (h)*

# 7 Operation

## 7.1 Basic safety instructions

**WARNING**

**Scissors and castors**

Crushing or amputation of limbs

- Do not reach or step into the danger zone (*Fig. 3-1, page 14*).

**WARNING**

**Improper placement of the load**

Death or severe injuries from falling loads

- Observe the permissible load capacity of the machine (see load capacity plate, type plate or *Chap. 2.3 "Technical data", page 7*).
- Prevent unintended changes in the position of the passenger vehicle.


**NOTICE**

**Incorrect operation**

Severe damage to the machine

- Avoid repeated, sudden jolts when lifting and lowering the platform.

***Before beginning each work shift***

▶ Inspect the machine for visible signs of damage.

If damage is detected:

▶ Do not switch on the machine.

▶ Attach or erect a notice sign prohibiting switching on the machine.

▶ Notify your supervisor of the detected damage.

▶ Only use the machine if all damage has been repaired.

▶ Remove any foreign objects from the danger zone (*Fig. 3-1, page 14*).

▶ Remove materials and objects from the work area if they are not required.

▶ Check and ensure that all safety devices are functioning flawlessly.

*The preparations are completed.*

**Before operating the machine each time, check and ensure the following:**

- Only authorised persons are in the work area of the machine.
- No one will be endangered by the starting up of the machine.
- Measures have been taken to prevent unintended changes in the position of the load.
- A clear view is available of the load, the machine and particularly the danger zone (*Fig. 3-1, page 14*).
- Avenues of escape are available in the event of danger.

## 7.2 Description of the controls and operation

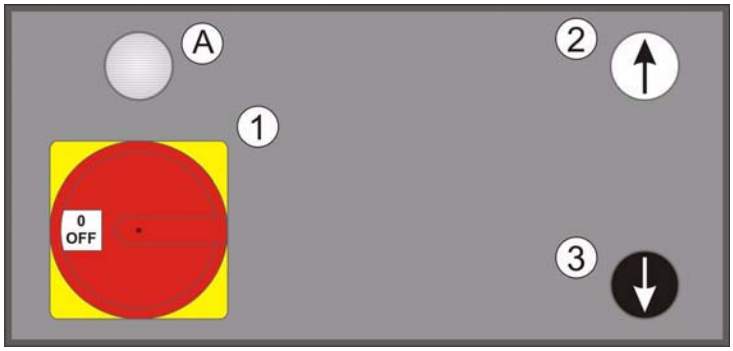



*Fig. 7-1 Control device*

1) Control: «Main switch»
   Setting the switch to "1" switches on the power supply - control lamp (A) lights up.
   Setting the switch to "0" switches off the power supply - control lamp (A) goes dark.
   The «main switch» can be locked with a padlock. This secures the machine against unintentional operation.
2) Control: «Lift»
   By pressing the «Lift» control, the platform raises.
   The movement stops as soon as the control is no longer held pressed (dead-man control) or the sensor for the uppermost position is reached.
3) Control: «Lower»
   By pressing the «Lower» control, the platform lowers.
   The movement stops as soon as the control is no longer held pressed (dead-man control).
   When the Euro Stop is reached, the lowering motion stops in order to prevent crushing and other hazards. If the lowering motion is to be resumed, press the «Lower» control again. The platform continues to lower at a slower speed and a warning signal sounds.

## 7.3 Lifting and lowering the vehicle

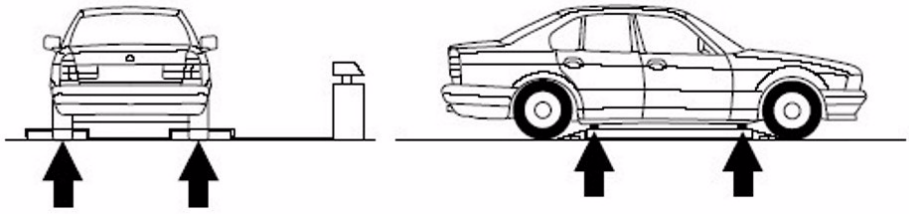


*Fig. 7-2 Vehicle on the platform*


**NOTICE**

**Incorrect driving on the platform.**

Risk of damaging the scissor lift platform or the vehicle.

- The platform must be completely lowered.
- Only drive onto the platform slowly and with caution.
- Avoid sudden braking.
- For lifting, the vehicle must be centred on the platform.

***Moving the platform and lifting the vehicle***

▶ Lower the platform completely.

▶ Drive the vehicle slowly and cautiously to the middle of the platform.

▶ Place the supplied rubber blocks under the points provided for this purpose by the vehicle manufacturer.

▶ Carefully press the «Lift» control and raise the platform slightly.

▶ Check the position of the rubber blocks again and correct if necessary.

▶ Press the «Lift» control and continue raising the platform.

*The vehicle can now be raised to the desired height.*

***Lowering the platform and bringing off the vehicle***

▶ Press the «Lower» control and lower the platform. When the Euro Stop sensor is reached, the lowering motion stops.

▶ Press the «Lower» control again. The platform continues lowering more slowly. A warning tone sounds.

▶ Lower the platform completely.

▶ Remove the rubber blocks.

*The vehicle can now be driven slowly and carefully off the platform.*

## 7.4 Manual lowering of the platform

**WARNING**

**Improper manual lowering of the platform can result in injuries or equipment damage.**

- Manual lowering of the platform is only permitted in the event of a power failure.
- The manual lowering of the platform may only be performed by qualified and authorised persons.
- During the lowering, no persons are allowed within the danger zone.
- The load and the machine are to be continually monitored.

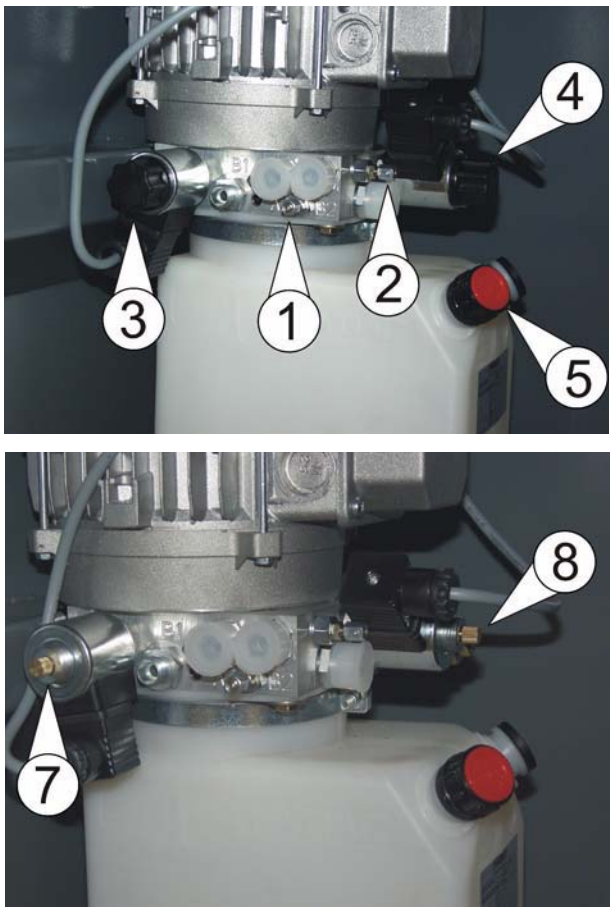



*Fig. 7-3 Hydraulic system*

***Manual lowering of the platform***

▶ Remove the protective caps (3) and (4).

▶ Carefully and uniformly open the valves (7) and (8).

▶ After the platform is completely lowered, close valves (7) and (8) again.

▶ Replace the protective caps (3) and (4).

*The platform is lowered.*

# 8 Shutting down

**WARNING**

**High electrical voltage**

Severe injury or death from electrical shock

- Only trained electricians may work on the electrical system.

## 8.1 Temporary shutdown

***Shutting down at the end of a work shift***

- ▶ Lower the platform completely.
- ▶ Turn the main switch to "0".

***Shutting down for storage***

- ▶ Lower the platform completely.
- ▶ Disconnect the machine from the mains electricity supply.
- ▶ Clean the machine (*Chap. 9.3 "Cleaning the machine", page 32*).
- ▶ Transport it to the storage site (*Chap. 4 "Transport", page 18*).
- ▶ Carry out corrosion protection measures appropriate for the storage conditions and length of time to be stored.
- ▶ When putting the machine back into operation, perform commissioning and an additional inspection (Chap. 6 "Starting up", page 24, Chap. 9.6.2 "Additional inspections", page 35).

## 8.2 Permanent shutdown

The handling and disposal of mineral-based oils is subject to legal regulations. Bring used oil to an authorised collection point. For more information, contact the responsible administrative offices. Take care not to spill any hydraulic oil. Take measures to prevent spills of hydraulic oil (oil-tight tarp, catch pan).

***Proceed as follows:***

- ▶ Clean the machine of coarse dirt.
- ▶ Lower the platform completely.
- ▶ Disconnect the machine from the mains electricity supply.

*The machine can now be transported (Chap. 4 "Transport", page 18).*

# 9 Maintenance and inspections

## 9.1 Basic safety instructions

**CAUTION**

**Hydraulic oils, lubricants and cleansers**

Irritation or chemical burning of eyes, skin or respiratory tract

- Observe the safety instructions of the manufacturer.
- Use personal protective equipment.
- Use a breathing protection mask if necessary.
- Avoid contact with the skin. Should contact with skin arise, wash thoroughly.
- In the event of contact with eyes, rinse and consult a physician.


***NOTICE***

**Foreign objects in the danger zone (*Fig. 3-1, page 14*)**

Damage to the machine

- Remove any foreign objects from the danger zone.

***Before any maintenance work or inspections***

▶ Chap. 3 "Basic safety instructions", page 8 should be read.

▶ Block unauthorised persons from accessing the work area of the machine.

▶ Attach or erect a notice sign prohibiting switching on the machine and informing that the machine is undergoing maintenance.

▶ Remove the load.

▶ Secure the machine against unintended switching on.

▶ Have collection containers and oil-bonding agent ready to ensure that no hydraulic oils, lubricants or cleansers contaminate the floor or enter the sewer system.

*The preparations are completed.*

***After any maintenance work or inspections***

▶ Remove all used materials, tools or other objects from the danger zone (*Fig. 3-1, page 14*).

▶ Check the machine according to the inspection list (*Chap. 9.6.3 "Inspection list", page 36*).

▶ Ensure that all safety devices are functioning flawlessly and without restriction (*Chap. 3.8 "Safety devices on the machine", page 15*).

▶ Dispose of hydraulic oil, lubricants and cleansers in accordance with environmental regulations.

*The work is completed.*

## 9.2 Maintenance schedule

| What? | When? | Description |
|---|---|---|
| Clean the machine | as needed, at least 1x yearly | *Chap. 9.3, page32* |
| Inspect the sliding bearings | every 250 hours of operation | *Chap. 9.4, page33* |
| Check hydraulic oil level, fill up | at the yearly accident prevention inspection | *Chap. 9.5.1, page34* |
| Change hydraulic oil | initially after 50 hours of operation; thereafter every 500 hours of operation or every 2 years | *Chap. 9.5.2, page34* |
| Bleed hydraulic system | as needed | *Chap. 5.5, page22* |
| Check hydraulic hoses | yearly | *Chap. 9.5.3, page34* |

## 9.3 Cleaning the machine

**WARNING**

**Electrical shock**

Injury from electrical shock

- Protect the electrical system from penetration by water or other liquids.
- Ensure that no electrical cables become detached or damaged during work.

***Cleaning the machine***

▶ Clean the machine.

▶ Maintain the notices on the machine in clean and legible condition. Replace them if necessary.

▶ Clean the running surfaces of the castors.

*The cleaning is completed.*

## 9.4 Inspecting the sliding bearings

***Inspecting the sliding bearings***

▶ Perform a visual check for wear (*Fig. 9-1, page 33*).

*The inspection is completed.*

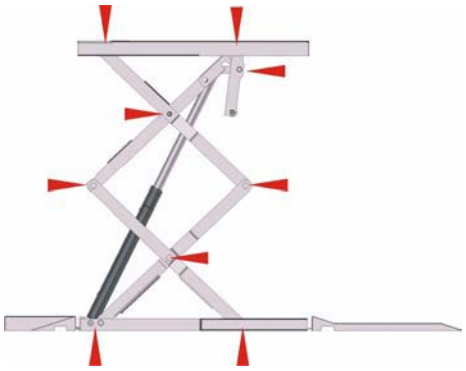


*Fig. 9-1 Bearing locations on the machine*

## 9.5 Servicing the hydraulic system

The handling and disposal of mineral-based oils is subject to legal regulations. Bring used oil to an authorised collection point. For more information, contact the responsible administrative offices. Take care not to spill any hydraulic oil. Take measures to prevent spills of hydraulic oil (oil-tight tarp, catch pan).

Recommended hydraulic oils:

- Total Biohydran TMP 46
- BP Biohyd SE 46
- Fuchs Plantohyd 46S
- Esso hydraulic oil HE 46
- Total Equivis UVS 46
- Shell Naturelle HF-E 46

### 9.5.1 Checking the hydraulic oil level

***Checking the hydraulic oil level***

- ▶ Lower the platform completely.
- ▶ The oil level should lie approximately 2 cm under the fill opening.
- ▶ Top up the oil if needed.

*The check of the hydraulic oil level is completed.*

### 9.5.2 Changing the hydraulic oil

***Changing the hydraulic oil***

- ▶ Raise the platform and secure it.
- ▶ Place oil collection containers under the hydraulic cylinders.
- ▶ Detach the hydraulic hoses on the hydraulic cylinders and place the open ends in the oil collection continers.
- ▶ Press the «Lift» control on the control device (*Fig. 7-1, page 27*) until no more hydraulic oil runs out of the hoses.
- ▶ Reattach the hydraulic hoses to the hydraulic cylinders.
- ▶ Remove the bleeder screw from the tank.
- ▶ Fill up the hydraulic oil. Fill quantity: *Chap. 2.3 "Technical data", page 7*.
- ▶ Screw the bleeder screw on the tank.
- ▶ Bleed the hydraulic system (*Chap. 5.5 "Hydraulic system", page 22*).

*The hydraulic oil change is completed.*

### 9.5.3 Checking the hydraulic hoses

For hydraulic hoses, a yearly inspection of operationally safe condition is prescribed. The inspection must be performed by a qualified and authorised specialist!

Hydraulic hoses conforming to DIN EN 853/2SN or DIN EN 856/4SP are built into the machine.

***Checking the hydraulic hoses***

- ▶ Perform a visual check of the hydraulic hoses:
  - ▶ Is any damage on the exterior, such as cracks, kinks, cuts, stripped points, areas of abrasion, brittleness, etc., detectable?
  - ▶ Are there any deformations of the hose in either depressurised or pressurised condition?
  - ▶ Are there any leaks between hose and fittings?
  - ▶ Does the hose become detached from the fittings?
- ▶ Replace hydraulic hoses if damage is detected, but after every 6 years at the latest.

*The inspection is completed.*

## 9.6 Inspections

### 9.6.1 Regular inspections

Regular inspections of the machine are to be performed by a qualified and authorised specialist at intervals of a year at the longest.

In Germany, inspection according to GUV-G 945 must be carried out. For this, use the inspection log book in the appendix of this operating manual.

***Performing the inspection***

- ▶ Copy the inspection list (*Chap. 9.6.3 "Inspection list", page 36*).
- ▶ Inspect every item and check it off if OK.
- ▶ Only put the machine back into operation if all points have been checked off.
- ▶ After completing the inspection, file the inspection list behind the appendix in this operating manual.

*The inspection is completed.*

### 9.6.2 Additional inspections

Additional inspections of the machine are to be performed by a qualified and authorised specialist after each servicing and every repair of a malfunction.

An additional inspection is likewise required if the machine is to be restarted after being temporarily put out of service.

In Germany, inspection according to GUV-G 945 must be carried out. For this, use the inspection log book in the appendix of this operating manual.

***Performing the inspection***

- ▶ Copy the inspection list (*Chap. 9.6.3 "Inspection list", page 36*).
- ▶ Inspect every item and check it off if OK.
- ▶ Only put the machine back into operation if all points have been checked off.
- ▶ After completing the inspection, file the inspection list behind the appendix in this operating manual.

*The inspection is completed.*

### 9.6.3 Inspection list

| | |
|---|---|
| **Sequential no.:** | |
| **Machine type:** | |
| **Machine no.:** | |
| **Inspector:** | |

| **Mechanical system** | |
|---|---|
| | Cylinder studs secured |
| | Scissors bolts secured |
| | Machine in clean condition |
| | Notices present and legible |
| | Welded points undamaged |
| | All screw connections are tight |

| **Hydraulic system** | |
|---|---|
| | No leaks in the hydraulic system |
| | Oil level is sufficient (*Chap. 9.5.1, page34*) |
| | No damage of the hoses |
| | Hydraulic hoses not more than 6 years old |
| | Machine holds load at least 10 minutes in the highest position |

| **Electrical system** | |
|---|---|
| | Cables and cable grips tight |
| | Cables are secured |
| | No damage of the cables |
| | Upper position sensor stops the lifting motion |
| | Euro Stop sensor stops the lowering motion |

All functions tested with no problems

---

Date, Signature

# 10 Help for malfunctions

Please contact our customer service department. This prevents damage due to improperly performed work, saves time and avoids unnecessary costs.

## 10.1 Machine does not lift

| Cause | Solution |
|---|---|
| Machine overloaded | Reduce the load |
| Leak in hydraulic system | • Tighten screw connections<br>• Reseal hydraulic cylinders<br>• Replace hydraulic cylinders<br>• Replace hydraulic hoses |
| Pump does not build up any pressure | Replace hydraulic unit |
| Motor turning in wrong direction | Check the rotational direction of the voltage supply (only for rotary current)<br>Factory supplies a right-rotating field |
| Top sensor position was reached | Lower platform |
| Switching valve defective | Replace switching valve |
| Solenoid on lowering valve defective | Replace the solenoid |
| Lowering valve defective | Replace lowering valve |
| Solenoid valve plug defective | Replace solenoid valve plug |
| Controller fuse defective | Replace controller fuse |

## 10.2 Machine does not reach the full lift height

| Cause | Solution |
|---|---|
| Oil level too low | Top up oil |
| Sensor not correctly set | Adjust sensor |

## 10.3 Electric motor does not run

| Cause | Solution |
|---|---|
| Current supply interrupted | • Check supply line<br>• Check fuse<br>• Check motor protection switch |
| Motor defective | Replace hydraulic unit |

## 10.4 Machine does not lower (completely down)

| Cause | Solution |
|---|---|
| Obstacle (dirt) in the area of the roller bearings | Clean the area of the roller bearings |
| Solenoid on lowering valve defective | Replace the solenoid |
| Lowering valve defective | Replace lowering valve |
| Solenoid valve plug defective | Replace solenoid valve plug |
| Controller fuse defective | Replace controller fuse |
| Line-break safety device triggered | Identify and replace the defective component |

## 10.5 Oil leak

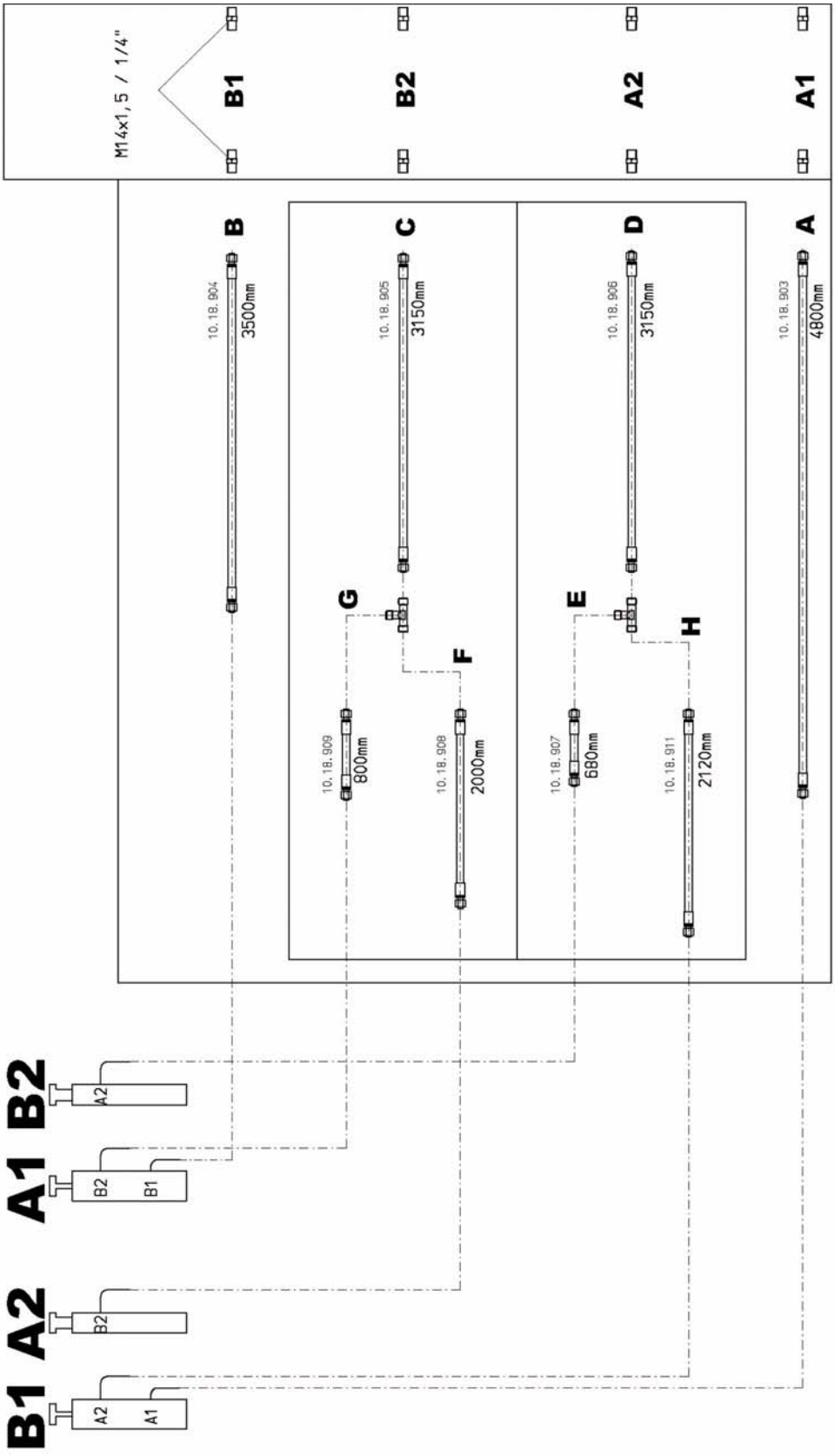
| Cause | Solution |
|---|---|
| Leak in hydraulic system | • Tighten screw connections<br>• Reseal hydraulic cylinders<br>• Replace hydraulic cylinders<br>• Replace hydraulic hoses |

## 10.6 Machine deflects heavily when load is changed

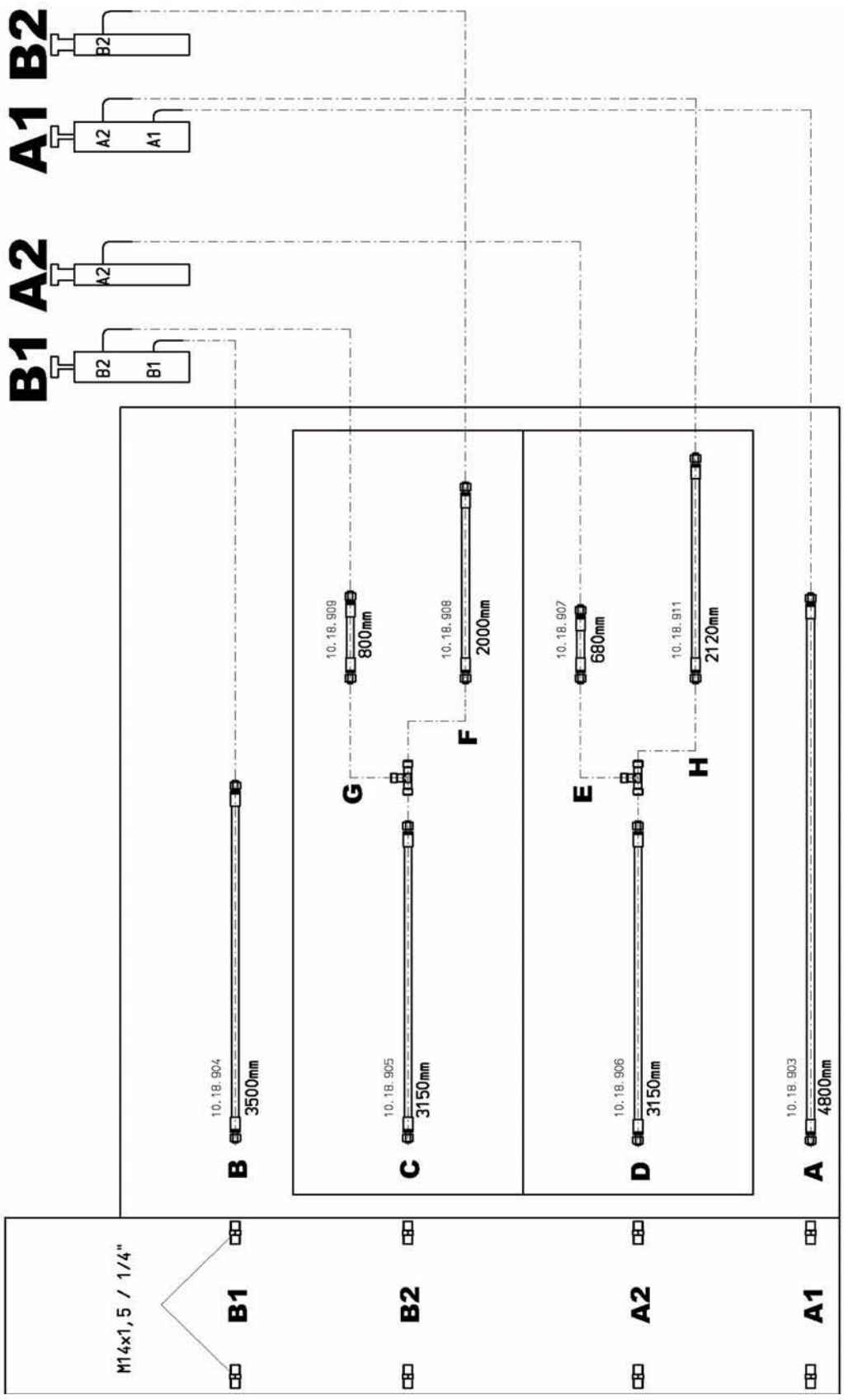
| Cause | Solution |
|---|---|
| Air in hydraulic system | Bleed hydraulic system |

# 11 Appendix

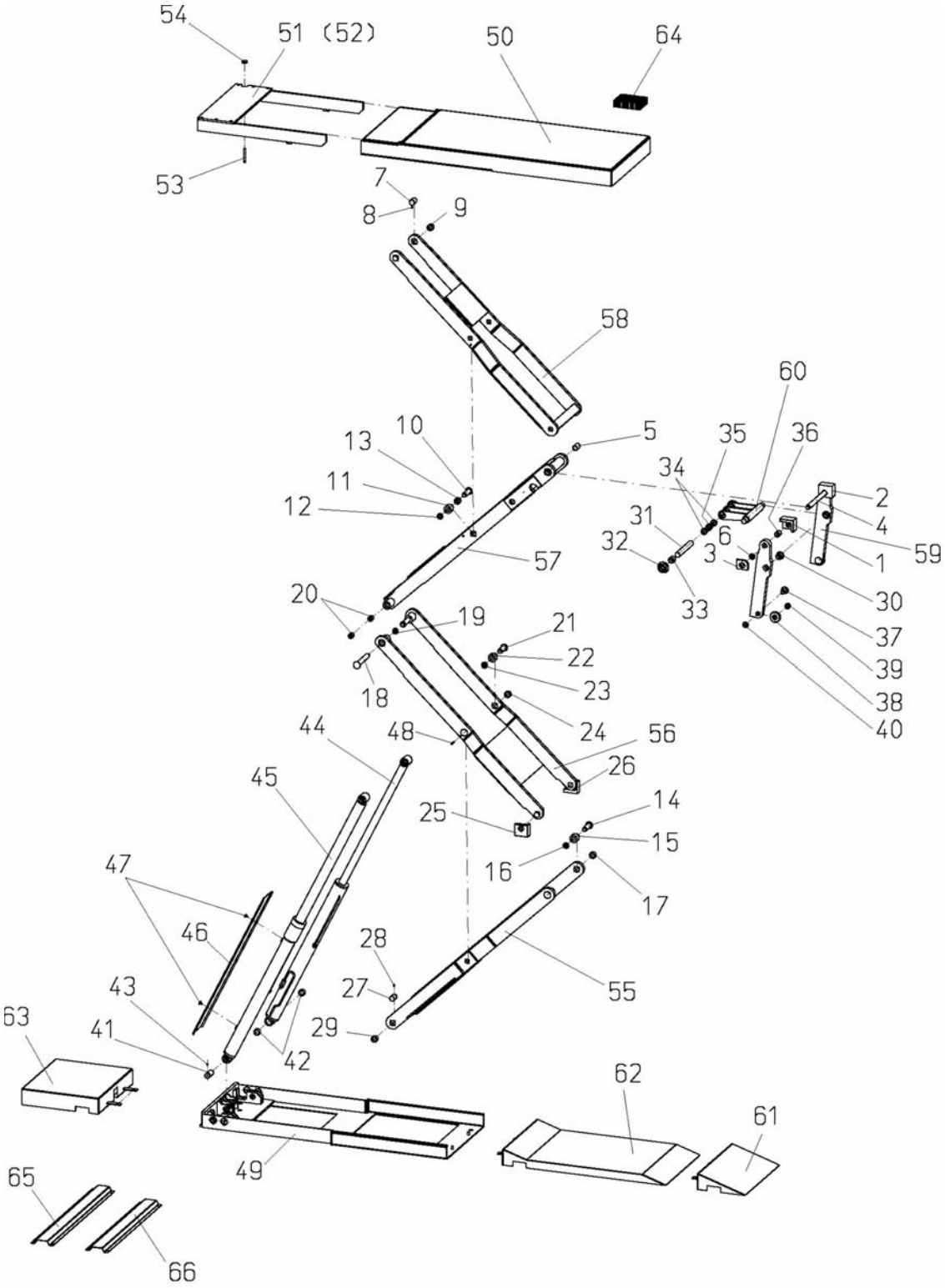
## Connecting diagram for control unit right



## Connecting diagram for control unit left



## Mechanical components



## Mechanical components

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 1 | 2 | Floating bearing, top right | 10.28.683 | |
| 2 | 2 | Floating bearing, top left | 10.28.682 | |
| 3 | 4 | Bearing plate | 10.28.684 | 55x12x83 |
| 4 | 2 | Bolt | 10.16.733 | DIN 671-40NICrMo7-25x324 |
| 5 | 4 | Bearing sleeve | 10.16.094 | D=30x2,5x42-C45 |
| 6 | 4 | Groove nut | 12.55.150 | M20x1 |
| 7 | 4 | Bolt | 12.16.741 | DIN 671-C45K-30x43 |
| 8 | 4 | Threaded pin | 12.54.131 | DIN 914-M6x10-10.9 |
| 9 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 10 | 4 | Bolt | 12.16.731 | DIN 668-40NICrMo7-40x85 |
| 11 | 4 | Spacer sleeve | 12.16.738 | DIN 668-40NICrMo7-40x45.1 |
| 12 | 4 | Groove nut | 12.55.150 | M20x1 |
| 13 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 14 | 4 | Bolt | 12.16.731 | DIN 668-40NICrMo7-40x85 |
| 15 | 4 | Spacer sleeve | 12.16.738 | DIN 668-40NICrMo7-40x50.1 |
| 16 | 4 | Groove nut | 12.55.150 | M20x1 |
| 17 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 18 | 4 | Bolt | 12.16.732 | DIN 668-40NICrMo7-40x182 |
| 19 | 4 | Groove nut | 12.55.150 | M20x1 |
| 20 | 4 | Bushing | 10.02.271 | GSM 25-28-20 |
| 21 | 4 | Bolt | 12.16.730 | DIN 668-40NICrMo7-40x80 |
| 22 | 4 | Spacer sleeve | 12.16.737 | DIN 668-40NICrMo7-40x45.1 |
| 23 | 4 | Groove nut | 12.55.150 | M20x1 |
| 24 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 25 | 2 | Floating bearing, bottom right | 10.28.681 | |
| 26 | 2 | Floating bearing, bottom left | 10.28.680 | |
| 27 | 4 | Bolt | 12.16.741 | DIN 671-C45K-30x43 |
| 28 | 4 | Threaded pin | 12.54.131 | DIN 914-M6x10-10.9 |
| 29 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 30 | 4 | Bushing | 10.02.351 | GFM 30-34-26 |

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 31 | 2 | Cylinder stud | 10.16.743 | DIN 671-40NICrMo7-30x215 |
| 32 | 4 | Flanged wheel | 12.16.739 | |
| 33 | 4 | Bushing | 10.02.288 | GSM 30-34-25 |
| 34 | 4 | Bushing | 10.02.362 | GSM 30-34-10 |
| 35 | 4 | Bushing | 10.02.236 | GSM 30-34-20 |
| 36 | 4 | Bushing, rolled | 10.02.340 | MBZ 25-28-30 |
| 37 | 4 | Bolt | 12.16.729 | DIN 668-40NICrMo7-40x43 |
| 38 | 4 | Castor | 12.16.740 | DIN 668-C45K-60x15 |
| 39 | 4 | Bushing | 10.02.361 | GSM 25-28-15 |
| 40 | 4 | Groove nut | 12.55.150 | M20x1 |
| 41 | 4 | Bolt | 12.16.742 | DIN 671-C45K-30x65 |
| 42 | 16 | Bushing | 10.02.236 | GSM 30-34-20 |
| 43 | 4 | Threaded pin | 12.54.131 | DIN 914-M6x10-10.9 |
| 44 | 2 | Hydraulic cylinder (Master) | 11.19.767 | Ø 70 x 841 mm lift |
| 45 | 2 | Hydraulic cylinder (Slave) | 11.19.766 | Ø 56 x 841 mm lift |
| 46 | 2 | Cylinder cover | 57.91.337 | |
| 47 | 4 | Flat head screw | 12.54.114 | DIN 921-M5x8-5.8 |
| 48 | 1 | Dowel pin | 10.24.120 | ISO 8752-6x40-St |
| 49 | 2 | Underframe | 51.02.814 | |
| 50 | 2 | Upper frame | 51.02.820 | |
| 51 | 1 | Pullout, left | 51.55.064 | |
| 52 | 1 | Pullout, right | 51.55.065 | |
| 53 | 2 | Cylinder screw | 12.54.666 | M8x75-8.8 |
| 54 | 2 | Circular blank | 12.16.746 | |

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 55 | 2 | Inner scissors, bottom | 51.11.445 | |
| 56 | 2 | Outer scissors, bottom | 51.11.495 | |
| 57 | 2 | Inner scissors, top | 51.11.446 | |
| 58 | 2 | Outer scissors, top | 51.11.496 | |

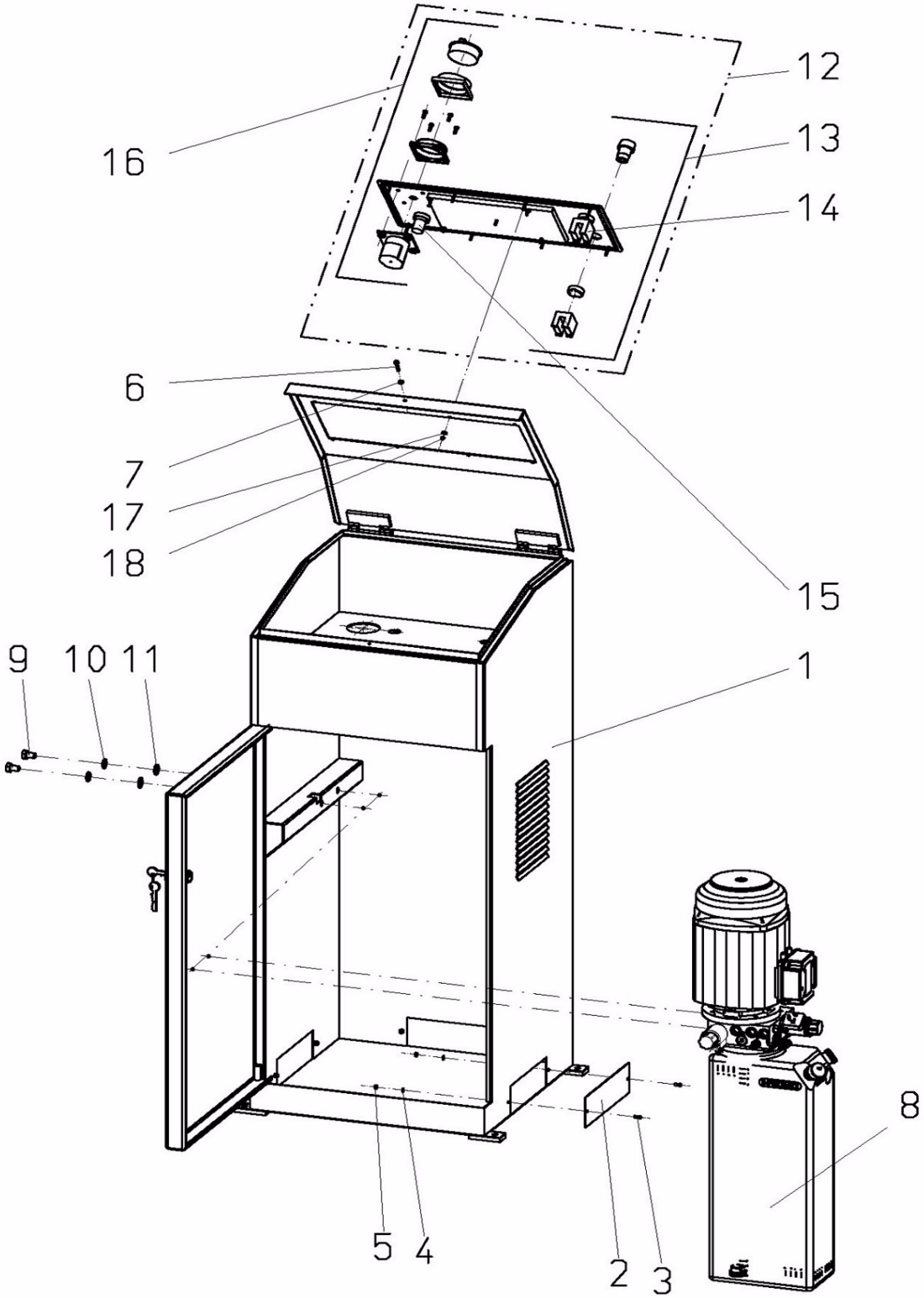
| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 59 | 4 | Lever arm | 57.80.133 | |
| 60 | 2 | Cylinder lever | 52.34.105 | |

## Accessories

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 61 | 4 | Ramp 300 | 51.55.062 | |
| 62 | 4 | Ramp 1000 | 51.55.063 | |
| 63 | 2 | Underfloor box | 51.55.072 | |

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 64 | 4 | Rubber block with diamond pattern | 10.27.239 | |
| 65 | 2 | Hose covering | 57.91.338 | 1000 mm |
| 66 | 1 | Hose covering | 57.91.339 | 875 mm |

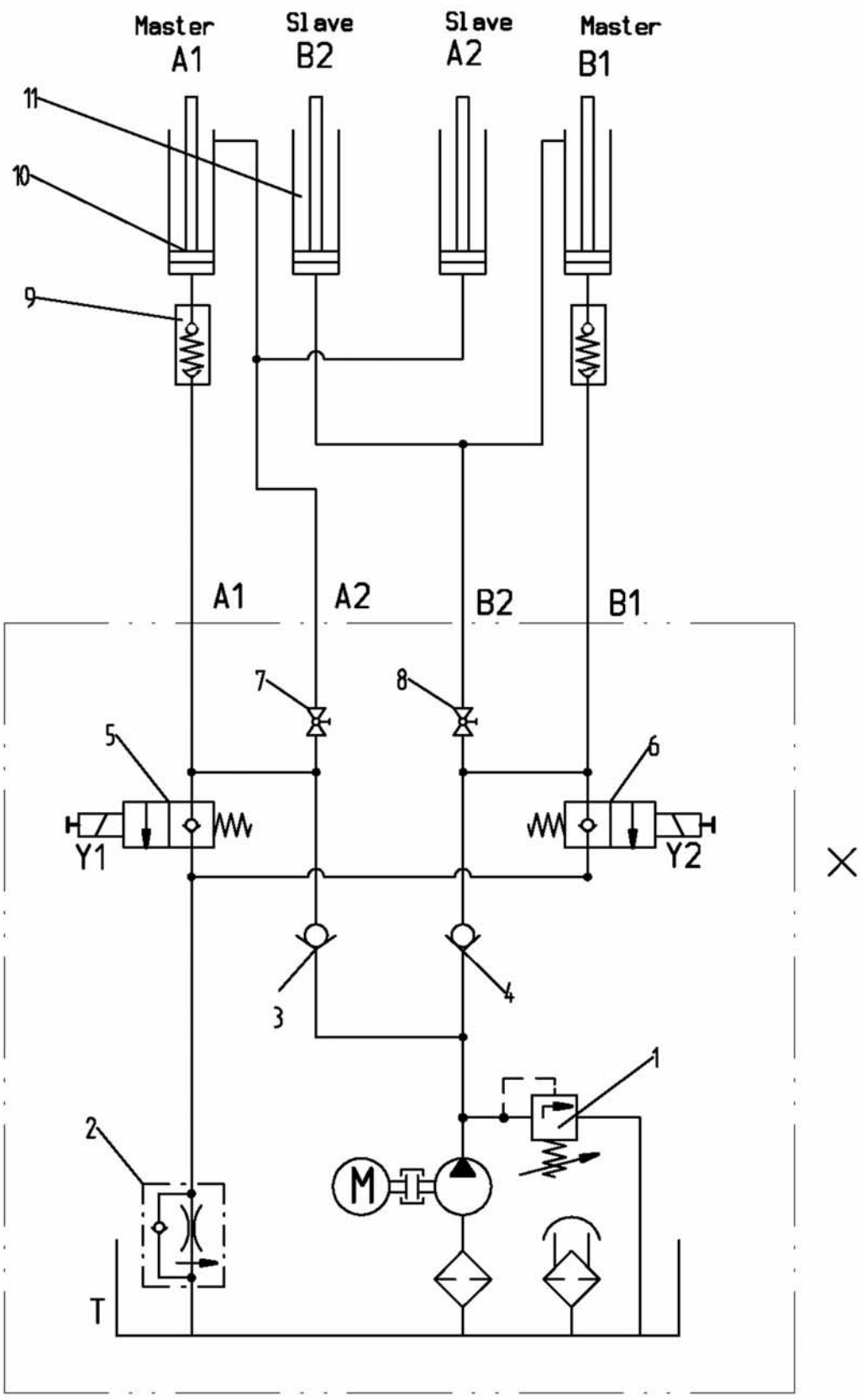
## Mechanical components



## Mechanical components

| Pos. | Qty | Description | Art. no. | Note |
|---|---|---|---|---|
| 1 | 1 | Control column | 11.34.191 | consisting of Pos. 2-7 |
| 2 | 3 | Cover | 56.81.029 | |
| 3 | 6 | Cylinder head screw | 12.54.014 | DIN 7984-M4x10-8.8 |
| 4 | 6 | Disc | 12.40.021 | ISO 7093-4-100HV |
| 5 | 6 | Hexagonal nut | 12.55.011 | DIN 985-M4-8 |
| 6 | 1 | Cylinder head screw | 12.54.184 | DIN 912-M6x30-8.8 |
| 7 | 1 | Disc | 12.40.040 | ISO 7093-6-100HV |
| 8 | 1 | Hydraulic unit | 11.18.260 | 3 kW / 400 V |
| 9 | 2 | Bolt | 12.51.021 | ISO 4017-M10x16-8.8 |
| 10 | 2 | Lock washer | 12.40.425 | DIN 127-A10-FSt |
| 11 | 2 | Disc | 12.40.088 | ISO 7089-10-200HV |
| 12 | 1 | Desk plate | 58.70.006 | consisting of Pos. 13-16 |
| 13 | 1 | Button Lift | 10.30.572 | |
| 14 | 1 | Button Lower | 10.30.573 | |
| 15 | 1 | Indicator lights | 10.30.576 | |
| 16 | 1 | Main switch | 10.30.574 | |
| 17 | 8 | Disc | 12.40.017 | ISO 7093-3-100HV |
| 18 | 8 | Lock nut | 12.55.006 | DIN 985-M3-8 |

## Hydraulic diagram



**Key**

| Pos. | Description |
|---|---|
| 1 | Pressure limiting valve |
| 2 | Lowering brake valve |
| 3 | Check valve |
| 4 | Check valve |
| 5 | 2/2-way solenoid valve |
| 6 | 2/2-way solenoid valve |
| 7 | Blocking spindle |
| 8 | Blocking spindle |
| 9 | Line-break safety device |
| 10 | Hydraulic cylinder (master) |
| 11 | Hydraulic cylinder (slave) |

## Hydraulic parts list

| Qty | Description | Art. no. | Note |
|---|---|---|---|
| 1 | Hydraulic unit | 11.18.260 | 3 kW / 400 V |
| 4 | Straight screw-in supports | 12.19.563 | M14x1.5 |
| 2 | T-piece | 12.18.910 | M14x1.5 |
| 1 | Hydraulic hose | 10.18.903 | L=4800 mm<br>Designation "A" |
| 1 | Hydraulic hose | 10.18.904 | L=3500 mm<br>Designation "B" |
| 1 | Hydraulic hose | 10.18.905 | L=3150 mm<br>Designation "C" |
| 1 | Hydraulic hose | 10.18.906 | L=3150 mm<br>Designation "D" |
| 1 | Hydraulic hose | 10.18.907 | L=680 mm<br>Designation "E" |
| 1 | Hydraulic hose | 10.18.908 | L=2000 mm<br>Designation "F" |
| 1 | Hydraulic hose | 10.18.909 | L=800 mm<br>Designation "G" |
| 1 | Hydraulic hose | 10.18.911 | L=2120 mm<br>Designation "H" |

## Hydraulic parts list

### Hydraulic hose extension 2000 mm (optional)

| Qty | Description | Art. no. | Note |
|---|---|---|---|
| 1 | Hydraulic hose | 10.18.961 | L=2000 mm<br>Designation "A" |
| 1 | Hydraulic hose | 10.18.962 | L=2000 mm<br>Designation "B" |
| 1 | Hydraulic hose | 10.18.963 | L=2000 mm<br>Designation "C" |
| 1 | Hydraulic hose | 10.18.964 | L=2000 mm<br>Designation "D" |
| 4 | Straight screw connection | 12.19.299 | M14x1.5 |

### Hydraulic hose extension 3000 mm (optional)

| Qty | Description | Art. no. | Note |
|---|---|---|---|
| 1 | Hydraulic hose | 10.18.971 | L=3000 mm<br>Designation "A" |
| 1 | Hydraulic hose | 10.18.972 | L=3000 mm<br>Designation "B" |
| 1 | Hydraulic hose | 10.18.973 | L=3000 mm<br>Designation "C" |
| 1 | Hydraulic hose | 10.18.974 | L=3000 mm<br>Designation "D" |
| 4 | Straight screw connection | 12.19.299 | M14x1.5 |

### Hydraulic hose extension 4000 mm (optional)

| Qty | Description | Art. no. | Note |
|---|---|---|---|
| 1 | Hydraulic hose | 10.18.981 | L=4000 mm<br>Designation "A" |
| 1 | Hydraulic hose | 10.18.982 | L=4000 mm<br>Designation "B" |
| 1 | Hydraulic hose | 10.18.983 | L=4000 mm<br>Designation "C" |
| 1 | Hydraulic hose | 10.18.984 | L=4000 mm<br>Designation "D" |
| 4 | Straight screw connection | 12.19.299 | M14x1.5 |

| | | |
|---|---|---|
| Anschluß<br>terminal | : | 3~ PH 400V / N / PE |
| Betriebsspannung<br>supply voltage | : | 24 V |
| Netzfrequenz<br>supply frequency | : | 50 Hz |
| Nennleistung<br>Nominal power | : | 3,0 KW |
| Nennstrom<br>Nominal current | : | 7,3 A |
| Steuerspannung<br>Control voltage | : | 24 VDC |
| Signalspannung<br>Signal voltage | : | / |
| Sicherung<br>fuse | : | 16 A |
| Zuleitungsquerschnitt<br>Line cross-section | : | 1,5mm² |
| Schutzart<br>degree of protection | : | IP 54 |
| Geprüft nach<br>Tested according to | : | VDE 0113 |

Schutzvermerk nach DIN 34 beachten !

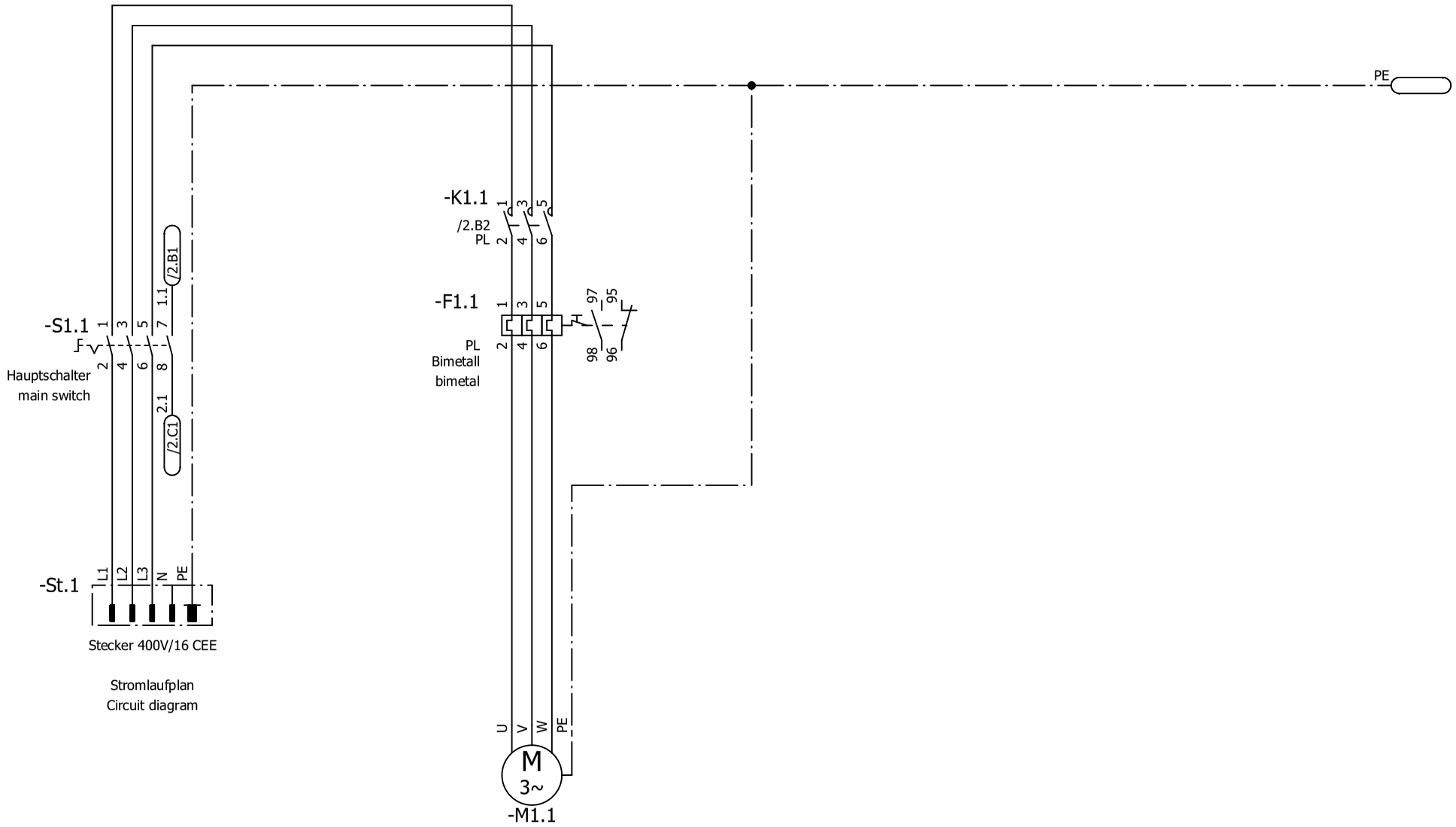
# Elektro-Schaltpläne

Electrical circuit diagram

| | | |
|---|---|---|
| Auftraggeber<br>Client | : | Blitz Rotary |
| Hubtisch Ausführung<br>Lift table design | : | KFZ - Hebebühne<br>Vehicle lifting platform |
| Typ | : | GLP30/GLP35 |



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 25.04.2008 | Blitz Rotary | | Datenblatt 1 | Data sheet | GLP30/GLP35 | |
| | | | | Bearbeiter | Schwarze | | | | | | |
| | | | | Geprüft | | | | | | | |
| R. | Änderung | Datum | Name | Norm | | Ursprung | Ersatz für | Ersatz durch | | deutsch / englisch | EDV-E.-Nr.: 5880018de_e | Blatt 1<br>1 Bl. |




Schutzvermerk nach DIN 34 beachten !

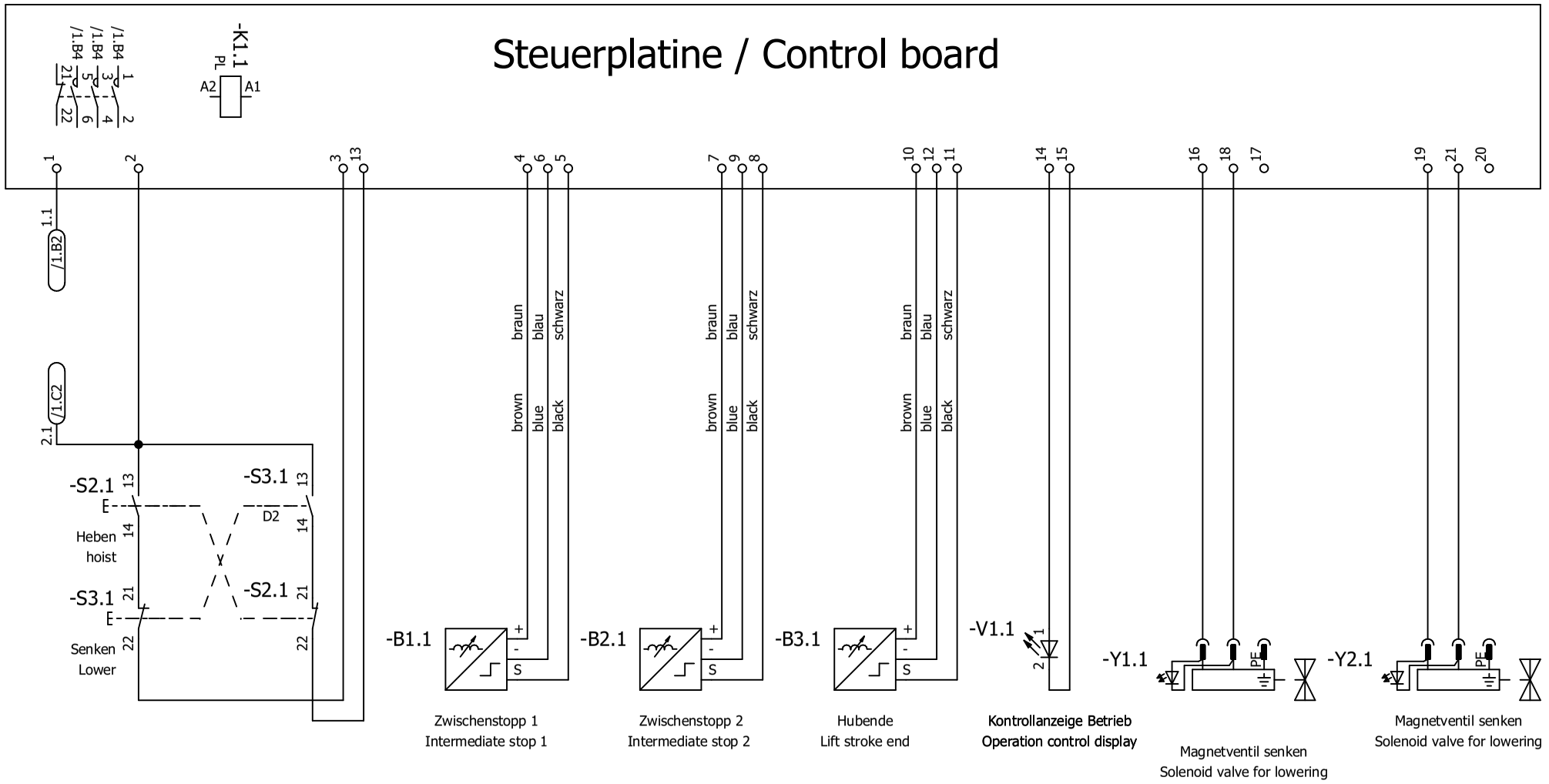
Alle Leitungen ohne Querschnittsangabe sind H07VK gy 1,5 mm²

Erstellt mit ELCAD/AUCOPLAN (R) 7.4.0

# GLP 30/35 und XLP 25

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 04.06.2007 | | | Stromlaufplan 1 | GLP30/GLP35 | |
| | | | | Bearbeiter | Schwarze | Blitz Rotary | | | | |
| | | | | Geprüft | | | | | deutsch / englisch | EDV-E.-Nr.: 5880018de_e |
| R. | Änderung | Datum | Name | Norm | | Ursprung | Ersatz für | Ersatz durch | Circuit diagram | Blatt 1 / 3 Bl. |

# Steuerplatine / Control board




Schutzvermerk nach DIN 34 beachten !

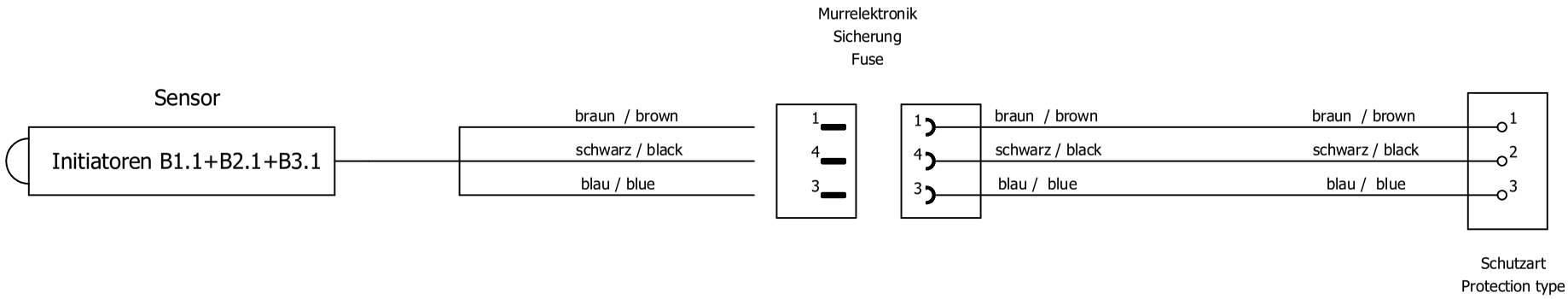
Alle Leitungen ohne Querschnittsangabe sind H07VK gy 1,5 mm²

Erstellt mit ELCAD/AUCOPLAN (R) 7.4.0

## GLP 30/35 und XLP 25

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 25.04.2008 | Blitz Rotary | | Stromlaufplan 2 | GLP30/GLP35 | | |
| | | | | Bearbeiter | Schwarze | | | | | | |
| | | | | Geprüft | | | | | deutsch / englisch | EDV-E.-Nr.: 5880018de_e | Blatt 2 |
| R. | Änderung | Datum | Name | Norm | | Ursprung | Ersatz für | Ersatz durch | Circuit diagram | | 3 Bl. |

# Steuerplatine
# Control board




Schutzvermerk nach DIN 34 beachten !

Alle Leitungen ohne Querschnittsangabe sind H07VK gy 1,5 mm²

Erstellt mit ELCAD/AUCOPLAN (R) 7.4.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 25.04.2008 | | Stromlaufplan 3 | GLP30/GLP35 | |
| | | | | Bearbeiter | Schwarze | Blitz Rotary | | | |
| | | | | Geprüft | | | | | |
| R. | Änderung | Datum | Name | Norm | | Ursprung / Ersatz für / Ersatz durch | Circuit diagram | deutsch / englisch | EDV-E.-Nr.: 5880018de_e |

Blatt 3
3 Bl.

Schutzvermerk nach DIN 34 beachten !

Erstellt mit ELCAD/AUCOPLAN (R) 7.4.0

| Kabel extern | Typ | Klemme |
|---|---|---|
| | :1-16,18-19,21 | |
| | :17,20 | |

Anschlußleiste

Allgemeine Hinweise

H07VK gy 1,5 mm²

Kabel intern

| Anz. freier Adern | Zielzeichen extern | | | | Klemmennummer | Typ | Laschenverbindungen | Drahtverbindungen | Kommentar | Darstellung | Zielzeichen intern | | | | 0 | Anz. freier Adern |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gerätekommentar | Anlage | Einbauort | Gerät | Anschluß | | | | | | | Anlage | Einbauort | Gerät | Anschluß | | Gerätekommentar |
| | | | | | Leiste : -X4 | | | | | | | | | | | |
| | | | | | Klemmenanzahl : 21 | | | | | | | | | | | |
| | | | | | 1 | | | | | /2.B1 | | | -S1.1 | 7 | X | Hauptschalter main switch |
| | | | | | 2 | | | | | /2.B2 | | | -S3.1 | 13 | X | |
| | | | | | 3 | | | | | /2.B3 | | | -S3.1 | 22 | X | Senken Lower |
| | | | | | 4 | | | | | /2.B3 | | | -B1.1 | + | X | |
| | | | | | 5 | | | | | /2.B4 | | | -B1.1 | S | X | |
| | | | | | 6 | | | | | /2.B4 | | | -B1.1 | - | X | |
| | | | | | 7 | | | | | /2.B4 | | | -B2.1 | + | X | |
| | | | | | 8 | | | | | /2.B5 | | | -B2.1 | S | X | |
| | | | | | 9 | | | | | /2.B4 | | | -B2.1 | - | X | |
| | | | | | 10 | | | | | /2.B5 | | | -B3.1 | + | X | |
| | | | | | 11 | | | | | /2.B5 | | | -B3.1 | S | X | |
| | | | | | 12 | | | | | /2.B5 | | | -B3.1 | - | X | |
| | | | | | 13 | | | | | /2.B3 | | | -S2.1 | 22 | X | |
| | | | | | 14 | | | | | /2.B6 | | | -V1.1 | 1 | X | |
| | | | | | 15 | | | | | /2.B6 | | | -V1.1 | 2 | X | |
| | | | | | 16 | | | | | /2.B7 | | | -Y1.1 | | X | |
| | | | | | 17 | | | | | /2.B7 | | | | | | |
| | | | | | 18 | | | | | /2.B7 | | | -Y1.1 | | X | |
| | | | | | 19 | | | | | /2.B8 | | | -Y2.1 | | X | |
| | | | | | 20 | | | | | /2.B8 | | | | | | |
| | | | | | 21 | | | | | /2.B8 | | | -Y2.1 | | X | |
| | | | | | N-Schiene | | | | | | | | | | | |
| | | | | | PE-PEN-Schiene | | | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 25.04.2008 | Blitz Rotary | | Klemmenplan 1 | GLP30/GLP35 | |
| | | | | Bearbeiter | Schwarze | | | | | |
| | | | | Geprüft | | | | | | |
| R. | Änderung | Datum | Name | Norm | | Ursprung | Ersatz für | Ersatz durch | -X4 | AB - Nr.: deutsch / englisch | Geräte-Nr.: 5880018de_e | Blatt 1 1 Bl. |

# Geräte-Stückliste

| Nr. | Betriebsmittel | Artikelnummer | Bezeichnung 1 + 2 | |
|---|---|---|---|---|
| | Kommentar | Zusatzinfo 1 | Hersteller | Art |
| | Darstellung | Zusatzinfo 2 | Bestellnummer | Typ |
| 1 | **+PL-F1.1** | 10.30.660 | Bimetallrel.7-10A | |
| | Bimetall bimetal | | SIEMENS | F |
| | /1.B4 | | 3RU1116-1JB0 | |
| 2 | **+PL-K1.1** | 58.70.006 | | |
| | | | AUF STEUERPLATINE | K |
| | /2.B2 | | | |
| 3 | **-B1.1** | 10.30.575 | Indukt. Näherungsschalt. IME12-04NPSZU6S | |
| | | | SICK | B |
| | /2.D3 | | | |
| 4 | **-B2.1** | 10.30.575 | Indukt. Näherungsschalt. IME12-04NPSZU6S | |
| | | | SICK | B |
| | /2.D4 | | | |
| 5 | **-B3.1** | 10.30.575 | Indukt. Näherungsschalt. IME12-04NPSZU6S | |
| | | | SICK | B |
| | /2.D5 | | | |
| 6 | **-M1.1** | | Hydraulikpumpe Hydraulic pump | |
| | Hydraulikpumpe Hydraulic pump | | | M |
| | /1.D4 | | | |
| 7 | **-S1.1** | 10.30.574 | Hauptschalter | |
| | Hauptschalter main switch | | TAIWAN | S |
| | /1.B2 | | | |
| 8 | **-S2.1** | 10.30.572 | Taster heben | |
| | Heben hoist | | TAIWAN | S |
| | /2.C2 | | | |
| 9 | **-S3.1** | 10.30.573 | Taster Senken | |
| | Senken Lower | | TAIWAN | S |
| | /2.D2 | | | |
| 10 | **-St.1** | 10.30.061 | Stecker 400V/16 CEE | |
| | Stecker 400V/16 CEE | | BALS | X |
| | /1.D2 | | .203 | |
| 11 | **-V1.1** | 10.30.576 | Leuchtmelder | |
| | | | TAIWAN | H |
| | /2.D6 | | | |
| 12 | **-Y1.1** | | | |
| | | Magnetventil solenoid valve | | Y |
| | /2.D7 | | | |
| 13 | **-Y2.1** | | | |
| | | Magnetventil solenoid valve | | Y |
| | /2.D8 | | | |

Schutzvermerk nach DIN 34 beachten !

Bemerkungen :

Erstellt mit ELCAD/AUCOPLAN (R) 7.4.0

| R. | Änderung | Datum | Name | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Datum | 25.04.2008 | Blitz Rotary | | |
| | | | | Bearbeiter | Schwarze | | | |
| | | | | Geprüft | | | | |
| | | | | Norm | | Ursprung | Ersatz für | Ersatz durch |

Stücklisten
1

GLP30/GLP35

AB - Nr.: deutsch / englisch

Geräte-Nr.: 5880018de_e

Blatt 1
1 Bl.

Trained Operators and Regular Maintenance Ensures
Satisfactory Performance of Your Rotary Lift.

**Replacement Parts:** See installers package for parts breakdown sheet. Order Genuine Rotary replacement parts from your nearest Authorized Parts Distributor.

**Maintenance Assistance:** Contact your local Rotary distributor.

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Fax: 1.800.578.5438
Fax: 1.812.273.6502
userlink@rotarylift.com
www.rotarylift.com

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**BlitzRotary GmbH**
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