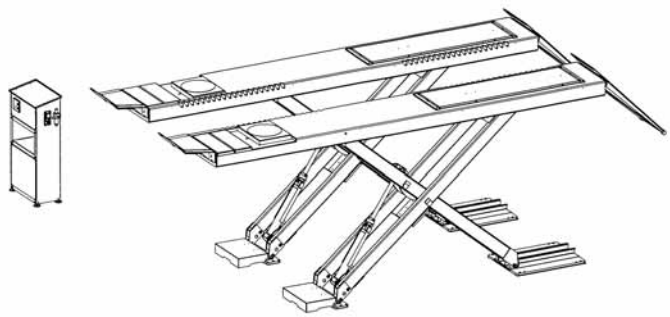
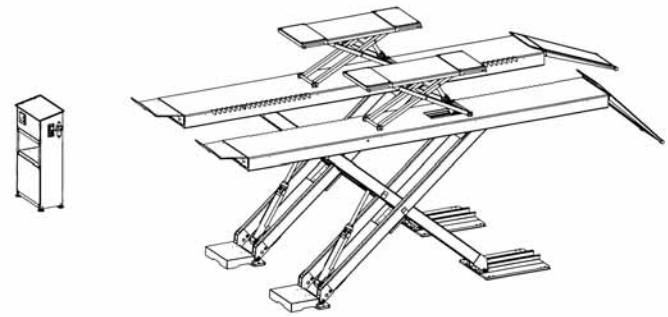
UNI-LIFT 3500 CLT / PLUS

Automotive lift date: 10/2003
Manual date: 26.10.2003
Wheel Free Lift Version 0.25RFH CLT





Operating Instruction and Documentation

Serial number:.....

Retailer address / phone

Nußbaum Hebetechnik GmbH & Co.KG//Korker Straße 24//D-77694 Kehl-Bodersweier//Tel: +49(0)7853/8990
Fax: +49 (0) 78 53 / 87 87//E-mail: info@nussbaum-lifts.de//http://www.nussbaum-lifts.de

Table of contents

Foreword

Nußbaum-Lifts are a result of long-standing experiences.
The high quality and the superior concept guarantee them reliability, a long lift time and the economic business. To avoid unnecessary damages and dangers, read the operating instruction attentive and observe the contents. Another or the described purpose going out use is not valid when not as agreed. This is valid particularly for climb and go.

Company Nußbaum is not liable for damages arising from this. The user carries the risk alonely.

For the use belonged:

- to observe all the notice in the operating instruction and
- the following of the inspection and maintenance work and the prescribed tests.
- The instruction for use have to be observed by all persons working with the lift.
- Especially the chapter "Safety/accident Prevention" has to be observed.
- In addition to the safety remarks of the instructions for use the regulations and instructions being valid at the place of operation have to be considered.

Obligations of the operator:

The operator is obliged to allow only those persons complying to the following requirement to work at the unit

- being well acquainted with the basic regulations concerning labour safety and accident prevention and being trained to operate the unit.
- having read and understood the chapter concerning safety and warning instructions and confirmed that by their signature.

Dangers when operating with the lift:

The Nußbaum-Lifts are designed and built according to technical standard and the approved regulations for technical security. Yet, danger for body and life of the operator may turn up when using the lift inexpertly.

The lift must only be operated :

- for its appropriate use
- in unobjectionable condition concerning technical security.

Organising requirements

- The instructions for use are constantly to be kept at the place of operation being at hand at any time.

- In addition to the instructions for use rules pertaining to other regulations i.e. accident prevention and environmental rules are to be observed and directed.
- Safety- and danger alert operation of personal is occasionally and by observing the instructions for use to be controlled.
- As far as required and ordered by regulations personal protective equipment is to be used
- All safety- and danger-hints at the lift are to be observed!
- Spare parts must comply with technical requirements laid down by the manufacturer. This is only warranted with original parts.
  Consider time intervals given or fixed in instructions for use for repeated tests/inspections.

Maintenanceworks, remedy of faults and disposal

- Fixed Adjusting-, maintenance- and inspectionworks and time intervals including Details for exchange of parts/part components as mentioned in the instructions for use are to be adhered.
  These works must only be carried out by expert personal.
- After maintenance- and repair works loose screw connections must always be firmly tightened!

Guarantee and liability

- Our „General conditions of selling and delivering“ are in force.
  There will be no guarantee or liability for injuries of persons or things if these injuries are caused by one or by some of the following reasons.
- Inappropriate use of the lift.
- Inappropriate installation, initiation, operation and maintenance of the lift.
- Use of the lift while one or several security devices do not work or do not work correctly or are not installed correctly.
- Not to follow the regulations of the operating instruction concerning transport, storing, installation, initiation, operation and maintenance of the lift.
- Changes of the construction of the lift without asking the producer.
- Changes of important adjustments of the lift (e.g. driving elements, power rating, motor speed, etc)
- Wrong or incorrect maintenance.
- Catastrophes, acts of God or external reasons.

☞ ***Fill out, undersign and copy this sheet and send the original to the lift manufacturer. The copy remains in the Manual.***

Otto Nußbaum Hebetechnik GmbH & Co. KG

Korker Straße 24

D-77694 Kehl-Bodersweier

Record of installation

The automotive lift UNI 3500 CLT / PLUS with the

serial number:..... was installed on:.....

at the firm:..... at:.....

the safety was checked and the lift was started.

The installation was effected from the operating authority/competent (please delete as applicable).

The safety of the automotive lift was checked from the competent before the initial operation.

The operating authority attest the installation of the automotive lift, the competent attest the correct initial operation.

.....	.....	.....
date	name of the operating authority	signature of the operating authority
.....	.....	.....
date	name of the competent person	signature of the competent person

Your customer service:.....

Record of handing over

The automotive lift UNI 3500 CLT / PLUS with the

serial number:..... was installed on:.....

at the firm:..... at:.....

the safety was checked and the lift was started.

The persons below were introduced after the installation of the automotive lift. The introduction was carried out from an erector of the lift-manufacturer or from a franchised dealer (competent person).

.....	.....	.....
date	name	signature
.....	.....	.....
date	name	signature
.....	.....	.....
date	name	signature
.....	.....	.....
date	name	signature
.....	.....	.....
date	name	signature
.....	.....	.....
date	name	signature
.....	.....	.....
date	name of competent	signature of the competent

Your customer service:.....

1.Introduction

The document **”Operating Instruction and Documentation”** contains important information about installation, operation and maintenance of the lift.
To furnish proof of the **installation of the automotive lift** the form ”Record of Installation” must be signed and returned to the manufacturer.
To furnish proof of the singular, regular and extraordinary check this documentation contains forms. The forms should be used to document the checks. They should not be removed from this documentation.
Every **change of the construction** and **displacement** of the automotive lift has to be registered in the **”Master document”** of the lift.

1.1Installation and check of the automotive lift

Only specialist staff is allowed to do work concerning safety and to do the safety checks of the lift. They are called experts and competent persons in this document.

Experts are persons (for example self-employed engineers, experts) which have received instruction and have experience to check and to test automotive lifts. They know the relevant regulations concerning both labour and accidents prevention.

Competent persons are persons who have acquired adequate knowledge and experience with automotive lifts. They took part in training from the lift-manufacturer (servicing technicians of the manufacturer or dealer are competent)

1.2 Information of Warning

To show danger and to show important information the three symbols below are used. Pay attention to those passages, which are marked with these symbols

Danger! This sign indicates danger to life. Inexpert handling of the described operation may be dangerous to life.

Caution! This sign cautions against possible damage to the automotive lift or other material defects in case of inexpert handling .

Attention! This sign indicates an important function or another important note.

2. Master document of the automotive lift

2.1 Lift–manufacturer

Otto Nußbaum Hebetechnik GmbH & Co. KG
Korker Straße 24

D-77694 Kehl-Bodersweier

2.2 Application

The automotive lift UNI-LIFT 3500 CLT / Plus is a lifting mechanism for lifting motor vehicles with a laden weight of up to 4000 kg (with wheel free lift 3500 kg). The max. load distribution is 2:1 in or against drive-on direction.
The wheel free lift is a lifting mechanism for lifting motor vehicles
with a laden weight of up to 3500 kg. The max. load distribution is 2:1 in or against drive-on direction.
The automotive lift is only designed for servicing vehicles. It is not allowed to carry persons with the lift. It is not allowed to climb on the lift or on the vehicle. It's not allowed to install the standard-automotive lift in a hazardous location or washing bays.
After changes of the construction after essential maintenance work on carrying parts and after changing the installation place, an expert has to check the lift and to confirm its correctness and security.

2.3 Changes at the construction

Changes at the construction, expert checking, resumption of work
(date, kind of change, signature of the expert)

.....

.....

.....

name, address of the expert

....
place, date signature of the expert

2.4 Displacement of the automotive-lift

Displacement of the automotive-lift, expert checking, resumption of work
(date, kind of change, signature of the expert)

.....

.....

.....

name, address of the expert

....
place, date signature of the expert

2.5 Declaration of conformity

Nussbaum

Konformitätserklärung

Declaration of Conformity

Déclaration de conformité

Declaración de conformidad

Dichiarazione di conformità

gemäß Maschinenrichtlinie 98/37/EG Anhang II.

CE

OTTO NUßBAUM GmbH&Co. KG
Korker Str.24
D - 77694 Kehl-Bodersweier

Hiermit erklären wir, daß die Hebebühne, Modell ...
Hereby we declare that the lift model ...
Déclare par la presente que le pont elevateur modèle ...
Por la presente declara, que el elevador modelo ...
Con la presente dichiariamo che il ponte sollevatore modello ...

Typ: UNILIFT 3500 CLT Seriennummer: _____

in Übereinstimmung mit den folgenden EG – Richtlinien und harmonisierten Normen gefertigt wurde
was manufactured in conformity with EC directives and the harmonized norms
fabriqué en conformité avec les directives européennes suivantes et selon les normes harmonisées en vigueurs.
producido de acuerdo a las siguientes reglas de la Comunidad Europea y normas harmonisadas.
é stato costruito in conformitá con le direttive CE e le relative norme armonizzate

98/37EG	**Maschinenrichtlinie**
EN 1493: 1998	**Fahrzeug- Hebebühnen**
EN 60204:1992	**Sicherheit von Maschinen – Elektrische Antriebe**

Prüfinstitut – Certification institute
Organisme certificateur – Ente certificatore

CE 0044 (RWTÜV)

Registrier Nr. – Registered No.
Enregistrement N° - Registrazione Nr.

04 205 2366/00

Kehl, 21.09.2004

Otto Nußbaum GmbH & Co. KG
77694 Kehl

Thomas Hassler

3. Technical information

3.1 Technical ratings

capacity without wheel free lift	4000 kg
with wheel free lift	3500 kg
load distribution	max. 2:1 in or against drive-on direction
Lifting time (main lift)	approx. 31 sec. with load
Lowering time (main lift)	approx. 17 sec. with load
Maximal lifting height:	1930 mm
capacity wheel free lift	2500 kg
load distribution	max. 2:1 in or against drive-on direction
Lifting time (wheel free lift)	approx. 13 sec. with load
Lowering time (wheel free lift)	approx. 15 sec. with load
Maximal lifting height	580 mm
Line voltage	3 x 400 Volt , 50Hz
Power rating	3 kW
Motor speed	3000 rot./min.
Pump capacity	3 ccm
Hydraulic pressure main lift	ca. 240 bar with load
Hydraulic pressure wheel free lift	ca. 215 bar with load
pressure relief valve main lift	ca. 260 bar
pressure relief valve unlocking cylinder	ca. 40 bar
Oil tank	approx. 40 Litre
Sound level	≤ 75 dBA
Connection by customer	3~/N+PE, 400V, 50 Hz (standard version) with fuse T16A (Pay attention to the voltage of your state)

3.2 Security devices

1. Pressure relief valve
   Overprint-safety of the hydraulic system
2. Holding valve
   safety device against unintentional lowering
3. Lockable main switch
   safety device against unauthorised operation
7. CE-STOP
   safety device against squeeze
5. Hydraulic unblockable security system at the cylinders
   safety device against unintentional lowering of the wheel free lift
6. Interactive security system

- The Safety-Star-System (SST) controls the actions of the lift while the lift lowers or raises.
- Normally, the lift lowers with a speed of 0,05 meters in a second.
  If the speed increases, e.g. because of a leakage of the hydraulic system, the SST detects the problem and stops the lift by closing the oil supply of the hydraulic cylinders.
- Switch off the main switch.
- Control the complete hydraulic system and call your service partner if there is any defect!
- The lift can be repaired by a competent person with knowledge and experience, who has joined a special training of the lift manufacturer (Erectors of the manufacturer and its retailers are competent persons).

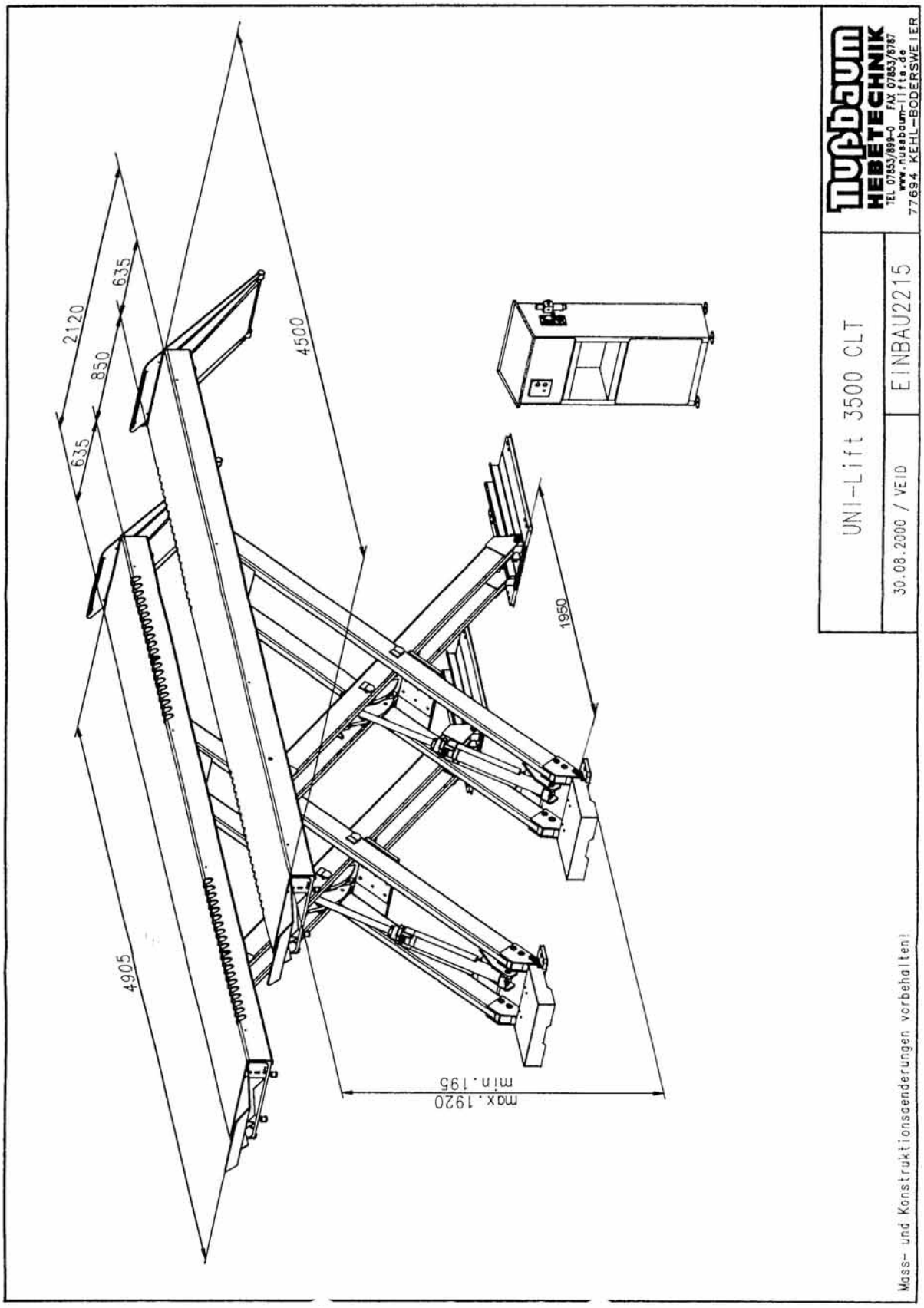
CE-STOP (main lift and wheel free lift)

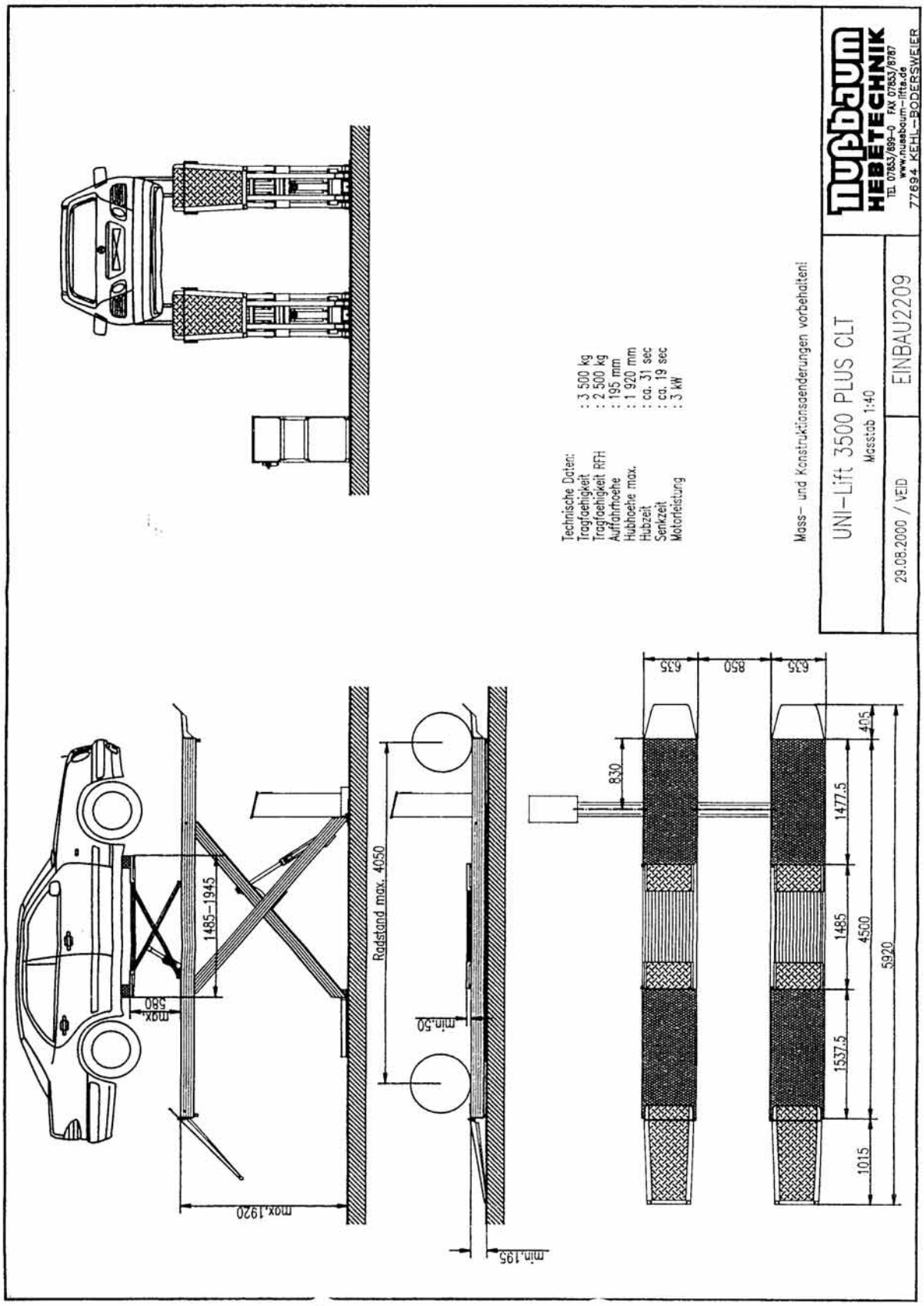
- When rail of the lift is approximately 320 mm high, the lowering stops automatically.
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Push the button „lowering“ and keep it pushed until the lift has reached his lowest position. You hear an acoustic signal while you lower the lift in his end-position.

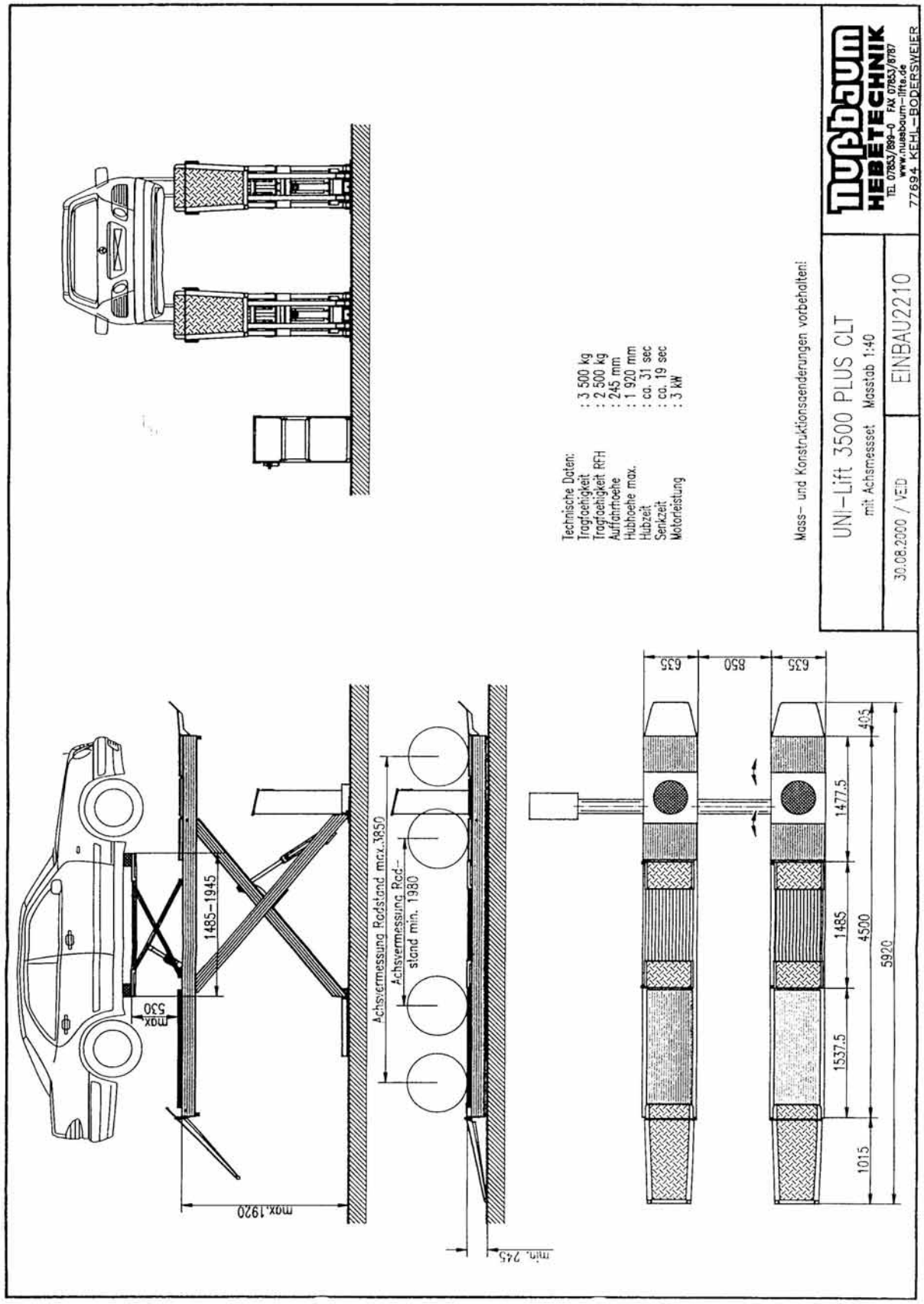
Top-limit

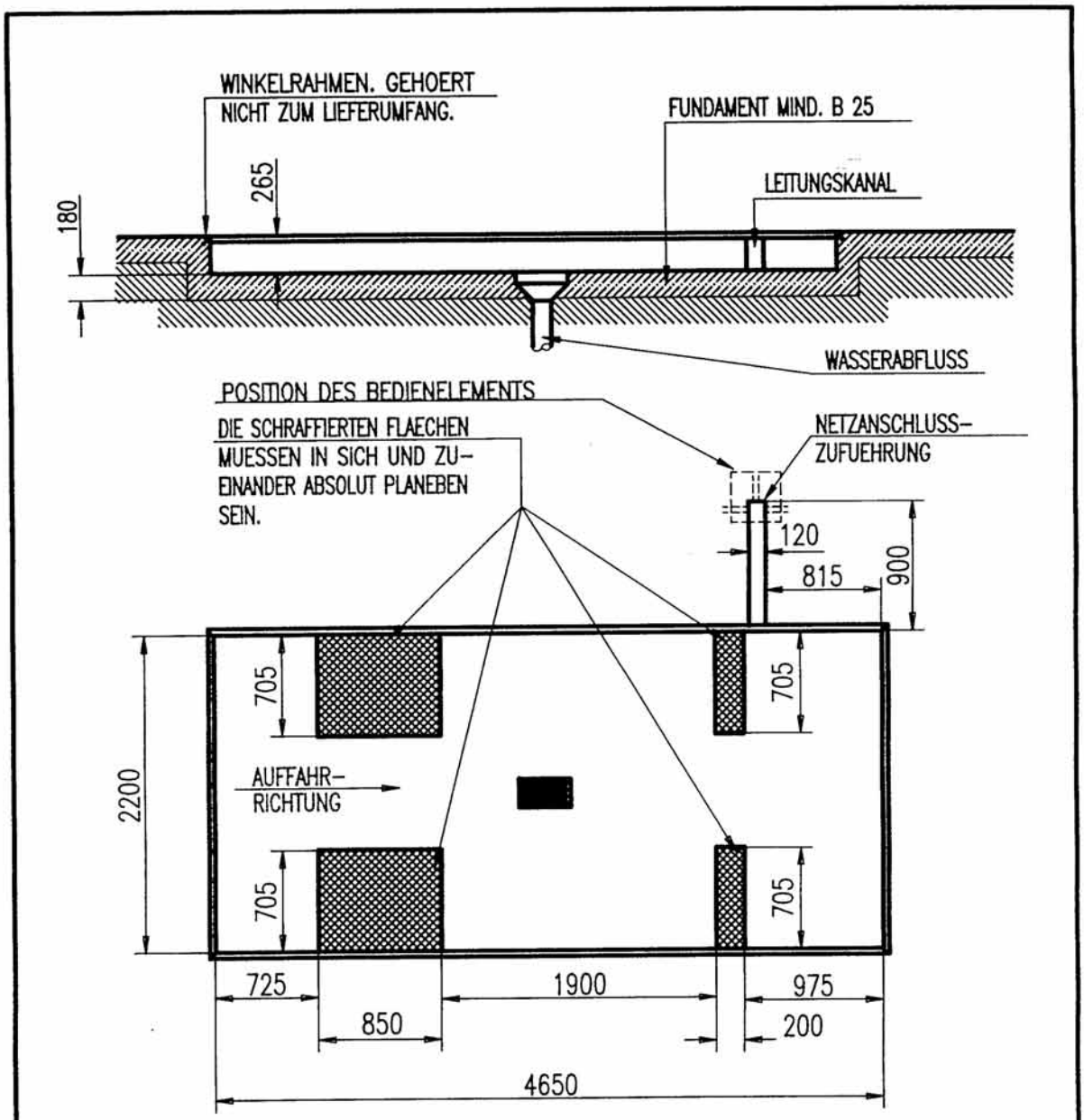
- When the lift has reached his maximal height the SST stops the lift automatically.

3.3 Datasheet




Nußbaum
HEBETECHNIK
TEL 07853/899-0 FAX 07853/8787
www.nussbaum-lifts.de
77694 KEHL-BODERSWEIER
UNI-Lift 3500 PLUS CLT
Massstab 1:40
29.08.2000 / VEID
EINBAU2209
Mass- und Konstruktionsaenderungen vorbehalten!
Technische Daten:
Tragfaehigkeit : 3 500 kg
Tragfaehigkeit RFH : 2 500 kg
Auffahrhoehe : 195 mm
Hubhoehe max. : 1 920 mm
Hubzeit : ca. 31 sec
Senkzeit : ca. 19 sec
Motorleistung : 3 kW
635
850
635
405
830
1477.5
1485
4500
5920
1537.5
1015
1485–1945
max.580
max.1920
Radstand max. 4050
min.50
min.195


Nussbaum HEBETECHNIK
Tel. 07853/899-0 Fax 07853/8787
www.nussbaum-lifte.de
77694 KEHL-BODERSWEIER
UNI-Lift 3500 PLUS CLT
mit Achsmessset Massstab 1:40
30.08.2000 / VEID
EINBAU2210
Mass- und Konstruktionsaenderungen vorbehalten!
Technische Daten:
Tragfaehigkeit : 3 500 kg
Tragfaehigkeit RFH : 2 500 kg
Auffahrhoehe : 245 mm
Hubhoehe max. : 1 920 mm
Hubzeit : ca. 31 sec
Senkzeit : ca. 19 sec
Motorleistung : 3 kW
635
850
635
405
1477.5
1485
4500
5920
1537.5
1015
Achsvermessung Radstand max.3850
Achsvermessung Radstand min. 1980
1485–1945
max.530
max.1920
min. 245

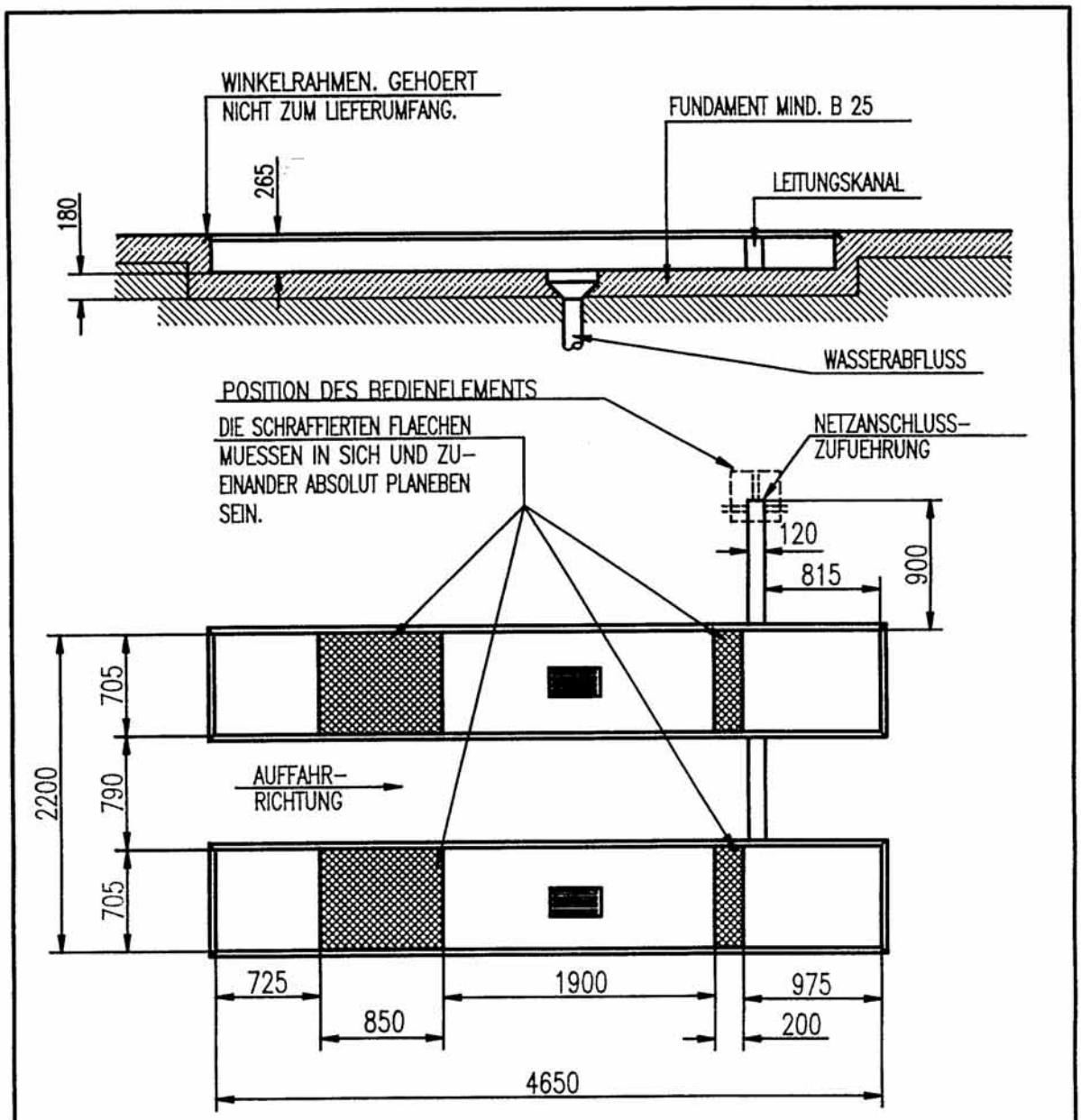


ACHTUNG: GILT NUR FUER DIE SERIENAUSFUEHRUNG MIT STELLPLATTEN UND BEIDSEITIGEN AUFFAHRKLAPPEN.
ANSTELLE DES LEITUNGSKANALS KANN AUCH EIN LEERROHR ø 100 VERLEGT WERDEN.

BAUSEITS IST FOLGENDES ANZUBRINGEN: NETZANSCHLUSS 3 /N+PE, 400V, 50Hz, KABELLAENGE CA. 2m
WASSERABFLUSS IN DER VERTIEFUNG

Gilt auch fuer Radfreiheber bodeneben !

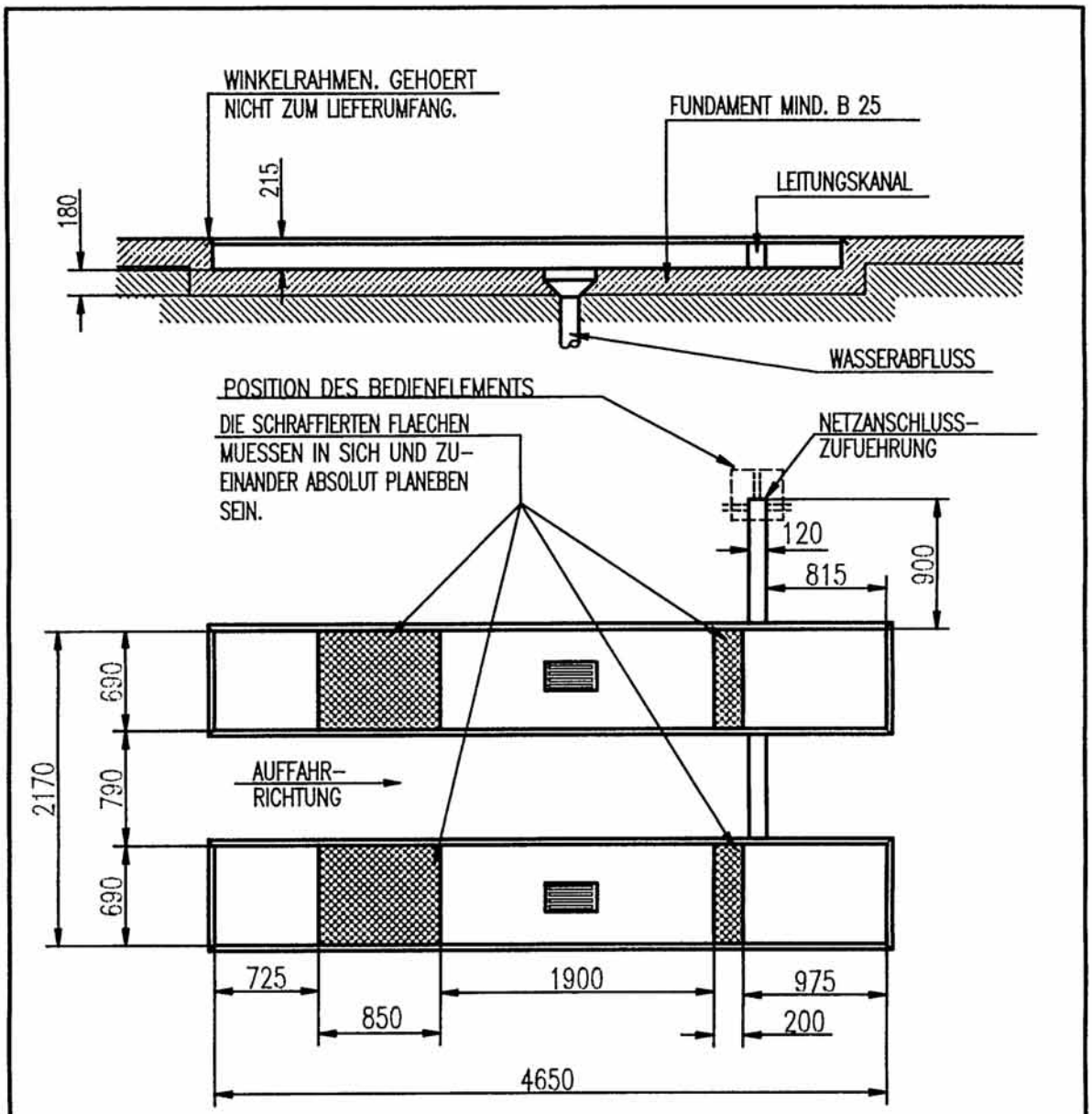
GRUBENMASSE UNI-LIFT 3500 CLT / NT mit durchgehender Grube fuer Achsheber, Oberkante Achsmesset bodeneben, Schienenlaenge 4 500 mm	NUßBAUM HEBETECHNIK FERTIGUNGSTECHNIK + MASCHINENBAU 77694 KEHL-BODERSWEIER
24.10.2000 / M.A	EINBAU2231-1



ACHTUNG: GILT NUR FUER DIE SERIENAUSFUEHRUNG MIT STELLPLATTEN UND BEIDSEITIGEN AUFFAHRKLAPPEN.
ANSTELLE DES LEITUNGSKANALS KANN AUCH EIN LEERROHR Ø 100 VERLEGT WERDEN.

BAUSEITS IST FOLGENDES ANZUBRINGEN: NETZANSCHLUSS 3 /N+PE, 400V, 50Hz, KABELLAENGE CA. 2m
WASSERABFLUSS IN DER VERTIEFUNG

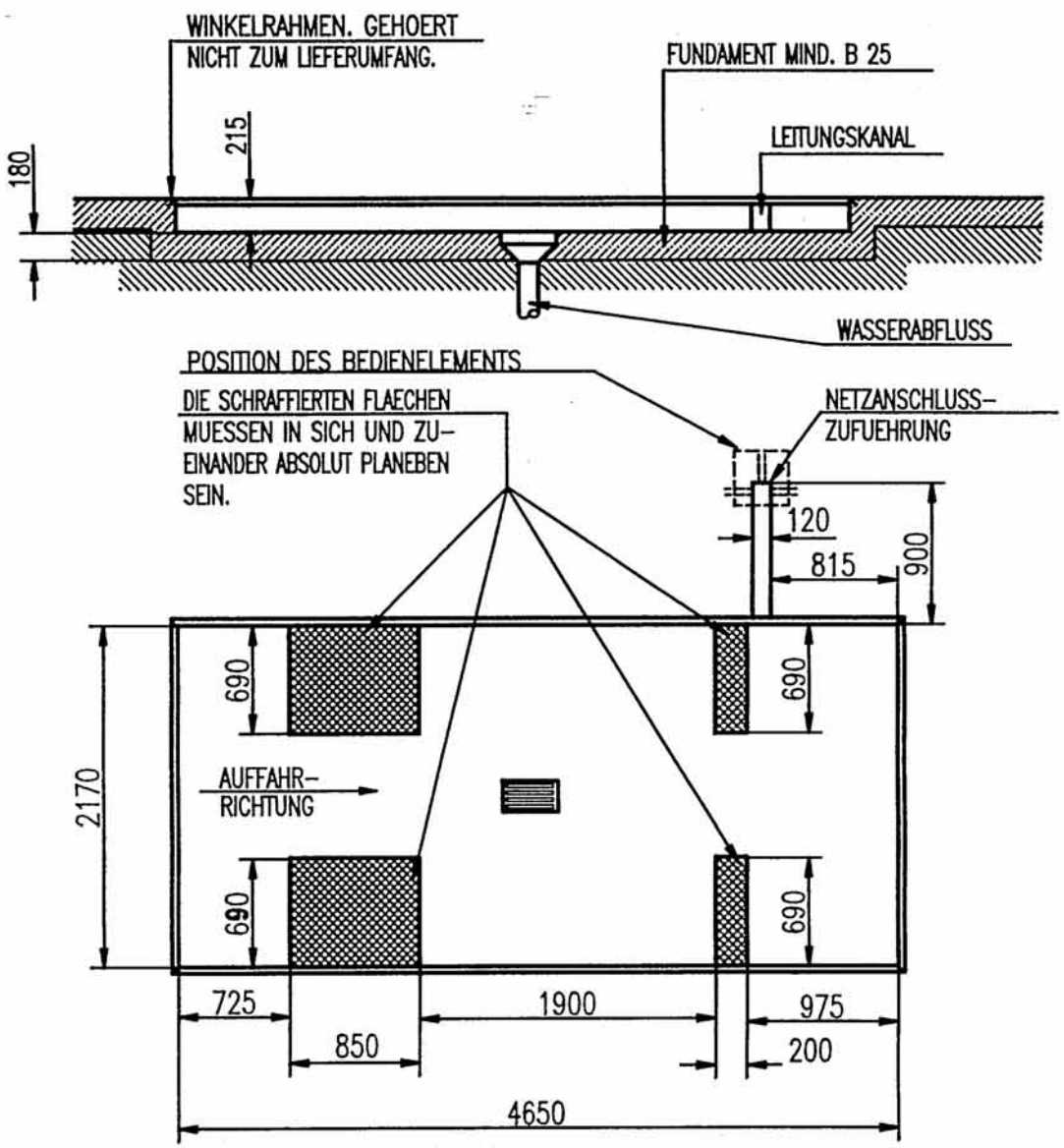
GRUBENMASSE UNI-LIFT 3500 CLT / NT OBERKANTE ACHSMESSSET UND RADFREIHEBER BODENEBEN, SCHIENENLAENGE 4 500 MM	NUßBAUM HEBETECHNIK FERTIGUNGSTECHNIK + MASCHINENBAU 77694 KEHL-BODERSWEIER
25.10.2000 / M.A	EINBAU2232



ACHTUNG: GILT NUR FUER DIE SERIENAUSFUEHRUNG MIT STELLPLATTEN UND BEIDSEITIGEN AUFFAHRKLAPPEN.
ANSTELLE DES LEITUNGSKANALS KANN AUCH EIN LEERROHR Ø 100 VERLEGT WERDEN.

BAUSEITS IST FOLGENDES ANZUBRINGEN: NETZANSCHLUSS 3 /N+PE, 400V, 50Hz, KABELLAENGE CA. 2m
WASSERABFLUSS IN DER VERTIEFUNG

GRUBENMASSE UNI-LIFT 3500 CLT / NT OBERKANTE AUFFAHRSCHIENE BODENEBEN, SCHIENENLAENGE 4 500 MM		NUßBAUM HEBETECHNIK FERTIGUNGSTECHNIK + MASCHINENBAU 77694 KEHL-BODERSWEIER
29.09.2000 / M.A	EINBAU2226	



ACHTUNG: GILT NUR FUER DIE SERIENAUSFUEHRUNG MIT STELLPLATTEN UND BEIDSEITIGEN AUFFAHRKLAPPEN.
ANSTELLE DES LEITUNGSKANALS KANN AUCH EIN LEERROHR Ø 100 VERLEGT WERDEN.

BAUSEITS IST FOLGENDES ANZUBRINGEN: NETZANSCHLUSS 3 /N+PE, 400V, 50Hz, KABELLAENGE CA. 2m
WASSERABFLUSS IN DER VERTIEFUNG

GRUBENMASSE UNI-LIFT 3500 CLT / NT mit durchgehender Grube fuer Achsheber, Oberkante Auffahrschiene bodeneben, Schienenlaenge 4 500 mm	NUßBAUM HEBETECHNIK FERTIGUNGSTECHNIK + MASCHINENBAU 77694 KEHL-BODERSWEIER
04.10.2000 / M.A	EINBAU2227

4. Safety regulations

Using automotive lifts for working the regulations of accident EN1493/Aug.98 (CEN/TC 98 „ Automotive lifts") must be observed.

Especially the following regulations are very important:

- The laden weight of the lifted vehicle mustn't be more than 4000 kg for the automotive lift, 3500 kg for the automotive lift with wheel free lift.
- The laden weight of the lifted vehicle musn´t be more than 2500 kg for the wheel free lift.
- The automotive lift must be lowered completely, before the vehicle is driving, in the provided direction, on the lift.
- During working with the lift the operating instruction has to be followed.
- At vehicles with low sub-ground clearance or with optional equipment (sport equipment) or sport-vehicles, it is to be tested previously whether damages can appear.
- Only trained personnel over the age of 18 years old are to operate this lift.
- Position the polymer supports as described of the vehicle manufacturer under the vehicle. (Version with wheel free lift)
- The correct position of the polymer pads has to be checked after the vehicle has been lifted a little bit.
- It's not allowed to stay under the lifted or lowered vehicle (except for the operator).
- Check the center of gravity of the vehicle if heavy parts are removed. (Version with wheel free lift)
- It's not allowed to transport passengers on the lift or in the vehicle.
- It's not allowed to climb onto the lift or onto a lifted vehicle.
- The automotive lift must be checked from an expert after changes in construction or after repairing carrying pads.
- It's not allowed to start with operations at the lift before the main switch is switched off.
- During lifting or lowering the vehicle it must be observed from the operator.
- It's not allowed to install the standard-automotive lift in hazardous location or in washing bays.

5. Operating instructions

The Safety Regulations must be observed during working with the automotive lift. Read the safety regulations in chapter 4 carefully before working with the lift!

5.1 Lifting the vehicle

- Drive vehicle over the lift, longitudinal axes on line of the lift.
- Block the vehicle against rolling, put into gear.
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the control system; main switch on position ”1” (see pic.1)
- Raise the lift. Press the button „lifting“.
- Lift the vehicle on the working height.
- Observe the complete process.

pic. 1: operation unit

main switch
button „lifting“main lift.....Bühne
button „lowering“main lift.....Bühne
button „lifting“wheel free lift.....R.F.H.
button „lowering“ wheel free lift.....R.F.H.
light.....Licht
equalization.....Ausgleichen

5.2 Lowering the vehicle

- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Lower the vehicle to the working height or until the platform reaches the lowest point; press the button „lowering“ .
- Before the lift reaches the lowest position, it stops (approx. 150 mm).
  Let off the „lowering”. Control the dangerous places. Press the button again. You hear an acoustic signal until the lift reaches the lowest position.
- Observe the complete process.
- Drive the vehicle out of the lift if the lift (main lift) is in the lowest position.

5.3 Lifting the vehicle with the wheel free lift

- Drive vehicle over the lift, longitudinal axes on line of the lift.
- Block the vehicle against rolling, put into gear.
- Position the polymer supports under the pick-up points which are described by the vehicle manufacturer. Do not lay them on edge! The vehicle might fall down!
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the control system; main switch on position ”1” (see pic.1)
- Raise the lift. Press the button „lifting“ (R.F.H.)

- Lift the vehicle on the working height.
- Observe the complete process.

5.4 Lowering the vehicle with the wheel free lift

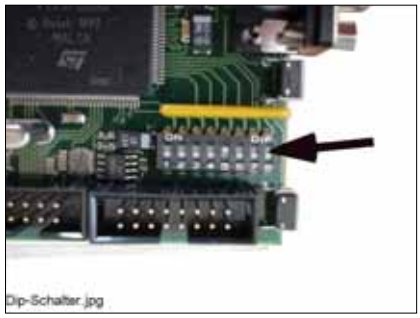
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Lower the vehicle to the working height or until the platform reaches the lowest point; press the button „lowering“ (R.F.H.)
- Before the lift reaches the lowest position, it stops (approx. 150 mm). Let off the button „lowering”. Control the dangerous places. Press the button again. You hear an acoustic signal until the lift reaches the lowest position
- When the lift is in its lowest position, remove the polymer supports
- Drive the vehicle out of the lift if the lift (main lift) is in the lowest position.

5.5 Equalisation of the 2 rails (main lift)

- Press button „Equalize“ at the operation unit. The rails of the main lift equalize. It is not possible to equalize the wheel free lift with this button.

5.6 Manual equalisation of the lift

- If the SST (Safety-Star-System) makes out a difference of approx. 40 mm, it will stop the lift automatically.
- An equalisation has to be prepared
- Remove the top covers of the aggregate and the covers of the control box.
- In the control box unit you find the DIP-switches.



Dip-switch on the board in the box.

An access on the Dip-Switch is only allowed when the main switch is switched off and only by instructed, authorized technical staff.

- Dip-switch 5 (regulation ON/OFF).
- Dip-switch 1 (only platform 1 moveable).
- Dip-switch 2 (only platform 2 moveable).
- Dip-switch 7 (reset – adjust to zero the lift in the lowest position).

Enforce the equalisation:

- Equalize platform 1.
- Move the Dip Switch 5 on position “off” (regulation off).

- Move the Dip switch 1 on Position “on” (Dip switch 1 for platform 1).
- Press the button „lifting“ or „lowering“ and simultaneously the override switch until the platform has the same height.
- Move the Dip switch 1 on Position „off“.
- Move the Dip switch Dip 5 on Position „on“ (regulation on).
- Press the button „lowering“ until the lift reaches the lowest position to do a reset (compare chapter „Reset after a emergency lowering“)
- Mount the covers again.

6. Troubleshooting

If the lift does not work properly, the reason for this might be quite simple. Please check the lift for the potential reasons mentioned on the following pages. If the cause of trouble cannot be found, please call the technical service.

Problem: Motor does not start!

Potential causes:	solution:
- *no power supply*	*Check the power supply*
- *main switch is not engaged*	*Check the main switch*
- *fuse defective*	*Check the fuse*
- *the feed line is cut*	*Check the feed line*
- *thermal switch in the motor is active*	*Let it cool down*

Problem: Motor starts, lift does not lifting!

Potential causes:	solution:
- *The vehicle is too heavy*	*Unload the vehicle*
- *Level of the oil is too low*	*Fill in new hydraulic oil*
- *The emergency lowering screws are not closed*	*Check screws and close/secure them*
- *The hydraulic hoses are dirty*	*Call the lift service*

Problem: The lift does not lowered!

Potential causes:	solution:
- *The lift is standing on a obstacle*	*See chapter 6.1*
- *The hydraulic valve is defective*	*Call the lift service*
- *fuse defective*	*Check the fuse*
- *button „lowering“ is not pressed*	*Check the button*
- *the holding valve is defective*	*Call the lift service*

Problem: The equalizing does not work

Potential causes:	solution:
- *wrong button pressed*	*Check the button*
- *hydraulic valve defective*	*Call the lift service*
- *fuse defective*	*Check the fuse*

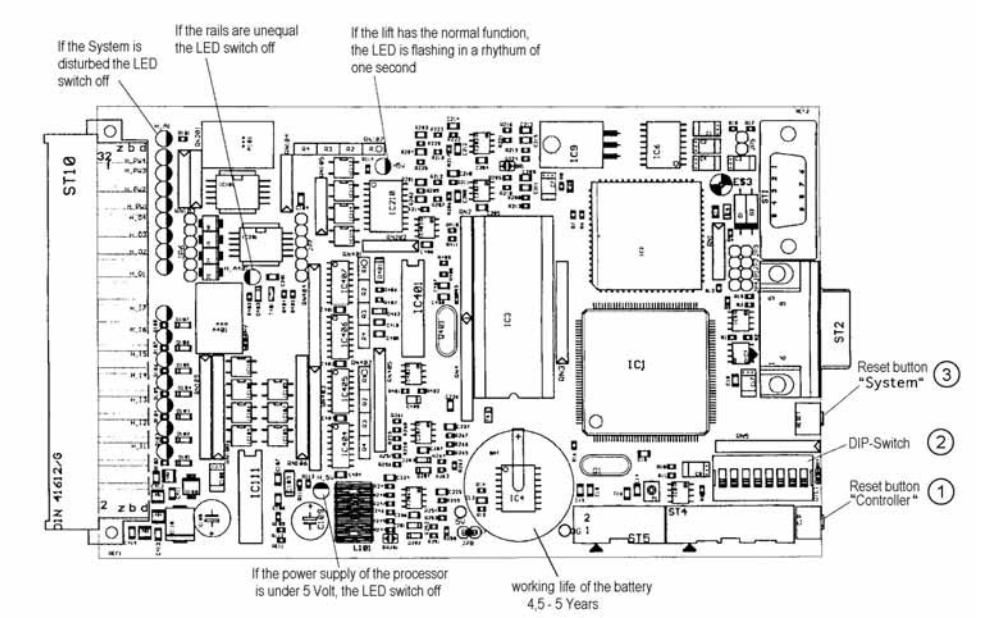
6.1 Driving on an obstacle

If the Safety-Star-System recognizes a difference of 40 mm between the platforms then it switches off the lift.

6.1.1 Remove an obstacle

Only trained and authorized staff is allowed to work with the DIP-switches! The main-switch has to be switched off!

- Remove the cover of the operating unit and the control box.
- Press the button „Reset“ (1) and hold it. (see pic. 2, „Reset Achskontroller 1“)



pic. 2: circuit board in the control box

- Switch off the main switch and wait 5 sec. Hold the reset button.
- Switch on the main switch and wait 5 sec. Hold the reset button.
- Let go off the reset button.
- Move all the Dip-switches on position „off“.
- Move the Dip-switch 1 and 2 on position „on“.
- ***Caution***: This procedure can only be done when the lift is ***not*** at the maximum height.

- Carefully watch the car on the lift and its reaction.
- Press the „lifting“ button until the obstacle can be removed.
- The side of the lift that is higher must be lowered with the help of the corresponding Dip-switch. (see chapter „Equalisation of the two lifting platforms“).
- After the equalizing of the runways, a reset has to be done (see the following points).
- Move all the Dip-switches on position „off“.
- Move the Dip-switch 5 on position „on“.
- Press the button „reset“ (1) and hold it. (pic. 2)
- Switch-off the main switch and wait 5 sec. Hold the reset button.
- Switch-on the main switch and wait 5 sec. Hold the reset button.
- Let go off the reset button.
- Press the button „lowering“ until the lift (both platforms) is in the lowest position and the acoustic signal stops beeping.
- Move the Dip-switch 7 on position „on“.
- Dip-switch 5 stays on „on“ position.
- Press the button „reset“ (1) and hold it.
- Switch-off the main switch and wait 5 sec. Hold the reset button.
- Switch-on the main switch and wait 5 sec. Hold the reset button.
- Let go off the reset button.
- Dip-switch 5 stays in „on“ position.
- Move the Dip-switch 7 on position „off“.
- On the computer-board must now three diodes lighten permanently. One additional diode must be blinking in the frequency of approx. 1 sec.
- Raise and lower the automotive lift a few times without load. Observe the process.
- Mount the covers.

6.2 Emergency lowering of the main lift/ wheel free lift

A emergency lowering is an intervention into the control of the lift and can be done only by experienced expert.
The emergency lowering must be carried in this order. Otherwise a malfunction can lead it to damages or lead to danger for body and lives.

Every kind of external leakage has to be removed. This is necessary in particular before an emergency lowering.
The emergency lowering may only be done by persons which are trained in using the lift.

pic.3: hydraulic bloc

Reasons, that can make an emergency lowering necessary, are e.g. a defect of the electric system or disturbances of the valves, etc.

In the case of **power failure**, the emergency-lowering can only be done if the automotive-lift is not blocked in a safety device. If the lift is locked, the command valve cannot be opened and the security system cannot opened. Wait for the end of the blackout in this case.

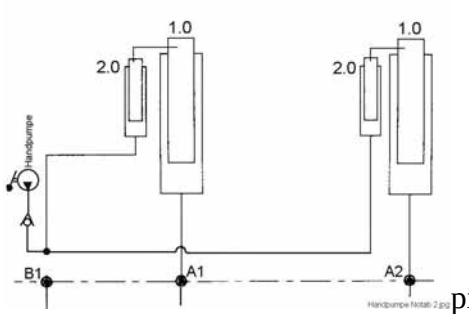
In the case of **defective electromagnetic valves**, the hydraulic valves of the lift will not open any more. Therefore the lift can not be lowered. In this case there is the possibility to open the hydraulic valves manually and to lower the lift into its lowest position, so that the vehicle can be driven off.

Preparation for the emergency lowering

1. Switch off the main switch and safe it. (lock it)

☞ ***The emergency lowering can only be performed when the interactive Safety-Star-System is not locked.***

2. Open the hydraulic screwing B1 (see pic. 4) at the aggregat. Connect a hydraulic hand pump which includes a back pressure valve with the hydraulic hose. Generate approximately 30-35 bar pressure with the hand pump.



pic. 4: connection scheme for the hand pump

3. Connect the hand pump afterwards with the measuring connection M3 at the hydraulic bloc. Approximately 100 bar are needed to raise one rail of the lift 10 mm.

4. Afterwards connect the hand pump with the measuring connection M4 at the hydraulic block. Approximately 100 bar are needed to raise the other rail of the lift 10 mm.
5. Unlock the security system manually in the direction of the arrow (see pic.).

pic. 5: unlocking the cylinders

6. Repeat point (2) to secure that the unlocking cylinders are not locked any more.
7. Execute this process at both cylinders.

Procedure of the emergency lowering (main lift)

- Condition: The security system is not locked.
- Open the locknut N1 & N2 (red) of the hydraulic block
- Turn carefully, maximal one rotation anticlockwise, the emergency-lowering screw N1 with a suitable tool (hexagon spanner 5). The lowering of one platform starts. Lower the platform approx. 5- 10 cm then close the emergency-lowering screw. If the platform does not lower, the cylinder is locked. Repeat the process of unlocking the cylinder.
- Repeat the procedure with the set screw N2. Repeat this alternate with the set screws N1 and N2 until the lift has reached his lowest position.
- If the lift is in the lowest position turn the set screws clockwise and safe it with the locknuts.
- Remove the hand pump and the objects between the cylinder and the flange!

☞ ***The complete process must be observed by the operator. Close the emergency lowering screws when any danger appears. After finishing the emergency lowering, the set screws and the locknuts must be brought back into the original position, otherwise a malfunction of the lift may occur.***

☞ ***Do not use the lift until defective parts are exchanged!!***

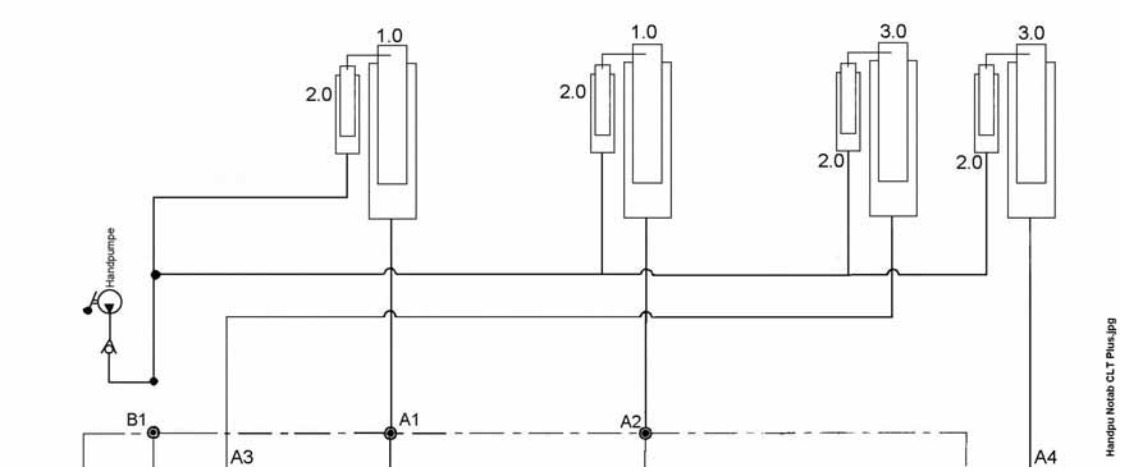
⚠ ***Before the initiation after an emergency lowering, the objects between the cylinder and the flange have to be removed! Otherwise the security devices are out of function and this means danger to life and danger of damages!***

6.2.2 Preparation for the emergency lowering (wheel free lift)

1. Switch off the main switch and safe it. (lock it)
2. The wheel free lift has to be secured against falling down with suitable objects. These objects are to be removed only briefly before the emergency lowering.

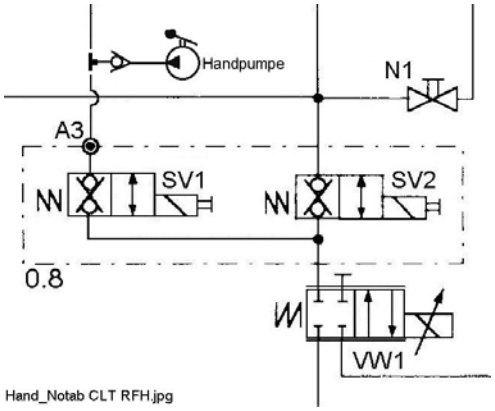
☞ ***The emergency lowering can only be performed when the interactive Safety-Star-System is not locked.***

3. Open the hydraulic screwing B1 at the aggregate .Connect a hydraulic hand pump which includes a back pressure valve with the hydraulic hose. Impinge the hand pump with maximal approximately 30- 35 bar.



pic. : connection scheme for the hand pump

4. Remove only the hydraulic hand pump. The back pressure valve remains at the hydraulic hose.
5. Open the connection A3 at the hydraulic unit. Connect the hand pump with a T-piece and a back pressure valve at the connection A3.



pic. : Connection for the emergency lowering of the wheel free lift

6. Approximately 100 bar are needed to lift a rail of the wheel free lift approximately 10 mm.
7. Remove only the hydraulic hand pump. Open the connection A4 at the hydraulic unit Connect the hand pump with a T-piece and a back pressure valve at the connection A4.
8. Approximately 100 bar are needed to lift the second rail of the wheel free lift approximately 10 mm.
9. Repeat point (3) to secure that the security system is unlocked.

pic 6: positions of the seat valves

Procedure of the emergency lowering (wheel free lift)

- Condition: The security system isn´t locked.
- The double seat valves SV1, SV2, SV3, SV4 are to be pressed manually. Further persons might simplify this procedure (see pic. 6).
- The double seat valves are pressed.
- Open the locknut N1 & N2 (red) of the hydraulic block
- Turn carefully, maximal one rotation anticlockwise, the emergency-lowering screw N1 with a suitable tool (hexagon spanner 5). The lowering of one platform starts. Lower the platform approx. 5- 10 cm then close the emergency-lowering screw. If the platform does not lower the cylinder is locked. Repeat the process of unlocking the cylinder.
- Repeat the procedure with the set screw N2. Repeat this alternate with the set screws N1 and N2 until the lift has reached his lowest position.
- If the wheel free lift is in the lowest position turn the set screws clockwise and safe it with the locknuts.
- Let off the double seat valves.
- Remove the hand pump and the objects between the cylinder and the flange!

☞ ***The complete process must be observed by the operator. Close the emergency lowering screws when any danger appears. After finishing the emergency lowering, the set screws and the locknuts must be brought back into the original position, otherwise a malfunction of the lift may occur.***

☞ ***Do not use the lift until defective parts are exchanged!!***

⚠ ***Before the initiation after an emergency lowering, the objects between the cylinder and the flange have to be removed! Otherwise the security devices are out of function and this means danger to life and danger of damages!***

6.3 Reset the main lift after an emergency lowering

☞ ***Only when the lift is in the lowest position is the reset of the lift possible.***

⚠ ***An access on the Dip-Switch is only allowed when the main switch is switched off and only by instructed, authorized technical staff.***

a) There must not be a vehicle on the lift.
b) Remove the cover of the operating unit.
c) Remove the cover of the electrical large box.
d) Press the button 1 (see pic. 2) and hold it.
e) Switch-off the main switch and wait 5 sec. Hold the reset button.
f) Switch-on the main switch and wait 5 sec. Hold the reset button.
g) Let go off the reset button.
h) Press the button „ lowering“ until both platforms are in the lowest position.
i) If necessary repeat several times the steps d) until h) so that the lift is surely in the lowest position.
j) After that move the Dip-switch 7 on position „on“.
k) Dip-switch 5 stays on position „on“.
l) Repeat the steps d) until h)
m) After that, move the Dip-switch 7 on position „off“. Dip-switch 5 stays on position „on“.
n) On the computer-board must now three diodes lighten permanently. One additional diode must be blinking in the frequency of approx. 1 sec.
o) Raise and lower the automotive lift a few times without load. Observe the process.
p) Mount the covers.

7. Inspection and Maintenance of Nussbaum lifts

☞ ***Before a maintenance, all preparations are to enforce that with maintenance-working and repair-working at the lift no danger for body and lives and for damages of objects exists.***

A regular service has to be performed in regular distances of 3 months through the operator in accordance with following service manual.

7.1 Maintenance plan of the lift

- Generally do not remove the plastic cover of the piston rod. Only in case of heavy dirt deposit clean the piston rods of the hydraulic cylinders from deposit.
- Grease the piston rods with a high capacity lipid (approx. 5 g of S2 DIN51503 KE2G of the Renolit Company.
- Clean and lubricate the moving parts of the lift (hinge bolts, sliding pieces, sliding surfaces) grease with a multipurpose lipid (example: Auto Top 2000 LTD. Agip).
- Grease the lubricate nipples with a multipurpose lipid. (example: Auto Top 2000 LTD. Agip).
- Check the colour if necessary make a repair.
- Check the hydraulic hoses
- Check the hydraulics-hoses for leakage.
- Check the oil level. Fill in a clean, high quality oil (32 cst)in the tank.
- The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into the lowest position. Empty the tank and replaced clean oil, approx. 40 litres are needed. A high quality hydraulic oil is recommended, its should be 32 cst. (e.g.g. HLP 32 LTD. OEST Company)
  Use a ATF-Suffix hydraulic-oil (OEST Company) if the ambient temperature is under 5 degree centigrade. After the fill up, the hydraulic oil must be between the upper and low marking of the oil level gauge.
- After § 52-3 of the VBG 14 German regulation, exchange the hydraulic hoses if its necessary, but latest after 6 years.
- Check the welding of the lift.
- Check the safety device of the lift.
- Check the Battery of the controller (ASC). The Battery has a working life at normal business between 4 ½ - 5 Years (manufacturers statement). To avoid a permanent data-loss through an empty battery, the ASC must be sent for after 4 years into the nußbaum headquarter. Please contact your service partner.
- Check the Polymer supports and replace them if its necessary.
- Check the turning moments of the screws.

Turning moment for screws

property class 8.8

	0,10*	0,15**	0,20***
M8	20	25	30
M10	40	50	60
M12	69	87	105
M16	170	220	260
M20	340	430	520
M24	590	740	890

property class 10.9

	0,10*	0,15**	0,20***
M8	30	37	44
M10	59	73	87
M12	100	125	151
M16	250	315	380
M20	490	615	740
M24	840	1050	1250

* sliding friction 0,10 for very good surfaces, lubricated
** sliding friction 0,15 for good surfaces, lubricated oder dry
*** sliding friction 0,20 surface black or phosphatized, dry

Drehmomenttabelle 8.8-10.9 E

7.2 Cleaning of the automotive lift

A regular and appropriate maintenance served the preservation of the lift.

It can be a prerequisite for claims at possible corrosion.

The best protection for the lift is the regular cleaning of dirt of all manner.

- Including this:
  - de-icing salt
  - sand, pebble stone, natural soil
  - industrial dust of all manner
  - water ; also in connection with other environmental influences
  - aggressive deposit of all manner
  - constant humidity by insufficient ventilation

How often must the lift be cleaned ?

This is dependent on the use, of the working with the lift, of the cleanness of the workshop and location of the lift. The degree of the dirt is dependent on the season, of the weather conditions and the ventilation of the workshop.

Under bad circumstances it is necessary to clean the lift every week, but a cleaning every month can suffice.

Clean the lift and the floor with a non-aggressive and non-abrasive detergent. Use gentle detergent to clean the parts. Use an standard washing-up liquid and lukewarm water.

- Do not use for cleaning a steam jet cleaning
- Remove all dirt careful with a sponge if necessary with a brush.
- Pay attention that are no remains of the washing-up liquids on the lift after cleaning.
- Do not use aggressive means for cleaning the workshop floor and the automotive lift.

- A permanent contact with every kind of liquid is forbidden. Do not use any high pressure device for cleaning the lift.

8. Security check

The security check is necessary to guarantee the safety of the lifting during use. It has to be performed in the following cases:

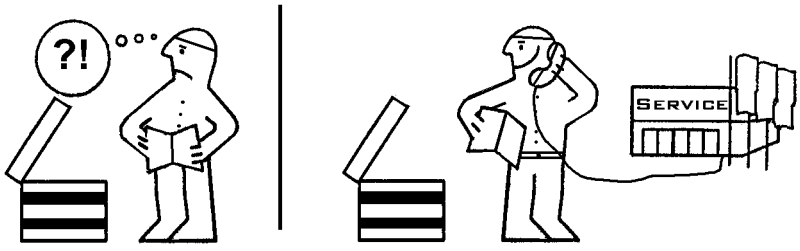
1. Before the initial operation, after the first installation
Use the form "First security check before initiation"
2. In regular intervals after the initial operation, at least annually.
Use the form "Regular security check at least annually"
3. Every time the construction of that particular lift has been changed.
Use the form "Extraordinary security check"

☞ ***The first and the regular security check must be performed by a competent person. It is recommended to service the lift at this occasion.***

☞ ***After the construction of the lift has been changed (changing the lifting height or capacity for example) and after serious maintenance works (welding on carrying parts) an extraordinary security check must be performed by an expert.***

This manual contains form with a schedule for the security checks. Please us the adequate form for the security checks. The form should remain in this manual after they have been filled out. In the following there is a short description about special safety devices.

9.Installation and Initiation



9.1 Installation of the automotive lift

You can choose between two installation places of the operating unit: The position of the operating unit can be chosen in drive-in direction right or in drive-in direction left.

9.2 Regulations for the installation

- The installation of the lift is performed by trained technicians of the manufacturer or its distribution partner. If the operator can provide trained mechanics, he can install the lift by himself. The installation has to be done according to this regulation.
- The standard lift must not be installed in hazardous locations or washing areas.
- Before installation a sufficient foundation must be proved or constructed.
  An even installation place has to be provided. The foundations must be based in a frost resistance depth, both outside and indoors, where you must reckon with frost.
- An electrical supply 3~/N+PE, 400 V, 50 Hz has to be provided. The supply line must be protected with T16A (VDE0100 German regulation). The minimum diameter amounts to 2,5 mm².
- All cable ducts have to be equipped with protective coverings to prevent accidents.
- After the installation of the automotive-lift, it is necessary to examine by customer the Protective grounding after IEC regulation (60364-6-61). An insulation resistance examination is Also recommended

9.3 Erection and doweling of the lift

1. Take carefully out the lift of the wood-crate.
   Do not pull apart the scissors of the lift !
2. Install the lift according to the data sheet and the foundation plan.
3. Remove the cover of the operating unit.
4. Install the operating unit according to the datasheet and connect the power supply.
5. Connect the hydraulic hoses and the wires of the measuring system with the aggregate.
   The hoses and wires should not cross each other
6. Fill in the hydraulic oil (approx. 40 litres)
6. Press shortly the button „lifting“. Observe the direction of rotation of the motor.
7. If no platform raises, check again the direction of rotation of the motor and change two phases of the power supply if it is necessary (attention: only by 3 phase supply).
9. Press the button „lifting“ until the lift is on a height of approx. 10 cm.
10. Press the button „lowering“ until both platforms are in the lowest position and the acoustic signal cannot be heard anymore.
11. Repeat the steps 7 to 10 until the lift surely is in the lowest position.
12. Press the button „lifting“ until the lift is standing on a height of approx. 30 cm. (above the CE-Stop)
13. Press the button „lowering“ until the lift stops at the CE-Stop. Let the button off.
14. Press the button „lowering“ until both platforms are in the lowest position and the acoustic signal cannot be heard anymore.
15. Repeat the steps 12 till 14.

16.Press the button „lifting“ until the lift reaches the highest position.
17. Press the button „lowering“ until the lift is in the lowest position.
18. Press the button „lifting“ again until the lift reaches the highest position.
19. The lift was adjusted by these individual steps to its normal function.
20.Adjust the lift: first one base plate, than the second base plate. If there is an uneven floor even it with metal sheets. A continuous contact between the floor and the base plate must be guaranteed to avoid hollow spaces.
21. Dowel the lift: **Nussbaum Company demands LIEBIG safety dowels (german dowel manufacturer) or equivalent dowels of other manufacturer but: observe their regulations.**
Before doweling check the concrete floor (with quality B25!) if the concrete floor goes to the top edge of the floor. For an existing concrete floor the dowels have to be chosen according to pic. 8. If floor tiles are on the concrete floor, the dowels have to be chosen according pic. 9. Its important for the trouble-free working that the base plates are clean and the guides of the sliding block are clean and greased.
Check the adjustment of the base plates and dowel the lift: Bore the holes to fix the dowels through the borings of the base plates. Clean the holes with pressure air. Put in the safety dowels.
22.Dowel the operating unit.
23. Fine adjustment of the lift: first one base plate, than the second base plate. If there is an uneven floor even it with metal sheets. A continuous contact between the floor and the base plate must be guaranteed to avoid hollow spaces.
24.Tighten the Liebig-dowels with the dynamometric key (M = 80Nm).

☞ ***Each dowel must be tightened with the demanded torque. Otherwise the normal function of the lift can not be guaranteed.***
Observe the regulations of other dowel-manufacturers.

25. Raise and lower the lift several times with load. Check the torque of the dowels and check the hydraulic parts for tightness.
26. Mount the covers: ***Do not damage the cables.***
27. The lift has now its normal function

☞ ***When there are disturbances, the customer service has to be called!***

9.4 Initiation

☞ ***Before the initiation a security check must be performed. Therefore use form: First security check.***

If the lift is installed by a competent person, he will perform this security check. If the operator installs the lift by himself, he has to instruct a competent person to perform the security check.
The competent confirms the faultless function of the lift in the installation record and form for the security check and allows the lift to be used.

☞ ***Please send the filled installation record to the manufacturer after the installation.***

9.5 Changing the installation place

If the place of installation shall be changed, the new place has to be prepared in according to the regulations of the first installation. The changing should be performed in accordance with the following points:

- Raise the lift on approx. 1000 mm.
- Remove the cover of the hydraulic tubes.
- Loose the dowels.
- Lower the lift in the lowest position.
- Loose the plug of the power supply.
- If necessary loose the hydraulic hoses only on the operating unit.
- If necessary use blind plugs to close the hoses.
- Disconnect the power supply.
- Transport the lift to ist new place.
- Install the lift in accordance with chapter 9 " Installation and Initiation".

⚠ ***Use new dowels, the used dowels can not be used anymore.***

☞ ***A security check must be performed before reinitiation by a competent person. Use form "Regular security check"***

Pic. 8: choice of the dowel length without floor pavement or tile surface

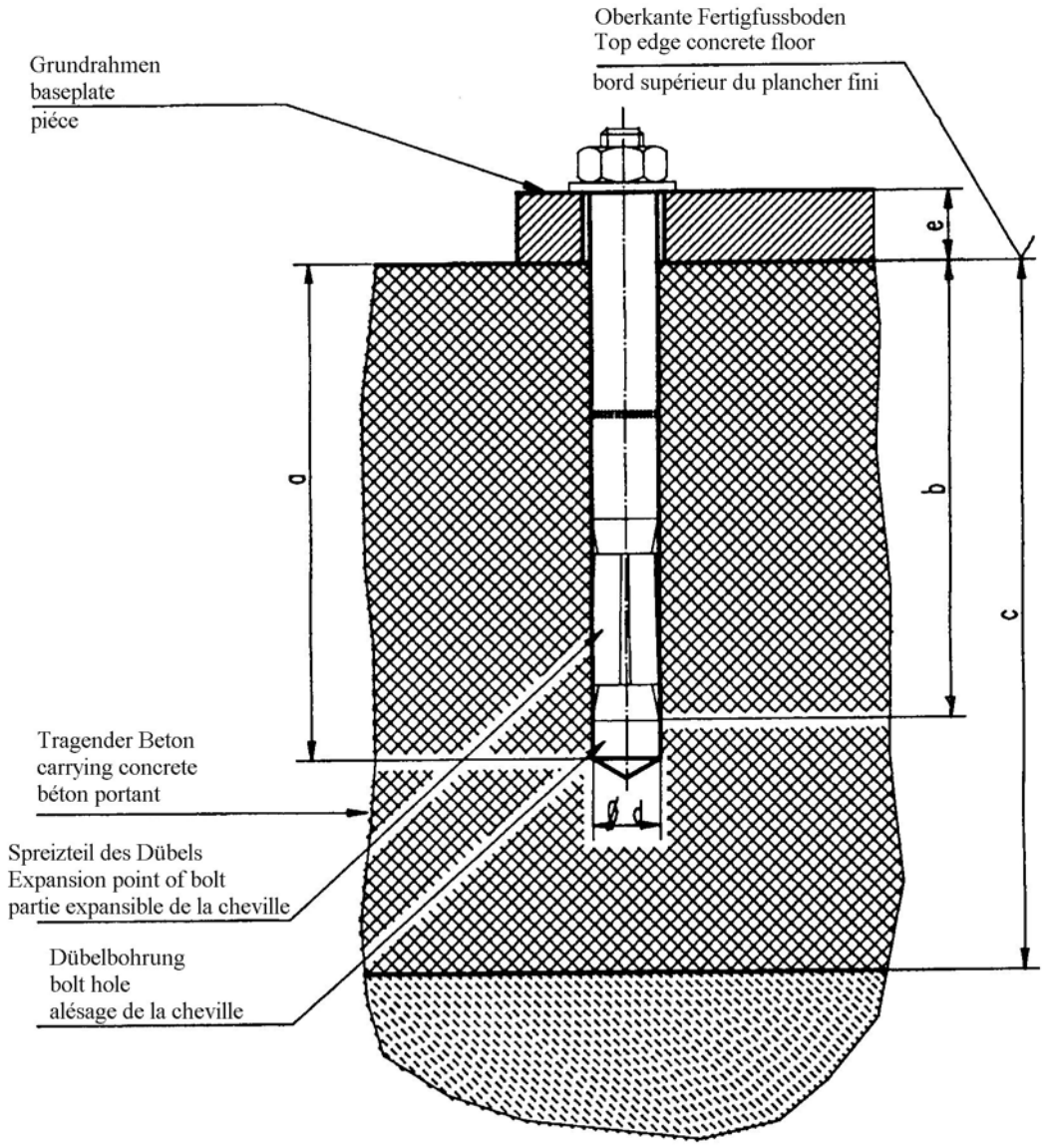


Table to pic. 8

Liebig-dowels			
Dowel type		B20/75	B20/100
Drilling depth	a	115	140
Min. anchorage depth	b	85	85
Thickness of concrete	c	180	180
Diameter of bore	d	20	20
Thickness of the lift-pieces	e	0-40	40-65

Number of dowels	16	16
Starting torque	according to dowel manufacturer	

Pic 9: choice of the dowel length with floor pavement or tile surface

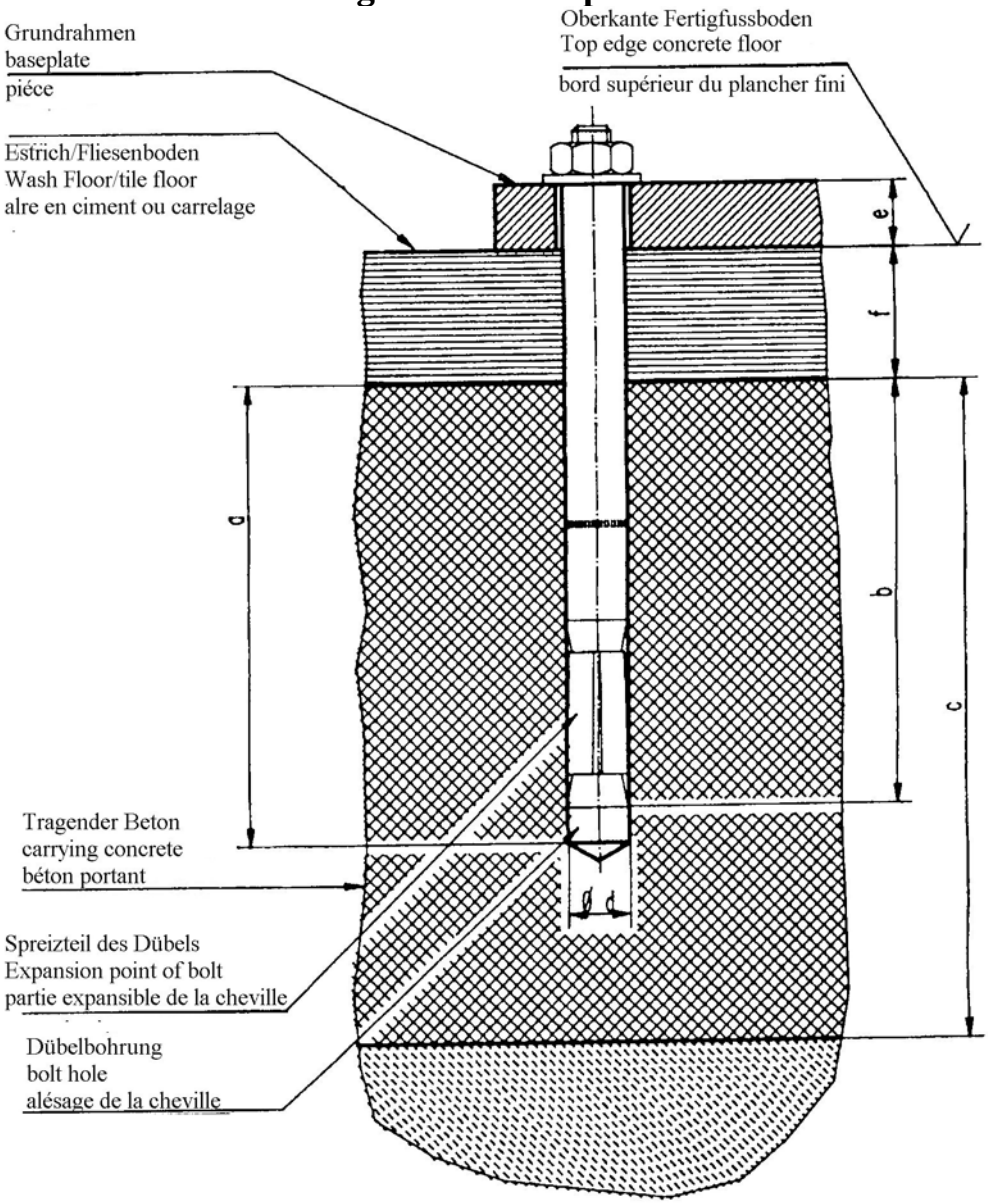


Table to pic 9

Liebig-dowels

Dowel type		B20/100	B20/125	B20/135	B20/175
Drilling depth	a	140	165	175	215
Min. anchorage depth	b	85	85	85	85
Thickness of concrete	c	180	180	180	180
Diameter of bore	d	20	20	20	20
Thickness of the lift-pieces	e+f	40-65	65-90	90-100	100-140

thickness of floor pavement				
Number of dowels	16	16	16	16
Starting torque	according to dowel manufacturer			

First security check before installation

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate				
Short operating instruction				
Warning designation				
Function override switch				
Function button ”lifting/lowering”				
Condition / function ramps				
Function interactive security system				
General condition of the lift				
Security of the bolts				
Condition bolts and bearing				
Construction (deformation, cracking)				
Torque moment of the dowels				
Fixed seat of the screws				
Condition operating unit				
Condition welding				
Condition piston rod				
Condition of the covers				
Closeness of the hydraulic system				
Level of hydraulic oil				
Condition hydraulic hoses				
Condition electrical wires				
Function test with vehicle				
Function equalisation of the rails				
Function CE-Stop				
Condition Polymer supports				
Function test wheel free lift (with vehicle)				
Function lightning				

(mark here applicable, in case of verification mark in addition to the first mark!)

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary
Initiation possible, repair failures until.....
No failings, Initiation possible

....
signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....

(Use another form for verification!) signature of the operator

Regular security check

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate.....				.....
Short operating instruction.....				.....
Warning designation				.....
Function override switch.....				.....
Function button ”lifting/lowering”.....				.....
Condition / function ramps.....				.....
Function interactive security system.....				.....
General condition of the lift.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowels.....				.....
Fixed seat of the screws.....				.....
Condition operating unit.....				.....
Condition welding.....				.....
Condition piston rod.....				.....
Condition of the covers.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil.....				.....
Condition hydraulic hoses.....				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function equalisation of the rails.....				.....
Function CE-Stop.....				.....
Condition Polymer supports.....				.....
Function test wheel free lift (with vehicle).....				.....
Function lightning.....				.....

(mark here applicable, in case of verification mark in addition to the first mark!)

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary
Initiation possible, repair failures until.....
No failings, Initiation possible

....

signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....

(Use another form for verification!) signature of the operator

Regular security check

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate.....				.....
Short operating instruction.....				.....
Warning designation				.....
Function override switch.....				.....
Function button ”lifting/lowering”.....				.....
Condition / function ramps.....				.....
Function interactive security system.....				.....
General condition of the lift.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowels.....				.....
Fixed seat of the screws.....				.....
Condition operating unit.....				.....
Condition welding.....				.....
Condition piston rod.....				.....
Condition of the covers.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil.....				.....
Condition hydraulic hoses.....				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function equalisation of the rails.....				.....
Function CE-Stop.....				.....
Condition Polymer supports.....				.....
Function test wheel free lift (with vehicle).....				.....
Function lightning.....				.....

(mark here applicable, in case of verification mark in addition to the first mark!)

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary
Initiation possible, repair failures until.....
No failings, Initiation possible

....

signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....

(Use another form for verification!) signature of the operator

Regular security check

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate.....				.....
Short operating instruction.....				.....
Warning designation				.....
Function override switch.....				.....
Function button ”lifting/lowering”.....				.....
Condition / function ramps.....				.....
Function interactive security system.....				.....
General condition of the lift.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowels.....				.....
Fixed seat of the screws.....				.....
Condition operating unit.....				.....
Condition welding.....				.....
Condition piston rod.....				.....
Condition of the covers.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil.....				.....
Condition hydraulic hoses.....				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function equalisation of the rails.....				.....
Function CE-Stop.....				.....
Condition Polymer supports.....				.....
Function test wheel free lift (with vehicle).....				.....
Function lightning.....				.....

(mark here applicable, in case of verification mark in addition to the first mark!)

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary
Initiation possible, repair failures until.....
No failings, Initiation possible

....

signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....
(Use another form for verification!) signature of the operator

Regular security check

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate.....				.....
Short operating instruction.....				.....
Warning designation				.....
Function override switch.....				.....
Function button ”lifting/lowering”.....				.....
Condition / function ramps.....				.....
Function interactive security system.....				.....
General condition of the lift.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowels.....				.....
Fixed seat of the screws.....				.....
Condition operating unit.....				.....
Condition welding.....				.....
Condition piston rod.....				.....
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Function test with vehicle.....				.....
Function equalisation of the rails.....				.....
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Condition Polymer supports.....				.....
Function test wheel free lift (with vehicle).....				.....
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(Use another form for verification!) signature of the operator

Regular security check

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signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....
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Regular security check

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Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

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Initiation possible, repair failures until.....
No failings, Initiation possible

....
signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....
(Use another form for verification!) signature of the operator

Extraordinary security check before initiation

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Type plate				.....
Short operating instruction				.....
Warning designation				.....
Function override switch				.....
Function button ”lifting/lowering”				.....
Condition / function ramps				.....
Function interactive security system				.....
General condition of the lift				.....
Security of the bolts				.....
Condition bolts and bearing				.....
Construction (deformation, cracking)				.....
Torque moment of the dowels				.....
Fixed seat of the screws				.....
Condition operating unit				.....
Condition welding				.....
Condition piston rod				.....
Condition of the covers				.....
Closeness of the hydraulic system				.....
Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires				.....
Function test with vehicle				.....
Function equalisation of the rails				.....
Function CE-Stop				.....
Condition Polymer supports				.....
Function test wheel free lift (with vehicle)				.....
Function lightning				.....

(mark here applicable, in case of verification mark in addition to the first mark!)

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary
Initiation possible, repair failures until.....
No failings, Initiation possible

....
signature of the expert signature of the operator

If failures must be repaired:
Failures repaired at: ....
(Use another form for verification!) signature of the operator

Manual service operation over the keyboard

Activity only for authorized persons.

One foil-keyboard and one LC-Display for the position-information and the service-operation are integrated in the control-box/operating unit.

1. **After turning on the power, the following information appears on the display .**

After 5 seconds, one switches automatically to the position-information 2.

Nussbaum Hebetechnik UNI-LIFT CLT

2. Position-information

Ad the position of the 2 axes during the normal operation of the lift.
Al-A2: position-value of the 2 axes

A1: 0.0 **A2: 0.0** MP1 MP2 MP3

Step during the business a mistake on, the axis becomes with the mistake through „-E - „in the position-information marked.
The information changes between the position-information and the error message.

Only when a such mistake was caused, should after telephonic consultation with the Nussbaum Company, phone, 0049 (0)7853-899-0, the service-functions, (sees section 4 (service-operating) become used.
With full function-willingness of the automotive-lift, the operating of the service - functions, over the foil-keyboard is forbidden.

Examples:
information statuses with synchronism-mistake of axis 1

A1: 50.3 –E- **A2: 0.0**

F e h l e r
Gleichlauf

Function button:
< * > Change into the time indicator (3)
< # > change to the service function (4)
< 1 > switch "on/off" the measure point 1
< 2 > switch "on/off" the measure point 2
< 3 > switch "on/off" the measure point 3

3. Elapsed time indicator-information

The number of the working hours can be extract through the operating. Press the button < * > on the foil-keyboard of the lift.

Information of the working hours in hours: minute
Only the time is counted, in which the lift actually drives.

Betriebsstunden
0000000:00 h

The return to the position-information takes place automatically anuses approximately 15 seconds or through operates of the < * > -button.

Function button:
< * > Return to the position-information (2).

4. Service-operation

The service operation is used for it, during the initiation (installation) or to do the lift after a disturbance in function again. Only for these two cases, this operating mode of the lift is intended. Is not allowed to activate these functions, if the lift has the normal function. The functions of the service operation can be activated over the foil-keyboard appropriate on the switchbox. To the navigation in the menu system of the service functions serves the buttons:

<*> **menu-point**
< #>confirms the menu-point

Through presses and confirming " zurück " you can go back from a submenu into the higher ranking menu again.

4.1 Log-in in the service-operation

The operator must log-in in the service-operation to activate the service-functions. He presses during the position-information the button # and inputs afterwards SERVICE-PIN. After correct input the PIN takes place automatically the change into the service-main menu.

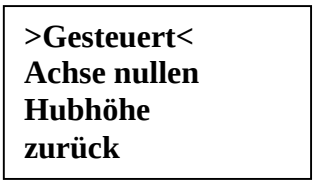
Passwort
- - - -

Retrieval of the password for service-functions

Default-value of the password is ' 1234 '.
This can be altered with demand over the PC-Software, the new password is secured durably with it in the FRAM of the „Achscontrollers“.
Function button:
<*> Back to the position-information (2).
<0> ... < 9 > password input

4.2 Service-Menu

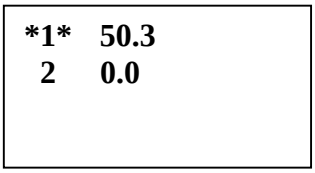
Dialed menu-point becomes through > < marked



Function button:
< * > next menu-point dials
< #> menu-point activates
The menu-point becomes >zurück < activated jumps back this to the position-information.

4.3 STEERED

Both axes of the lift can be driven individually over the function " GESTEUERT ". The driven axis becomes over “* “marks and demarcates and after it over „#“activates. This function can be used only in the disturbance-case!
controlled operation - axis 1 active



The controlled business over the information-functions is only possible if the dip-switch stands 5 on the “Achscontroller” on “ON”!
If the dip-switch 5 is standing on “OFF”, the axe drives over the dip-switch-attitude, independently from the information-function.

Over the buttons < 1 >, < 2 > is dialed the axes, the steered procedures should become. The dialed axes become on the ad through *X * marks.

If the button < lifting > or < lowering > was pressed afterwards, only the select axe can moved.

! The installation can become destroyed.

Function button:

< * > Abortion and return into the service-menu (4.2)

< l > axe 1 activates / deactivates
< 2 > axe 2 activates / deactivates

4.4 Reset of the measuring systems

Over this function, the entire measuring-system of the lift can be put back, (zero). This function is allowed to only after consultation with the service-headquarters of the Nussbaum Company (phone) + 49 (0)7853-899-0.

Achse nullen?

Alert message, whether axes should really become reset.
With confirmation of the retrieval with < #> is put down the axes on zero and is jumped back automatically to the position- information (2) afterwards.
That zeros of the axes is only possible, if the dip-switch 5 on the „Achscontroller“ stands on „ON “.

! The installation can become destroyed.

Function button:
< * > Abortion and return into the service-menu (4.2)
< #> axes becomes on zero favored

4.5 Altitudes restricts

The maximum lifting of the lift can be restricted over the menu-point " HUBHOEHE ". The indicated value can over the button < l > increment and over the button < 0 > decrement becomes. After election of the desired lift, becomes over < #> the value taken on. The submenu was deserted.
The submenu was deserted with the button and the changed value was not stored.

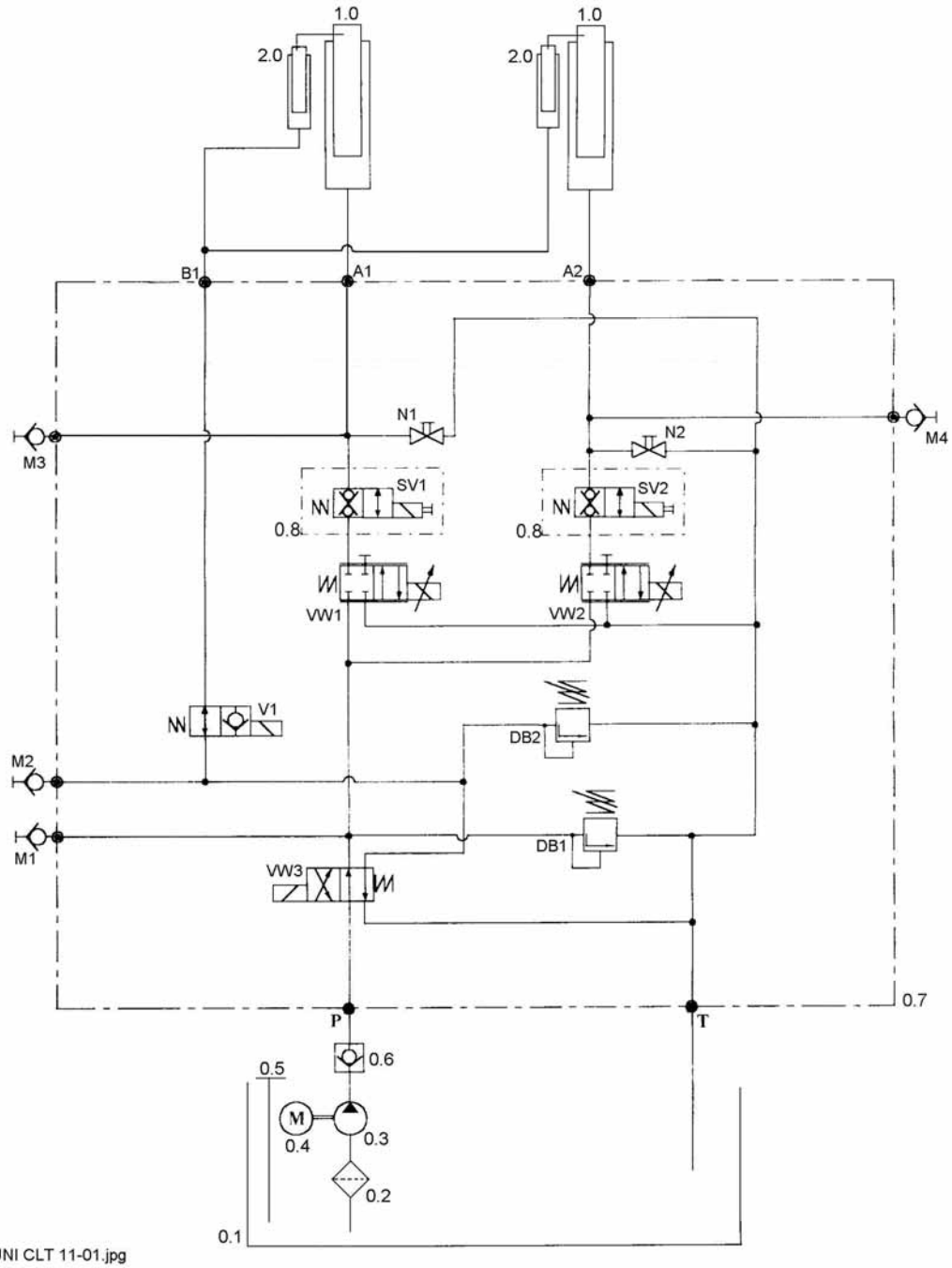
Function button:
< * > Demolition and return into the service-menu without stores
< #> store the new value and return into the service-menu
< l > Increases the lifting height
< 0 > Reduces the lifting height

4.6 going back

From a submenu, one can come back into the paramount menu again. Press the button "ZURÜCK".

Hydraulic diagram without wheel free lift

Block,kpl. UNI-LIFT - CLT
99 529 04 00 5
SN: 158662



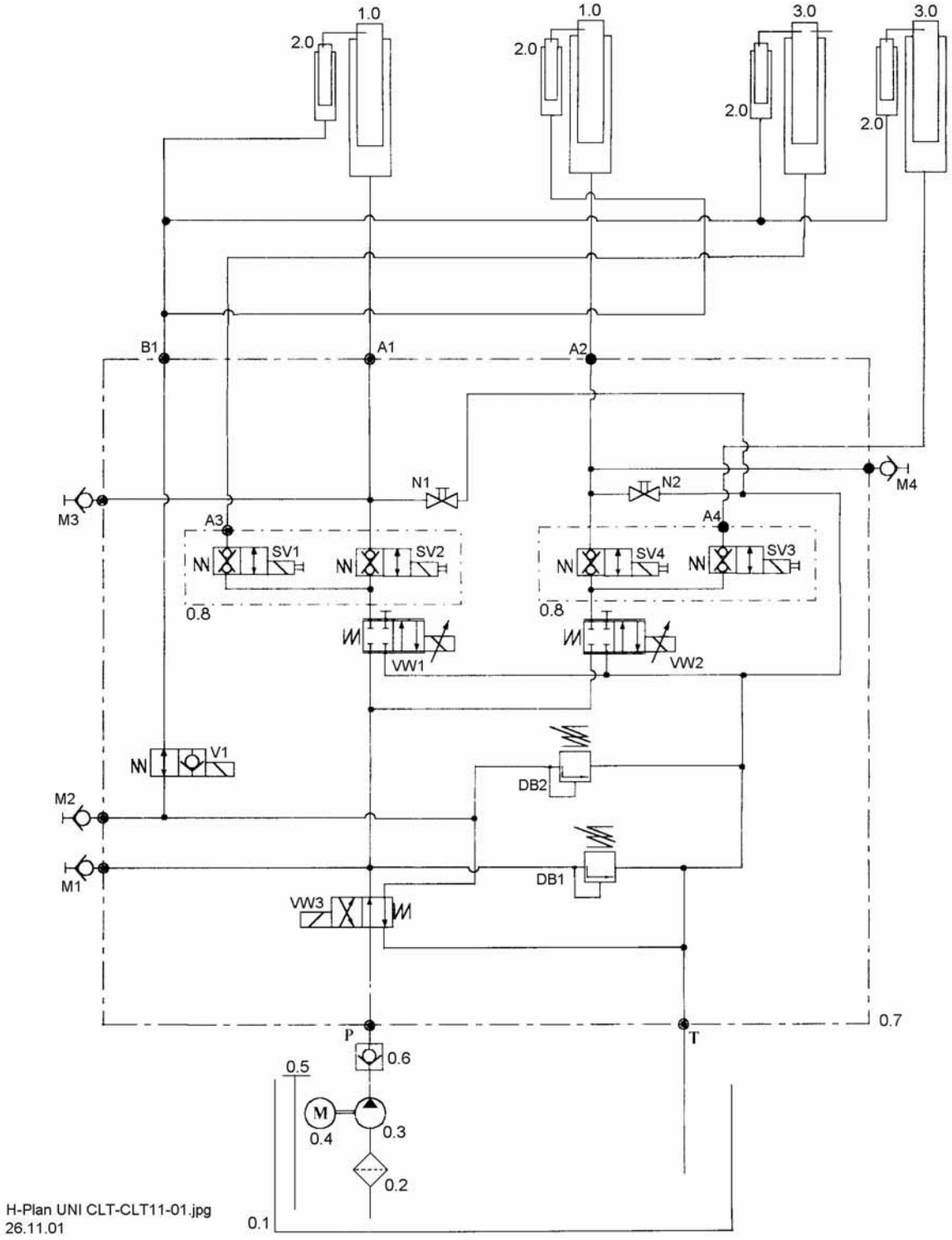
H-Plan UNI CLT 11-01.jpg
26.11.01

Hydraulic parts list

Nr.	description	order number
0.1	oil tank	
0.2	oil filter	980012
0.3	gear pump	9750510112304
0.4	sub oil motor	990445
0.5	oil level gauge	980098
0.6	holding valve	980166
0.7	hydraulic bloc complete	99 529 04 005
0.8	hydraulic block	06-605A-01-01
DB1	pressure relief valve	155211
DB2	pressure relief valve (unlocking cylinder)	155211
M1-M4	measuring connection	155470
VW1	proportional valve	WEP06DA01B0240S
VW2	proportional valve	WEP06DA01B0240S
VW3	4/2-way-valve	WE06DA77A0240X
V1	electric unlockable holding valve	980338
N1	emergency lowering screw	120026
N2	emergency lowering screw	120026
SV1	double seat valve	980853
SV2	double seat valve	980853
1.0	cylinder of the lift	
2.0	unlocking cylinder of the lift	

Hydraulic diagram with wheel free lift 0.25 CLT

Block,kpl. UNI-LIFT CLT plus
99 529 03 00 5
SN: 158661



Hydraulic parts list

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0.8	hydraulic block	06-605A-01-01
DB1	pressure relief valve	155211
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M1-M4	measuring connection	155470
VW1	proportional valve	WEP06DA01B0240
VW2	proportional valve	WEP06DA01B0240
VW3	4/2-way valve	WE06DA77A0240X
V1	electric unlockable holding valve	980338
N1	emergency lowering screw	120026
N2	emergency lowering screw	120026
SV1	double seat valve	980853
SV2	double seat valve	980853
SV3	double seat valve	980853
SV4	double seat valve	980853
1.0	cylinder of the lift	
2.0	unlocking cylinder of the lift	
3.0	cylinder of the wheel free lift	

Electric diagram without wheel free lift

0	1	2	3	4	5	6	7	8	9

Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

WUPJ0050 24.02.1994

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		28.06.2002	BOE	
2	Inhaltsverzeichnis		17.01.2003	BOE	
3	Änderung		28.06.2002	BOE	
4	Einspeisung		16.01.2003	BOE	
5	Steuerspannung		17.01.2003	BOE	
6	Bedientasten		17.01.2003	BOE	
7	Achscontroller		17.01.2003	BOE	
8	Ventile		17.01.2003	BOE	
9	frei		17.01.2003	BOE	
10	Steuerung		17.01.2003	BOE	
11	Bedienung		17.01.2003	BOE	
12	Stückliste		17.01.2003	BOE	
13	Stückliste		17.01.2003	BOE	

1

3

Änderung	Datum	Name	Norm		Ursp.	Ers. f.	Ers. d.		
			Datum						
			Bearb.	BOE					
			Gepr.	20.10.2003					

Nussbaum Hebetechnik GmbH & Co. KG
Korker Straße 24
77694 Kehl Bodersweier
Tel.: (49)(0)7853/899-0 Fax.: (49)(0)7853/8787

Unilift CLT

Unilift CLT 01/03/001

Unilift CLT

Bl. 2

13 Bl.

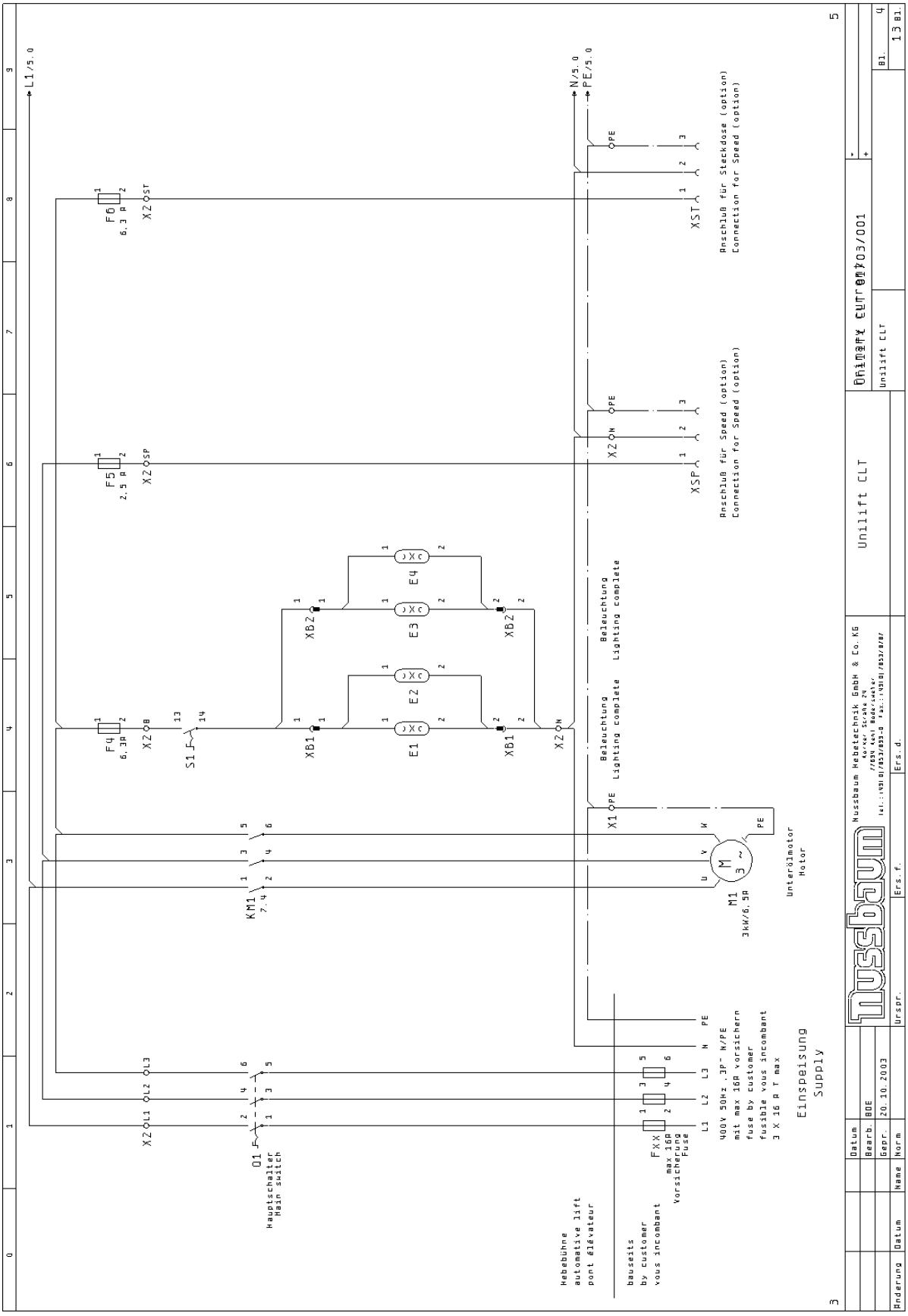
0 1 2 3 4 5 6 7 8 9

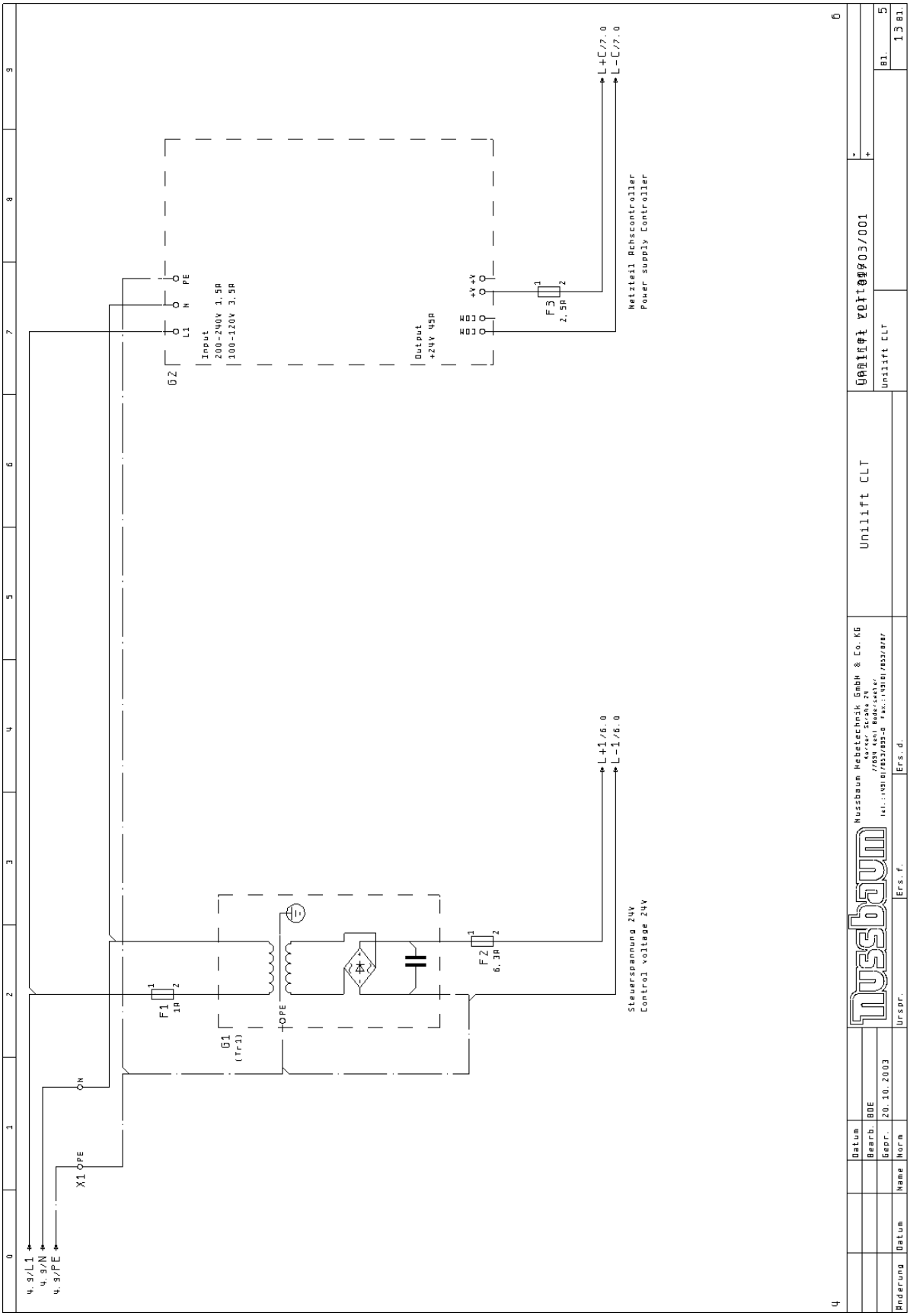
ÄNDERUNGS-INFORMATIONEN

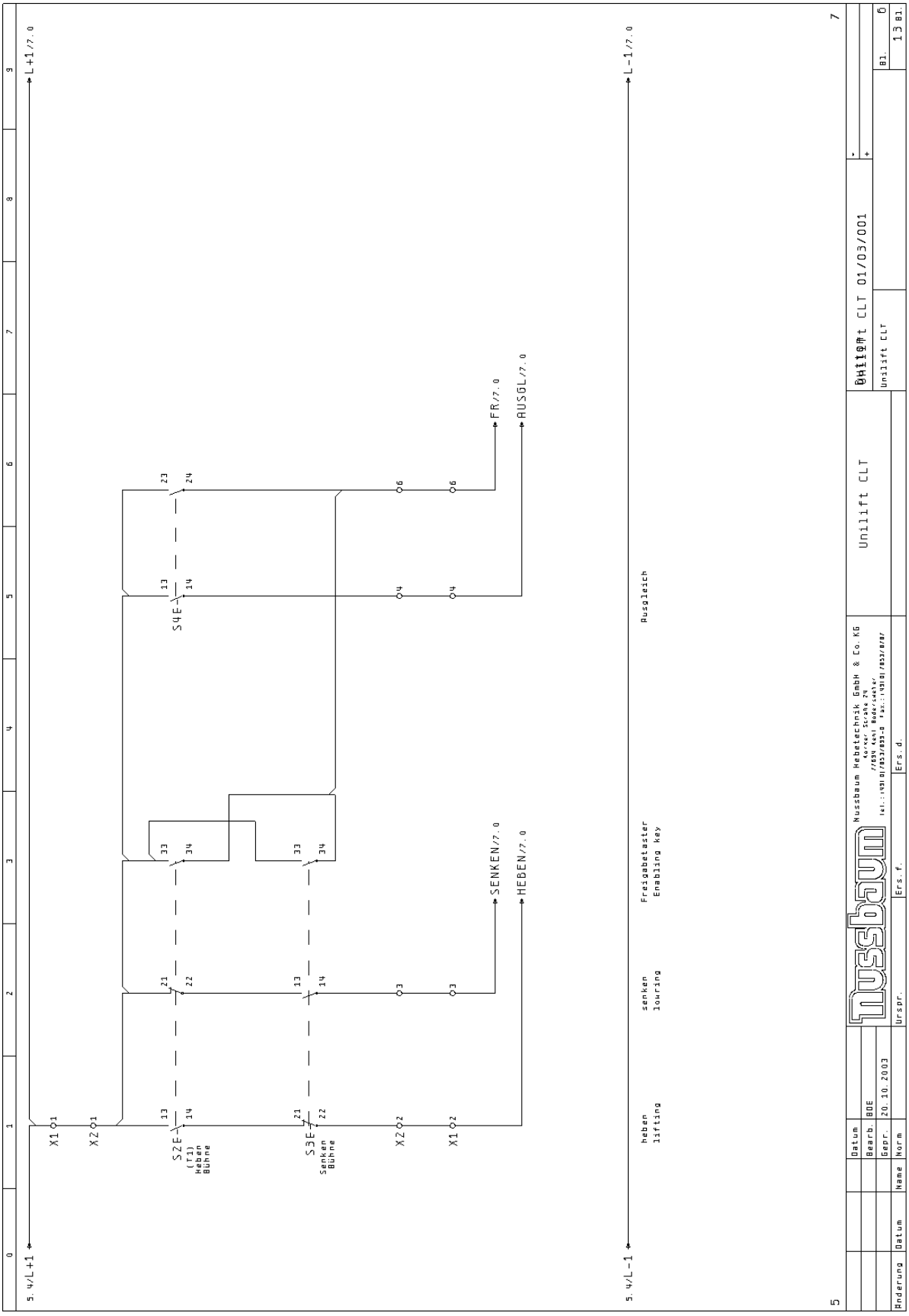
Nr.	Datum	Firma	Bearbeiter	Änderungen	ORT/SEITE

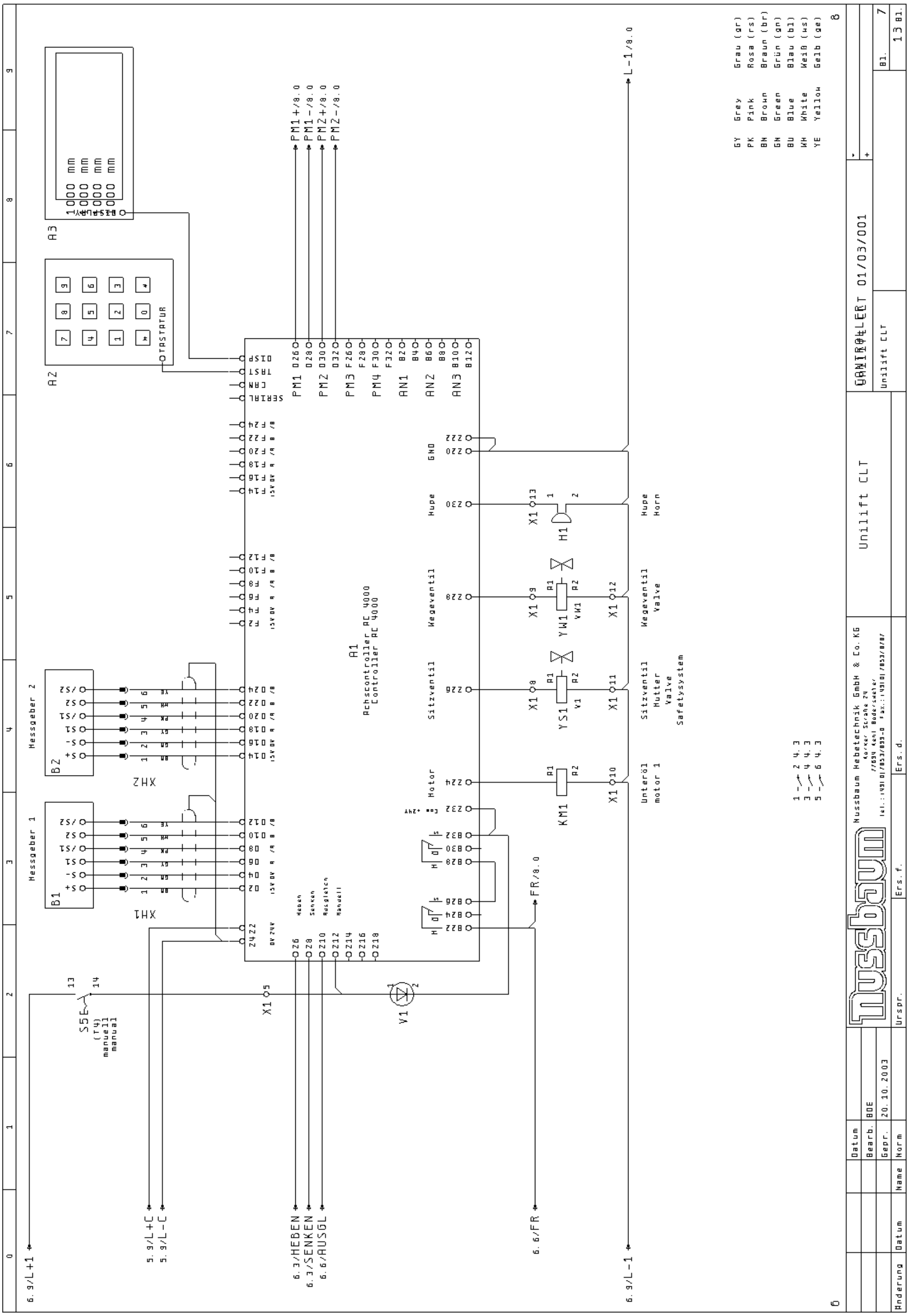
2 4

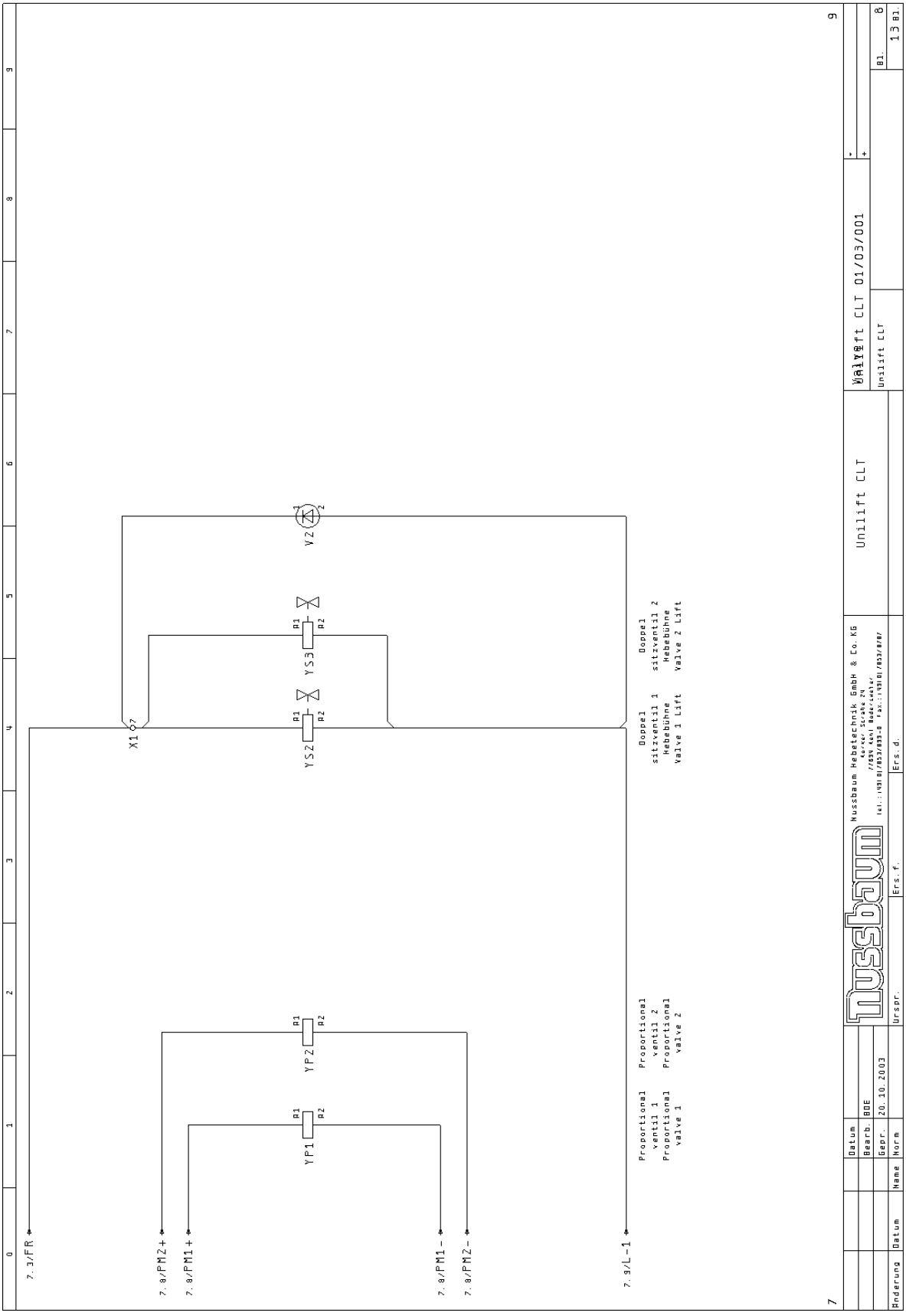
			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 77694 Kehl Bodersweier Tel.: (49)0)7853/899-0 Fax.: (49)0)7853/8787	Unilift CLT	Unilift CLT 01/03/001
			Bearb.	BOE			Unilift CLT
			Gepr.	20.10.2003			Bl. 3
Änderung	Datum	Name	Norm		Urspr. / Ers.f. / Ers.d.		13 Bl.


Unilift CLT
Unilift CLT
Einspeisung
Supply
Hauptschalter
Main switch
Beleuchtung
Lighting complete
Anschluß für Steckdose (option)
Connection for Speed (option)
Anschluß für Speed (option)
Connection for Speed (option)
Hebebühne
automative lift
pont élévateur
bauseits
by customer
vous incombant
Unterölmotor
Motor
Nussbaum Hebetechnik GmbH & Co. KG


Unilift CLT
Unilift CLT
Nussbaum Hebetechnik GmbH & Co. KG
Steuerspannung 24V
Control voltage 24V
Netzteil Rchscontroller
Power supply Controller
Input
200-240V 1.5A
100-120V 3.5A
Output
+24V 4.5A
F1
1A
F2
6.3A
F3
2.5A
G1
(Tr1)
G2
X1
PE
N
L+1/6.0
L-1/6.0
L+C/7.0
L-C/7.0


L+1/7.0
L-1/7.0
FR/7.0
AUSGL/7.0
SENKEN/7.0
HEBEN/7.0
S4E
S2E
(T1)
Heben
Bühne
S3E
Senken
Bühne
X1
X2
5.4/L+1
5.4/L-1
heben
lifting
senken
lowring
Freigabetaster
Enabling key
Ausgleich
Unilift CLT
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb.
BDE
Gepr.
20.10.2003
Name
Norm
Urspr.
Ers. f.
Ers. d.
Änderung
Datum
Name


Unilift CLT
CONTROLLER 01/03/001
Nussbaum Hebetechnik GmbH & Co. KG
Achscontroller AC 4000
Controller AC 4000
Messgeber 1
Messgeber 2
Hupe
Horn
Wegeventil
Valve
Sitzventil
Mutter
Safetysystem
Unteröl
motor 1
GY Grey Grau (gr)
PK Pink Rosa (rs)
BN Brown Braun (br)
GN Green Grün (gn)
BU Blue Blau (bl)
WH White Weiß (ws)
YE Yellow Gelb (ge)
Bearb. BOE
Gepr. 20.10.2003


7.3/FR
7.8/PM2+
7.8/PM1+
7.8/PM1-
7.8/PM2-
7.9/L-1
X1
V2
YS3
YS2
YP2
YP1
Doppel sitzventil 1 Hebebühne Valve 1 Lift
Doppel sitzventil 2 Hebebühne Valve 2 Lift
Proportional ventil 1 Proportional valve 1
Proportional ventil 2 Proportional valve 2
Unilift CLT
Nussbaum Hebetechnik GmbH & Co. KG
Unilift CLT 01/03/001
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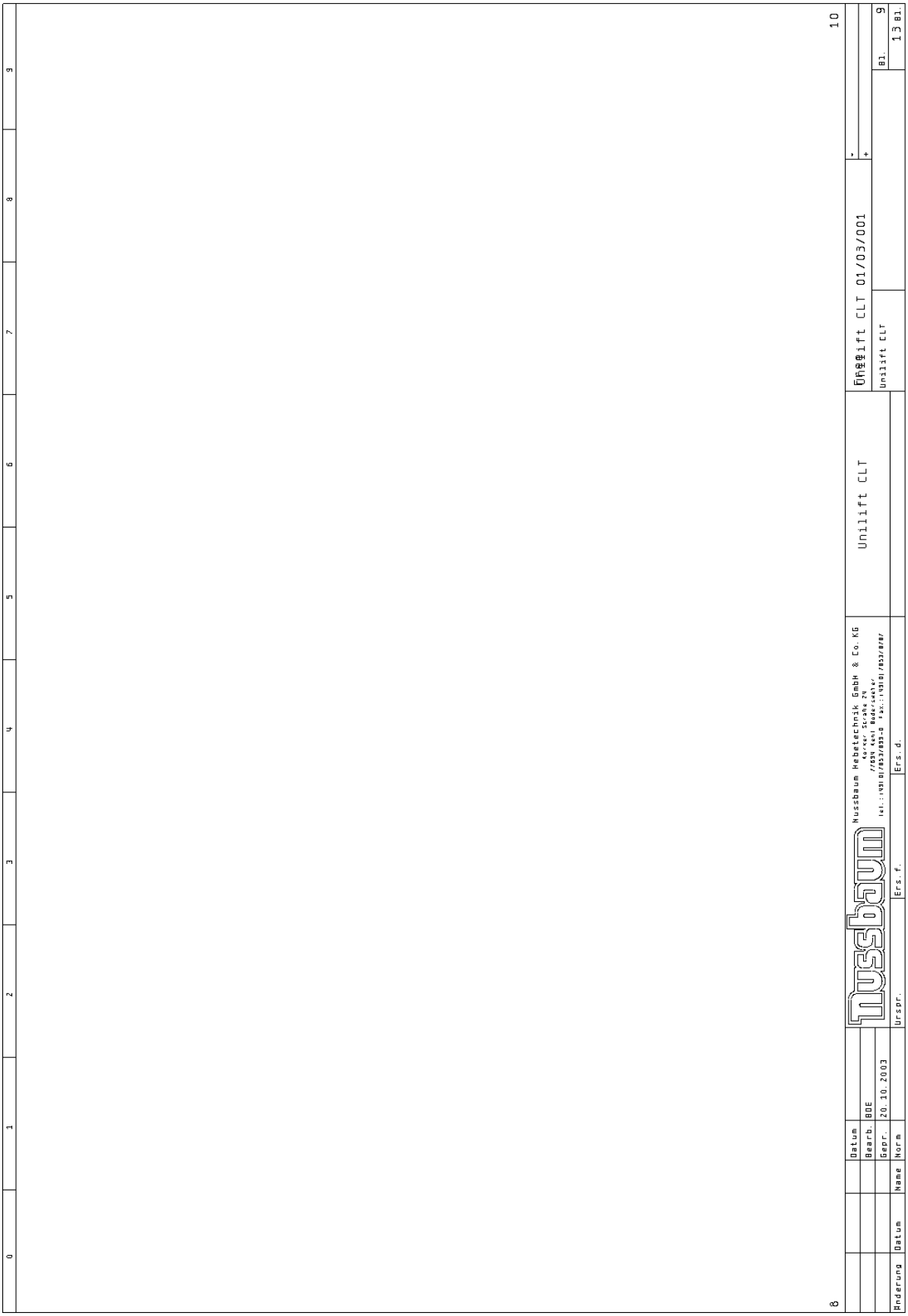
Ers. f.
Ers. d.


Nussbaum Hebetechnik GmbH & Co. KG
Unilift CLT
Unilift CLT 01/03/001
Unilift CLT
Datum
Bearb. BDE
Gepr. 20.10.2003
Name
Norm
Urspr.
Ers. f.
Ers. d.
Änderung
Datum
Blatt 9
Bl. 13 Bl.

Klemmenplan

Leistenbezeichnung: X1

Seite/Pfad	Anschluß	Ziel-bezeichnung	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
5.1		N		N		G1	
4.3	PE	PE X2		PE	PE	M1	Unterölmotor
6.1		L+1 L+1		1	1	X2	heben
6.1	2	X2		2		HEBEN	-
6.2	3	X2		3		SENKEN	senken
6.5	4	X2		4		AUSGL	Ausgleich
7.2	14	S5		5	1	V1	
6.6	6	X2		6		FR	-
8.4	1	FR V2		7	A1	YS2	Doppel sitzventil 1 Hebebühne
7.4	226	A1		8	A1	YS1	Sitzventil Mutter
7.5	228	A1		9	A1	YW1	Wegeventil
7.4	PE	G1	●	10	A2	KM1	Unteröl motor 1
7.4			●	11	A2	YS1	Sitzventil Mutter
7.5	2	H1	●	12	A2	YW1	Wegeventil
7.6	230	A1		13	1	H1	Hupe
5.1		PE		PE	PE	G1	

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Änderung	Datum	Name	Norm	
			Datum	
			Bearb.	BOE
			Gepr.	20.10.2003

Nussbaum Hebetechnik GmbH & Co. KG
Korker Straße 24
77694 Kehl Bodersweier
Tel.: (49)0)7853/899-0 Fax.: (49)0)7853/8787

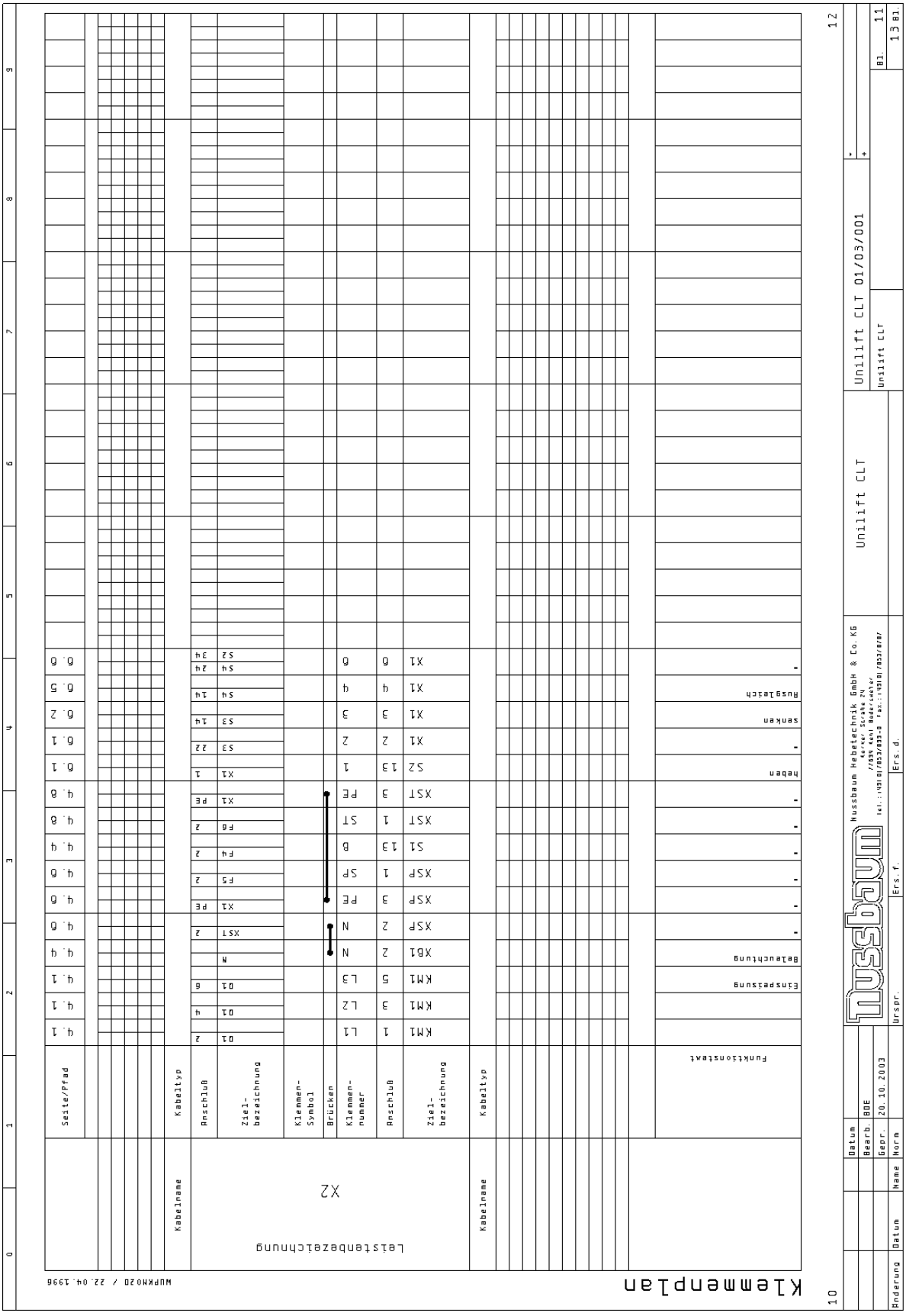
Urspr. | Ers. f. | Ers. d.

Unilift CLT

Unilift CLT 01/03/001

Unilift CLT

Bl. 10
13 Bl.


Klemmenplan
Leitstellenbezeichnung
X2
Kabelname
Kabeltyp
Anschluß
Ziel-
bezeichnung
Klemmen-
Symbol
Brücken
Klemmen-
nummer
Funktionstext
Einspeisung
Beleuchtung
heben
senken
Ausgleich
Unilift CLT
Unilift CLT 01/03/001
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb.
Gepr.
Norm
Name
Datum
Änderung
WUPKM020 / 22.04.1998

Stückliste Bill of materials

NUSTÜCK1 17.01.2003

Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
A1	1	Achscontroller ASC 4000 Vollversion	940260	IVP GmbH	940260
A1	1	Federleiste 64pol für Achscontroller	FEDERLEISTE 64POL	Hiller GmbH	991416
A1	35	Flachsteckhülse 2,8	45365.123.204	Püplichhuisen	991352
A1	35	Isoliertülle 2,8	F 2,8	Püplichhuisen	991353
A2	1	Folientastatur für ASC 4000	113-9503	RS Component	940265
A2	1	Tastaturkabel Achscontroller	990875	IVP GmbH	990875
A3	1	Display für ASC 4000	DEM16481 SY-LY/L	Display Elektronik GmbH	940257
A3	1	Displaykabel Achscontroller	990874	IVP GmbH	990874
A3	1	Displayrahmen groß , mit Tastatur	990690	Gronau	990690
B1	1	HALLELEMENTSCHALTER	HOO-16MS60BL, 5-55N01/S	Kalaschka GmbH	990658
B2	1	HALLELEMENTSCHALTER	HOO-16MS60BL, 5-55N01/S	Kalaschka GmbH	990658
E1	1	2 * Stableuchte,1* Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum	030ULN03302
E3	1	2 * Stableuchte,1* Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum	030ULN03302
F1	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F1	1	Feinsicherung	FEINSICHERUNG	GIF	990475
F2	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F2	1	Feinsicherung	FEINSICHERUNG	GIF	990286
F3	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F3	1	Feinsicherung	FEINSICHERUNG	GIF	990307
F4	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F4	1	Feinsicherung	FEINSICHERUNG	GIF	990286
F5	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F5	1	Feinsicherung	FEINSICHERUNG	GIF	990124
F6	1	Sicherungsklemme Trenner 5*20 mm	M4/8.SF	Entrelec	990661
F6	1	Feinsicherung	FEINSICHERUNG	GIF	990662
G1	1	+ Gleichrichter +Kondensator	TRAFO 1-PH	Schmelzer	990835
G2	1	Schalt-Netzgerät DC 24 V /2,5A	S60-F24	Pewatron	940101
H1	1	Digisond akustischer Signalgeber	B/P 220	Deltron Components	990331
KM1	1	Leistungschütz 5,7 kW 24 V DC	11BG12.01 0 24V DC		990842
M1	1	Unterölmotor 3kW/6,5A 50Hz 400V 2750min-1	025/T		990445
Q1	1	Hauptsch. Not-Aus 3p 16A 5,5kW	A 105/3.0200-EV/SO	Herz GmbH	990403
S1	1	Wahltaste 2St.Drehkn. 1,0 rast.(M22)	M22-WR	Moeller	990446
S1	1	Kontaktblock 1S (M22)	M22-RK10	Moeller	990142
S2	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	990130
S2	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
S2	1	Kontaktblock 1S 1Ö (M22)	M22-RK11	Moeller	990132
S2	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
S3	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	990130
S3	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
S3	1	Kontaktblock 1S 1Ö (M22)	M22-RK11	Moeller	990132
S3	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
S4	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	990130
S4	1	Kontaktblock 1S (M22)	M22-RK10	Moeller	990142
S4	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
S5	1	Drucktaster Einbau klein 1S	DS 131	DSER GmbH	990366
V1	1	Sperrdiode BYV 28 -100 1000V;3A	BYV 28 -100	Conrad Elektronik	940042
V2	1	Sperrdiode 1N40007 1000V;1A	1 N 40007	Conrad Elektronik	990652
X1	1	Schutzleiterkl DR 2,5/8.P.800 schn-schn	DR 2,5/8.P.800	Entrelec	990679
X1	1	Schutzleiterkl D 1,5/6.P.800 schn-schn	D 1,5/6.P.800	Entrelec	990578
X1	1	Reihenklemme D 1,5/6.N.800 bl schn-schn	D 1,5/6.N.800	Entrelec	990577

11 13

			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 77694 Kehl Bodersweier Tel.: (+49) 07853/833-0 Fax.: (+49) 07853/807	Unilift CLT	Unilift CLT 01/03/001	-	
			Bearb.	BOE				+	
			Gepr.	20.10.2003			Unilift CLT		Bl. 12
Änderung	Datum	Name	Norm		Urspr.	Ers.f.	Ers.d.		13 Bl.

Stückliste Bill of materials

STÜCKL 17.01.2003

Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
X1	13	Reihenklemme DR 1,5/6.P00 schn-schn	DR 1,5/6.P00	Entrelec	990702
X2	13	Reihenklemme DR 1,5/6.P00 schn-schn	DR 1,5/6.P00	Entrelec	990702
X2	2	Schutzleiterkl DR 2,5/8.P.P00 schn-schn	DR 2,5/8.P.P00	Entrelec	990679
XB1	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	990407
XB1	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	990408
XB1	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	990328
XB1	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	990329
XB2	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	990328
XB2	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	990329
XB2	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	990407
XB2	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	990408
XH1	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
XH1	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
XH1	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	990918
XH1	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	990919
XH2	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
XH2	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
XH2	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	990918
XH2	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	990919
XSP	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	990328
XSP	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	990329
XSP	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	990407
XSP	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	990408
XST	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	990328
XST	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	990329
XST	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	990407
XST	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	990408

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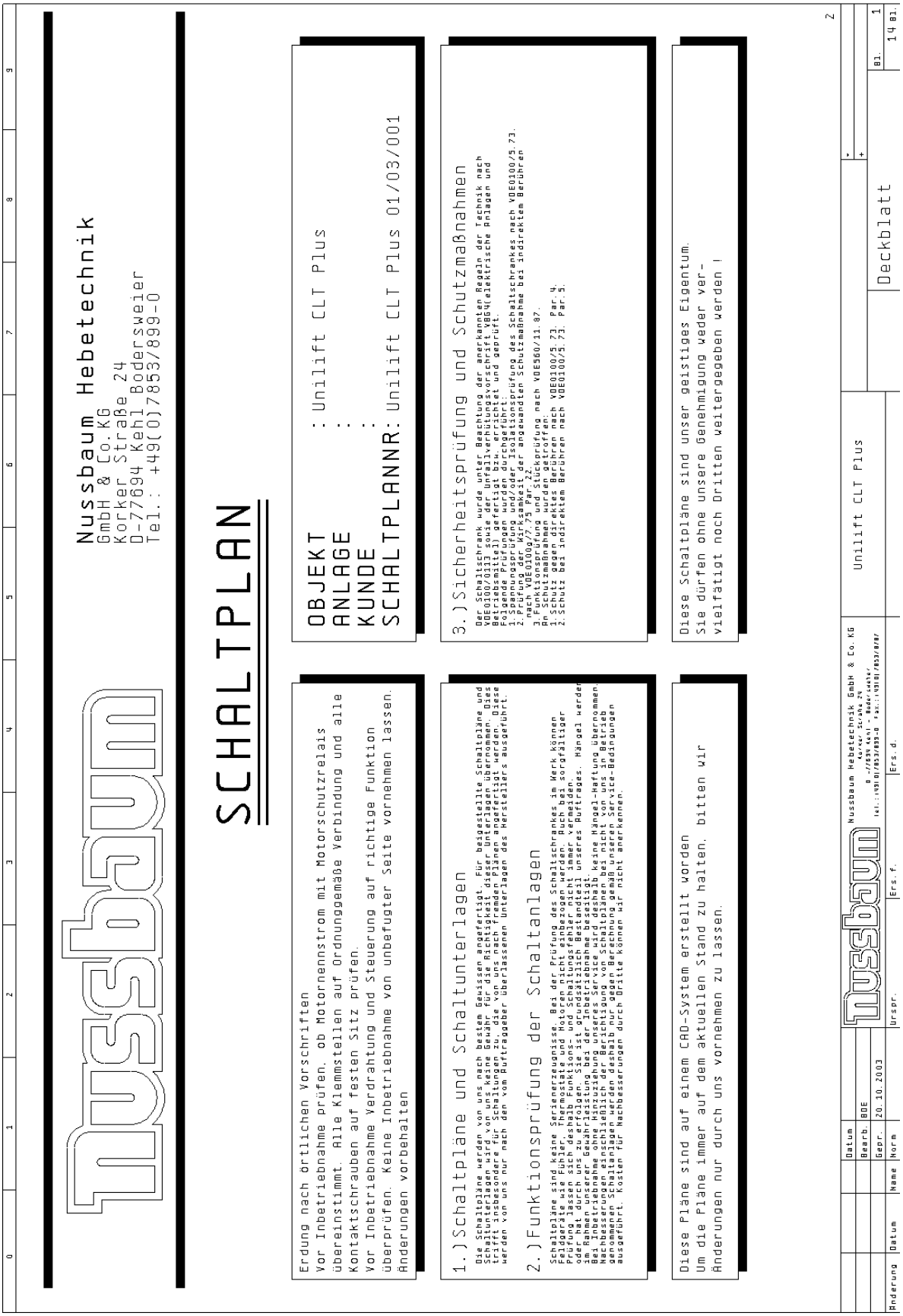
			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 29 77694 Kehl Bodersweier Tel.: +49(0)7853/893-0 Fax.: +49(0)7853/8787	Unilift CLT	Unilift CLT 01/03/001	
			Bearb.	BDE				
			Gepr.	20.10.2003			Unilift CLT	Bl. 13
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	13 Bl.

Electric diagram with wheel free lift



Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet WUPJ0050 24.02.1994

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		28.06.2002	BOE	
2	Inhaltsverzeichnis		17.01.2003	BOE	
3	Änderung		28.06.2002	BOE	
4	Einspeisung		17.01.2003	BOE	
5	Steuerspannung		17.01.2003	BOE	
6	Bedientasten		17.01.2003	BOE	
7	Achscontroller		17.01.2003	BOE	
8	Ventile		17.01.2003	BOE	
9	frei		17.01.2003	BOE	
10	X1 Steuerung		17.01.2003	BOE	
11	X2 Bedienung		17.01.2003	BOE	
12	Stückliste		17.01.2003	BOE	
13	Stückliste		17.01.2003	BOE	
14	Stückliste		17.01.2003	BOE	

			Datum		Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.: (+49) 07853/899-0 Fax.: (+49) 07853/8787	Unilift CLT Plus		
			Bearb.	BOE				
			Gepr.	20.10.2003				
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	Inhaltsverzeichnis

Bl. 2
14 Bl.

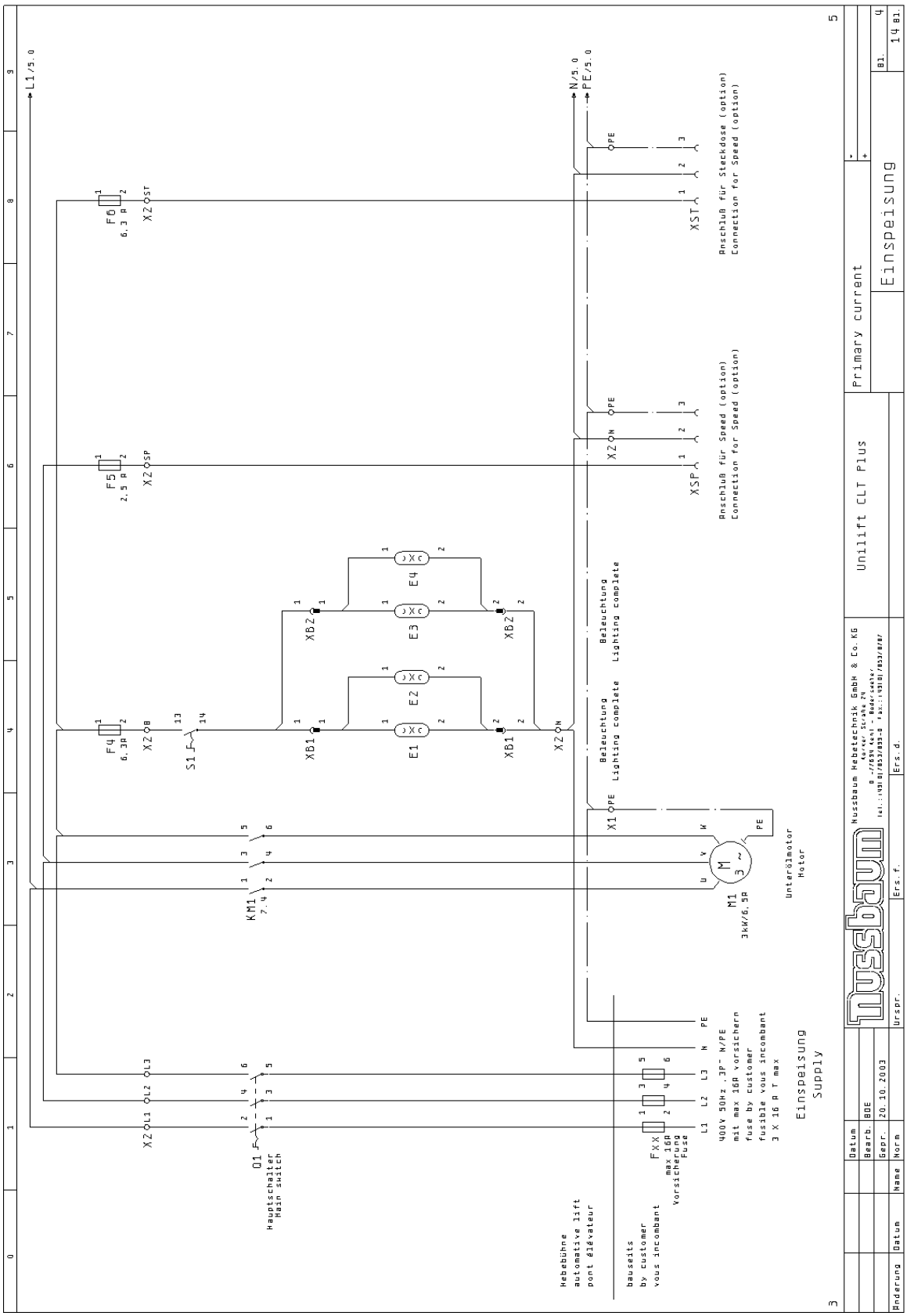
0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

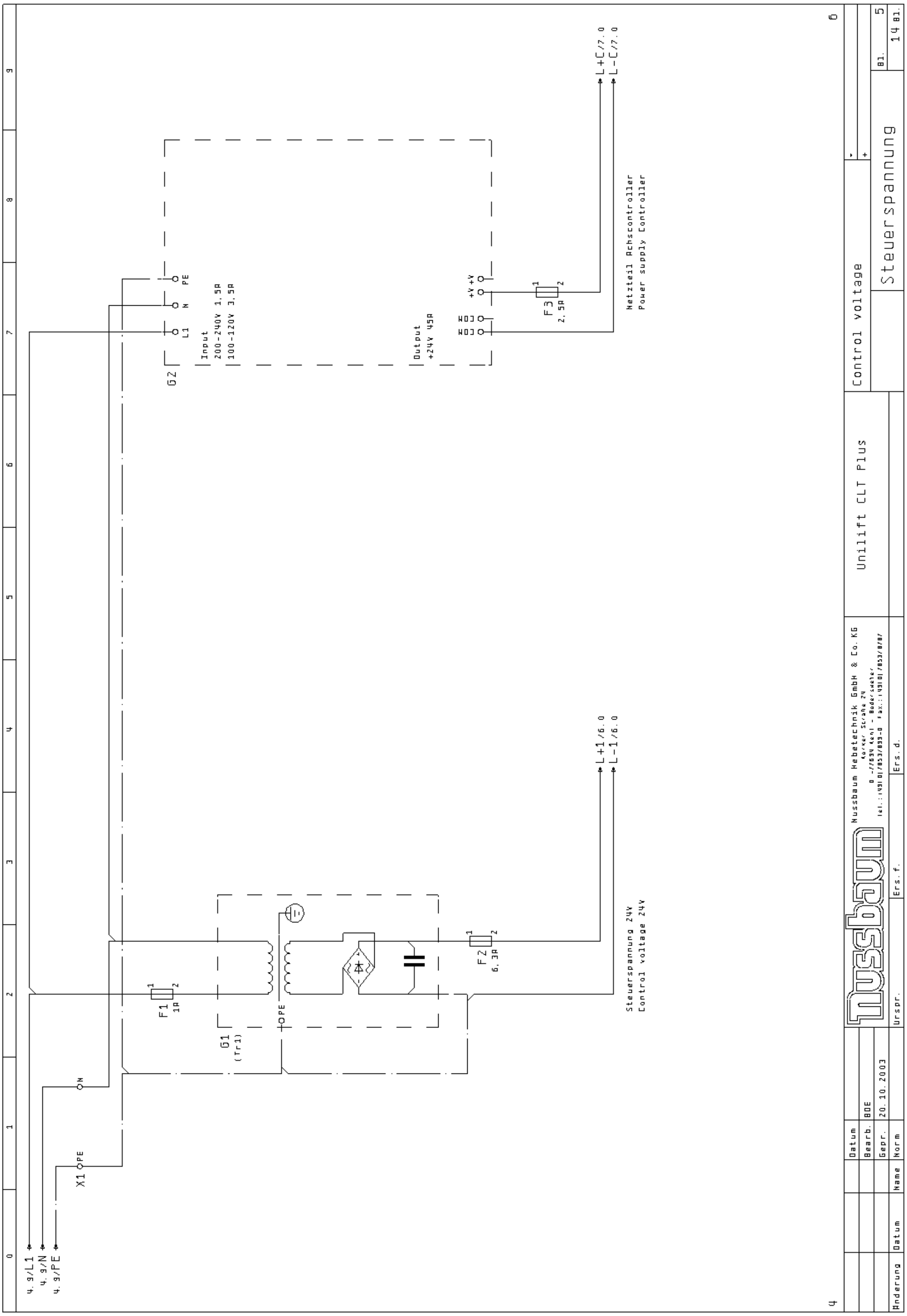
ÄNDERUNGS-INFORMATIONEN

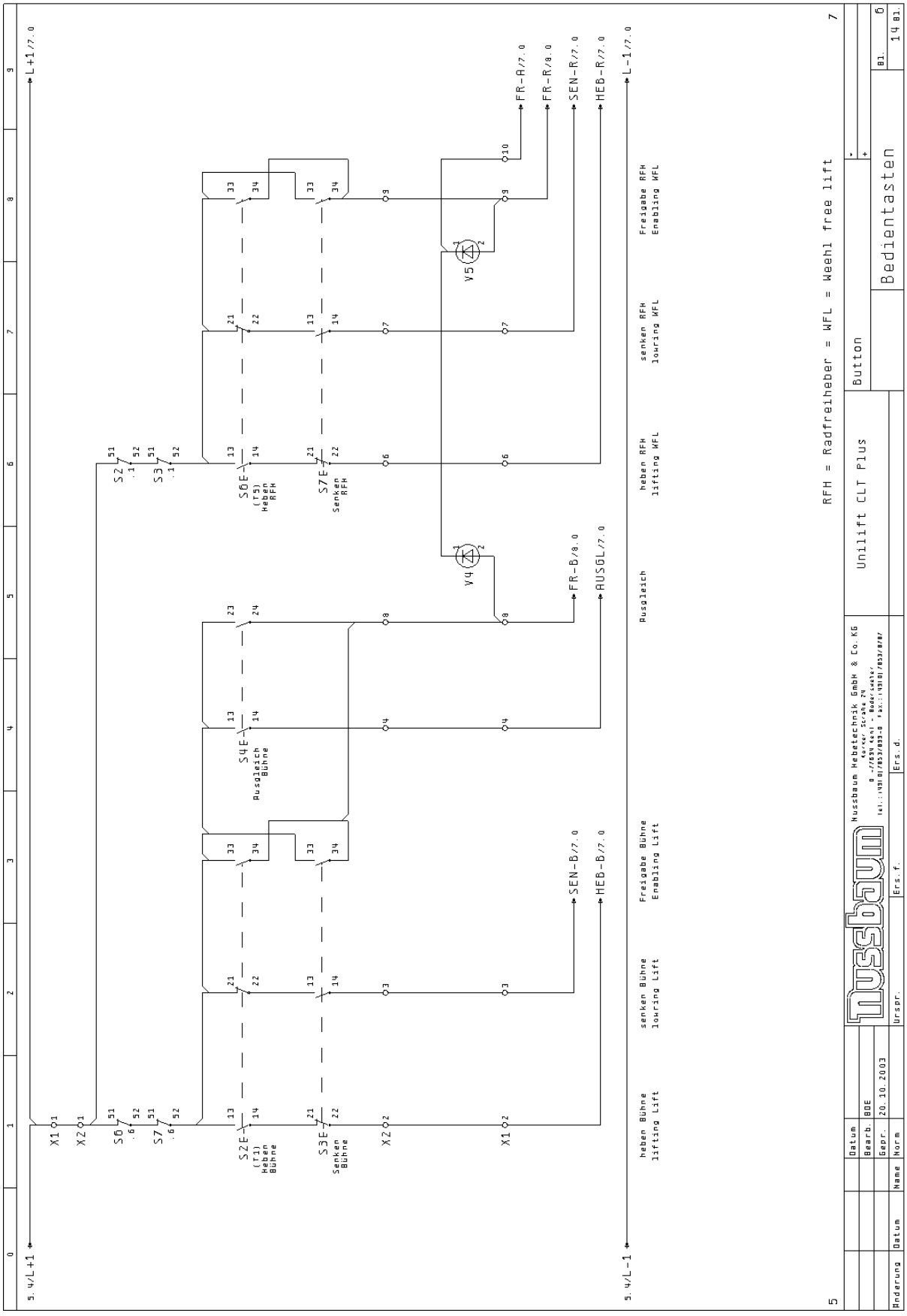
Nr.	Datum	Firma	Bearbeiter	Änderungen	ORT/SEITE

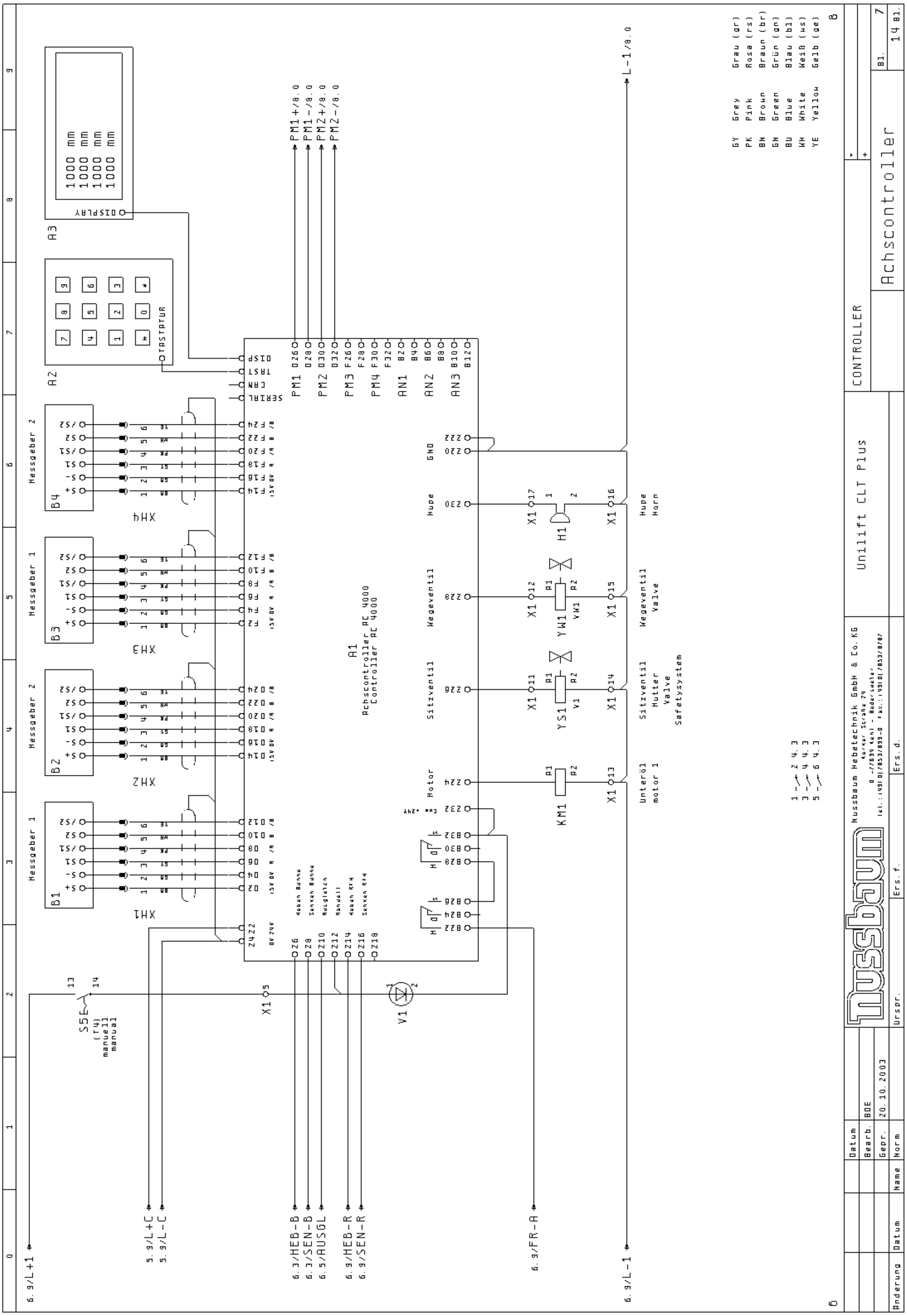
Z 4

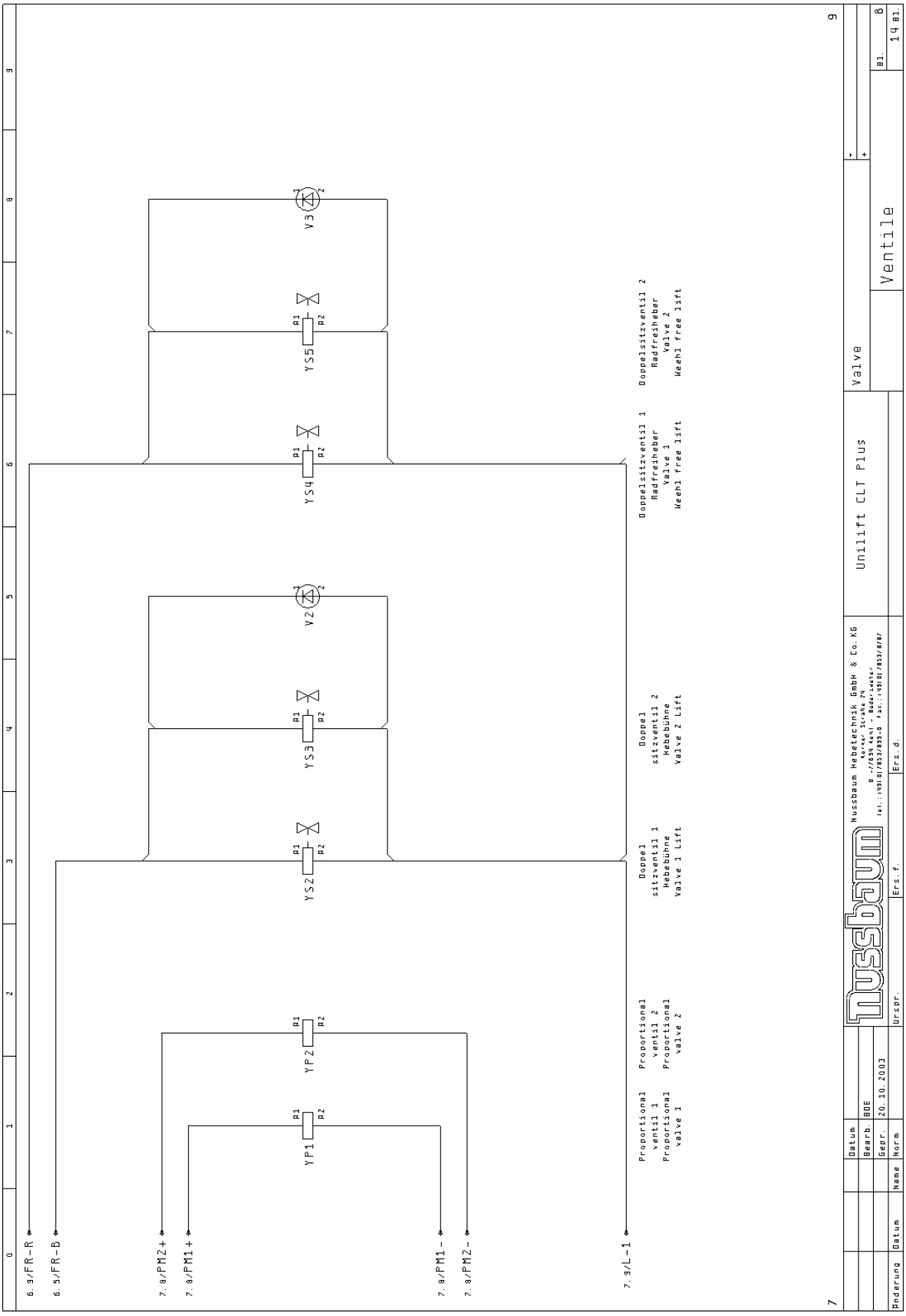
			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 29 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	Unilift CLT Plus	-	
			Bearb.	BDE			+	
			Gepr.	20.10.2003			Änderung	Bl. 3
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	14 Bl.


Einspeisung
Supply
Primary current
Unilift CLT Plus
Nussbaum Hebetechnik GmbH & Co. KG
Hebebühne
automative lift
pont élévateur
bauseits
by customer
vous incombant
Hauptschalter
Main switch
Beleuchtung
Lighting complete
Anschluß für Steckdose (option)
Connection for Speed (option)
Anschluß für Speed (option)
Connection for Speed (option)
Unterölmotor
Motor
400V 50Hz 3P~ N/PE
mit max 16A vorsichern
fuse by customer
fusible vous incombant
3 X 16 A T max


Control voltage
Steuerspannung
Unilift CLT Plus
Nussbaum Hebetechnik GmbH & Co. KG
Netzteil Achscontroller
Power supply Controller
Steuerspannung 24V
Control voltage 24V
20.10.2003


RFH = Radfreiheber = WFL = Weehl free lift
Unilift CLT Plus
Button
Bedientasten
Nussbaum Hebetechnik GmbH & Co. KG
L+1/7.0
L-1/7.0
FR-A/7.0
FR-R/8.0
SEN-R/7.0
HEB-R/7.0
FR-B/8.0
AUSGL/7.0
SEN-B/7.0
HEB-B/7.0
S2E (T1) Heben Bühne
S3E Senken Bühne
S4E Ausgleich Bühne
S6E (T5) Heben RFH
S7E Senken RFH
S2 S3 S6 S7
V4 V5
X1 X2
heben Bühne lifting Lift
senken Bühne lowring Lift
Freigabe Bühne Enabling Lift
Ausgleich
heben RFH lifting WFL
senken RFH lowring WFL
Freigabe RFH Enabling WFL


Achscontroller
CONTROLLER
Unilift CLT Plus
A1
Achscontroller AC 4000
Controller AC 4000
A2
TASTATUR
A3
DISPLAY
1000 mm
1000 mm
1000 mm
1000 mm
B1 Messgeber 1
B2 Messgeber 2
B3 Messgeber 1
B4 Messgeber 2
XH1
XH2
XH3
XH4
KM1
YS1
YW1
H1
V1
S5E (T4) manuell manual
Motor
Sitzventil
Wegeventil
Hupe
Unteröl motor 1
Sitzventil Mutter Valve Safetysystem
Wegeventil Valve
Hupe Horn
GY Grey Grau (gr)
PK Pink Rosa (rs)
BN Brown Braun (br)
GN Green Grün (gn)
BU Blue Blau (bl)
WH White Weiß (ws)
YE Yellow Gelb (ge)
Nussbaum Hebetechnik GmbH & Co. KG
20.10.2003
BOE
Bl. 7
14 Bl.


6. 9/FR-R
6. 5/FR-B
7. 8/PM2+
7. 8/PM1+
7. 8/PM1-
7. 8/PM2-
7. 9/L-1
YP1
YP2
YS2
YS3
YS4
YS5
V2
V3
Proportional ventil 1 Proportional valve 1
Proportional ventil 2 Proportional valve 2
Doppel sitzventil 1 Hebebühne Valve 1 Lift
Doppel sitzventil 2 Hebebühne Valve 2 Lift
Doppelsitzventil 1 Radfreiheber Valve 1 Wheel free lift
Doppelsitzventil 2 Radfreiheber Valve 2 Wheel free lift
Unilift CLT Plus
Valve
Ventile
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb. BDE
Gepr. 20.10.2003
Name
Norm
Urspr.
Ers. f.
Ers. d.
Änderung
Datum
B1. 14 B1.

Unilift CLT Plus	Free
	frei
Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 D-77694 Kehl - Bodersweier Tel.: (49)07853/899-0 Fax: (49)07853/8787	Bl. 9 14 Bl.
Urspr.	Ers. f.
Ers. d.	
Datum	
Bearb.	BOE
Gepr.	20.10.2003
Norm	
Änderung	Datum	Name

Klemmenplan

WUPKM020 / 22.04.1996

Leistenbezeichnung: X1

Seite/Pfad	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
5.1	2	XS1			N		G1	
4.3	PE PE	PE X2			PE	PE	M1	Unterölmotor
6.1	2 13	F2 S5			1	1	X2	heben Bühne
6.1	2	X2			2	Z6	A1	-
6.2	3	X2			3	Z8	A1	senken Bühne
6.4	4	X2			4	Z10	A1	Freigabe Bühne
7.2	14	S5			5	1	V1	
6.6	6	X2			6	Z14	A1	heben Bühne
6.7	7	X2			7	Z16	A1	senken RFH
6.5	8 2	X2 V4			8	A1	YS2	Freigabe Bühne
6.8	9 2	X2 V5			9	A1	YS4	-
6.8	1	V5			10	B22	A1	-
7.4	Z26	A1			11	A1	YS1	Sitzventil Mutter
7.5	Z28	A1			12	A1	YW1	Wegeventil
7.4	PE	G1		●	13	A2	KM1	Unteröl motor 1
7.4				●	14	A2	YS1	Sitzventil Mutter
7.5				●	15	A2	YW1	Wegeventil
7.6	Z20	A1		●	16	2	H1	Hupe
7.6	Z30	A1			17	1	H1	-
5.1	PE	X2			PE	PE	G1	

Kabelname | Kabeltyp

Änderung	Datum	Name	Datum	
			Bearb.	BOE
			Gepr.	20.10.2003
			Norm	

Nussbaum Hebetechnik GmbH & Co. KG
Korker Straße 24
D-77694 Kehl - Bodersweier
Tel.: (49)(0)7853/899-0 Fax.: (49)(0)7853/8787

Urspr. | Ers. f. | Ers. d.

Unilift CLT Plus

X1 Steuerung

9 | 11 | Bl. 10 | 14 Bl.

Klemmenplan

Leistenbezeichnung: X2

Seite/Pfad	Kabelname	Kabeltyp	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Kabeltyp	Kabelname	Funktionstext
4.1			2	D1			L1	1	KM1			
4.1			4	D1			L2	3	KM1			
4.1			6	D1			L3	5	KM1			Einspeisung
4.4				N		●	N	2	XB1			Beleuchtung
4.6			2	XST		●	N	2	XSP			-
4.6			PE	X1		●	PE	3	XSP			-
4.6			2	F5			SP	1	XSP			-
4.4			2	F4			B	13	S1			-
4.8			2	F6			ST	1	XST			-
6.1			1	X1			1	51	S0			heben Bühne
6.1			22	S3			2	2	X1			-
6.2			14	S3			3	3	X1			senken Bühne
6.4			14	S4			4	4	X1			Freigabe Bühne
6.6			22	S7			6	6	X1			heben Bühne
6.7			14	S7			7	7	X1			senken RFH
6.5			24 / 34	S4 / S2			8	8	X1			Freigabe Bühne
6.8			34	S7			9	9	X1			-
4.8			PE	X1		●	PE	3	XST			Beleuchtung

WUPKM020 / 22.04.1996

Änderung	Datum	Name	Datum				
			Bearb.	BOE	Nussbaum Hebetechnik GmbH & Co. KG, Korker Straße 24, D-77694 Kehl - Bodersweier, Tel.: (49)(0)7853/899-0 Fax.: (49)(0)7853/8787	Unilift CLT Plus	X2 Bedienung
			Gepr.	20.10.2003			Bl. 11
			Norm		Urspr. / Ers. f. / Ers. d.		14 Bl.

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Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
A1	1	Achscontroller ASC 4000 Vollversion	940260	IVP GmbH	940260
A1	1	Federleiste 64pol für Achscontroller	FEDERLEISTE 64POL	Hiller GmbH	991416
A1	35	Flachsteckhülse 2,8	45365.123.204	Püplichhuisen	991352
A1	35	Isoliertülle 2,8	F 2,8	Püplichhuisen	991353
A2	1	Folientastatur für ASC 4000	113-9503	RS Component	940265
A2	1	Tastaturkabel Achscontroller	930875	IVP GmbH	930875
A3	1	Display für ASC 4000	DEM16481 SY-LY/L	Display Elektronik GmbH	940257
A3	1	Displaykabel Achscontroller	930874	IVP GmbH	930874
A3	1	Displayrahmen groß , mit Tastatur	930690	Gronau	930690
B1	1	HALLELEMENTSCHALTER	HOO-16MS60BL,5-55NO1/5	Kalaschka GmbH	930650
B2	1	HALLELEMENTSCHALTER	HOO-16MS60BL,5-55NO1/5	Kalaschka GmbH	930650
B3	1	HALLELEMENTSCHALTER	HOO-16MS60BL,5-55NO1/5	Kalaschka GmbH	930650
B4	1	HALLELEMENTSCHALTER	HOO-16MS60BL,5-55NO1/5	Kalaschka GmbH	930650
E1	1	2 x Stableuchte,1x Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum	030ULN03302
E3	1	2 x Stableuchte,1x Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum	030ULN03302
F1	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F1	1	Feinsicherung	FEINSICHERUNG	GIF	930475
F2	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F2	1	Feinsicherung	FEINSICHERUNG	GIF	930286
F3	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F3	1	Feinsicherung	FEINSICHERUNG	GIF	930307
F4	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F4	1	Feinsicherung	FEINSICHERUNG	GIF	930286
F5	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F5	1	Feinsicherung	FEINSICHERUNG	GIF	930124
F6	1	Sicherungsklemme Trenner 5x20 mm	H4/8.SF	Entrelec	930661
F6	1	Feinsicherung	FEINSICHERUNG	GIF	930662
G1	1	+ Gleichrichter +Kondensator	TRAFO 1-PH	Schmelzer	930835
G2	1	Schalt-Netzgerät DC 24 V /2,5A	S60-F24	Pewatron	940101
H1	1	Digisond akustischer Signalgeber	B/P 220	Deltron Components	930331
KH1	1	Leistungschütz 5,7 kW 24 V DC	110612.01 0 24V DC		930842
M1	1	Unterölmotor 3kW/6,5A 50Hz 400V 2750min-1	025/T		930445
Q1	1	Hauptsch. Not-Aus 3p 16A 5,5kW	A 105/3.0200-EV/SO	Herz GmbH	930403
S1	1	Wahltaste 2St.Drehkn. I,0 rast.(M22)	M22-WR	Moeller	930446
S1	1	Kontaktblock 1S (M22)	M22-RK10	Moeller	930142
S2	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	930130
S2	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	930131
S2	1	Kontaktblock 1S 1Ö (M22)	M22-RK11	Moeller	930132
S2	1	Kontaktelement 1S (M22)	M22-K10	Moeller	930133
S2	1	Kontaktelement 1Ö (M22)	M22-K01	Moeller	930181
S3	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	930130
S3	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	930131
S3	1	Kontaktblock 1S 1Ö (M22)	M22-RK11	Moeller	930132
S3	1	Kontaktelement 1S (M22)	M22-K10	Moeller	930133
S3	1	Kontaktelement 1Ö (M22)	M22-K01	Moeller	930181
S4	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	930130
S4	1	Kontaktblock 1S (M22)	M22-RK10	Moeller	930142
S4	1	Kontaktelement 1S (M22)	M22-K10	Moeller	930133
S5	1	Drucktaster Einbau klein 1S	OS 131	OSER GmbH	930366
S6	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	930130

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			Datum		Nussbaum Hebetechnik GmbH & Co. KG	Unilift CLT Plus	-	
			Bearb.	BDE	Kehler Straße 24		+	
			Gepr.	20.10.2003	D -77694 Kehl - Bodersweier		Stückliste	Bl. 12
Änderung	Datum	Name	Norm		Tel.: (+49 (0) 7853/893-0 Fax.: (+49 (0) 7853/87 87			14 Bl.
			Urspr.		Ers. f.	Ers. d.		

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Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
S6	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	930131
S6	1	Kontaktblock 1S 1Ö (M22)	M22-AK11	Moeller	930132
S6	1	Kontaktelement 1S (M22)	M22-K10	Moeller	930133
S6	1	Kontaktelement 1Ö (M22)	M22-K01	Moeller	930181
S7	1	Drucktaste flach o.Tast.Platte (M22)	M22-DIL-X	Moeller	930130
S7	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	930131
S7	1	Kontaktblock 1S 1Ö (M22)	M22-AK11	Moeller	930132
S7	1	Kontaktelement 1S (M22)	M22-K10	Moeller	930133
S7	1	Kontaktelement 1Ö (M22)	M22-K01	Moeller	930181
V1	1	Sperrdiode BYV 28 -100 1000V; 3A	BYV 28 -100	Conrad Elektronik	940042
V2	1	Sperrdiode 1N40007 1000V; 1A	1 N 40007	Conrad Elektronik	930652
V3	1	Sperrdiode 1N40007 1000V; 1A	1 N 40007	Conrad Elektronik	930652
V4	1	Sperrdiode BYV 28 -100 1000V; 3A	BYV 28 -100	Conrad Elektronik	940042
V5	1	Sperrdiode BYV 28 -100 1000V; 3A	BYV 28 -100	Conrad Elektronik	940042
X1	1	Schutzleiterkl DR 2,5/8.P.ADD schn-schn	DR 2,5/8.P.ADD	Entrelec	930679
X1	1	Schutzleiterkl D 1,5/6.P.ADD schn-schn	D 1,5/6.P.ADD	Entrelec	930578
X1	1	Reihenklemme D 1,5/6.N.ADD bl schn-schn	D 1,5/6.N.ADD	Entrelec	930577
X1	17	Reihenklemme DR 1,5/6.ADD schn-schn	DR 1,5/6.ADD	Entrelec	930702
X2	16	Reihenklemme DR 1,5/6.ADD schn-schn	DR 1,5/6.ADD	Entrelec	930702
X2	2	Schutzleiterkl DR 2,5/8.P.ADD schn-schn	DR 2,5/8.P.ADD	Entrelec	930679
XB1	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	930407
XB1	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	930408
XB1	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	930328
XB1	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	930329
XB2	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	930328
XB2	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	930329
XB2	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	930407
XB2	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	930408
XH1	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	931330
XH1	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	931331
XH1	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	930918
XH1	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	930919
XH2	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	931330
XH2	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	931331
XH2	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	930918
XH2	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	930919
XH3	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	931330
XH3	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	931331
XH3	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	930918
XH3	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	930919
XH4	1	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	931330
XH4	1	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	931331
XH4	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	Spörle GmbH	930918
XH4	6	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	930919
XSP	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	930328
XSP	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	930329
XSP	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	930407
XSP	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	930408
XST	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	Püplichhuisen	930328
XST	3	Flachsteckhülse Buchse 6,3mm	08632.123.211	Püplichhuisen	930329

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			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.:+49(0)7853/859-0 Fax.:+49(0)7853/8787	Unilift CLT Plus		
			Bearb.	BDE				
			Gepr.	20.10.2003			Stückliste	Bl. 13 14 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers.f.	Ers.d.	

Stückliste Bill of materials

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Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
XST	1	Buchsengehäuse 4 polig ku	2 105 50290250	Börsig GmbH	930407
XST	1	Steckergehäuse 4 polig ku	2 105 50290251	Börsig GmbH	930408

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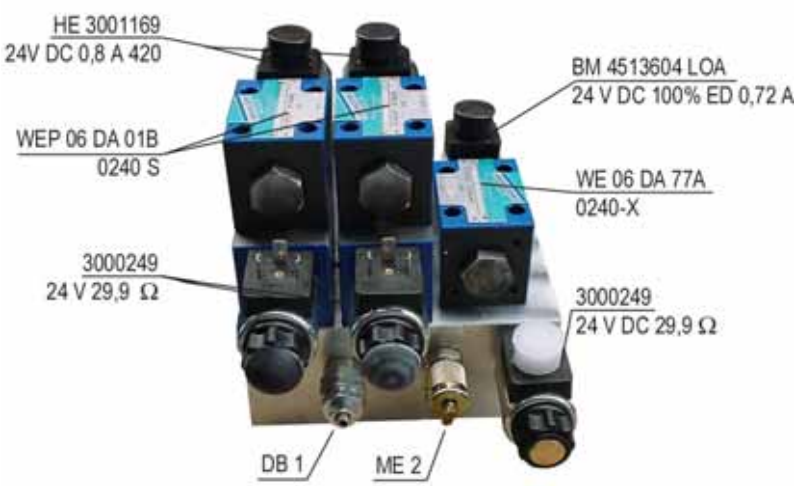
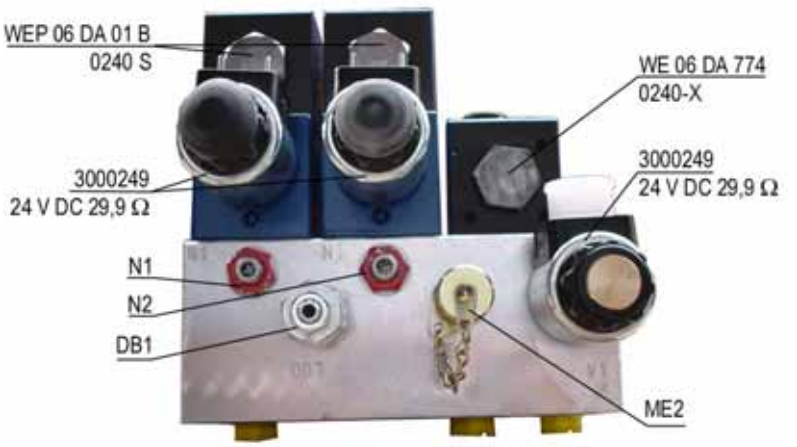
			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.: (+49 01) 7853/859-0 Fax.: (+49 01) 7853/87 87	Unilift CLT Plus		
			Bearb.	BOE				
			Gepr.	20.10.2003			Stückliste	Bl. 14 14 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	


HE 3001169
24 V DC 0,8 A 420
BM 4513604 LOA
24 V DC 100% ED 0,72 A
936-0065 9809/1
DB 2
ME 1
ME 4
ME 3


HE 3001169
24V DC 0,8 A 420
WEP 06 DA 01B
0240 S
3000249
24 V 29,9 Ω
BM 4513604 LOA
24 V DC 100% ED 0,72 A
WE 06 DA 77A
0240-X
3000249
24 V DC 29,9 Ω
DB 1
ME 2


WEP 06 DA 01 B
0240 S
3000249
24 V DC 29,9 Ω
N1
N2
DB1
WE 06 DA 774
0240-X
3000249
24 V DC 29,9 Ω
ME2