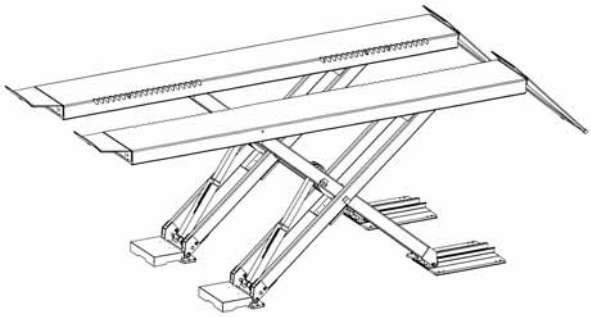
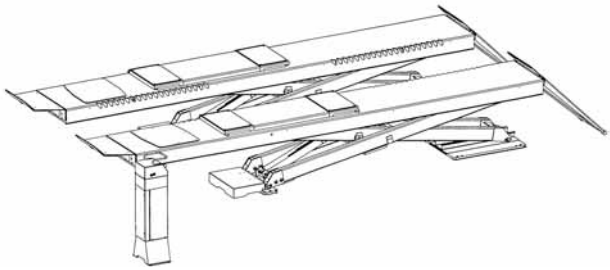
UNI-LIFT 5000 NT
UNI-LIFT 5000 NT Plus

Automotive lift date: 04/2001
Manual date: 29.06.2001
Version: Optional with SPID





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)7853/8787//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 5000 NT / 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 5000 NT / 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 5000 NT / Plus / Spid is a lifting mechanism for lifting motor vehicles with a laden weight of up to 5000 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 lift is equipped with a detector (called SPID)which is able to detect play in the axes and on single wheel suspensions. The detection is possible up to an axle load of 2300 kg.
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 5000 NT Plus 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)

Kehl- Bodersweier, 13.09.2004

Otto Nußbaum GmbH & Co. KG
Korker Straße 24
77694 Kehl-Bodersweier
☎ 07853/899-0

3.Technical information

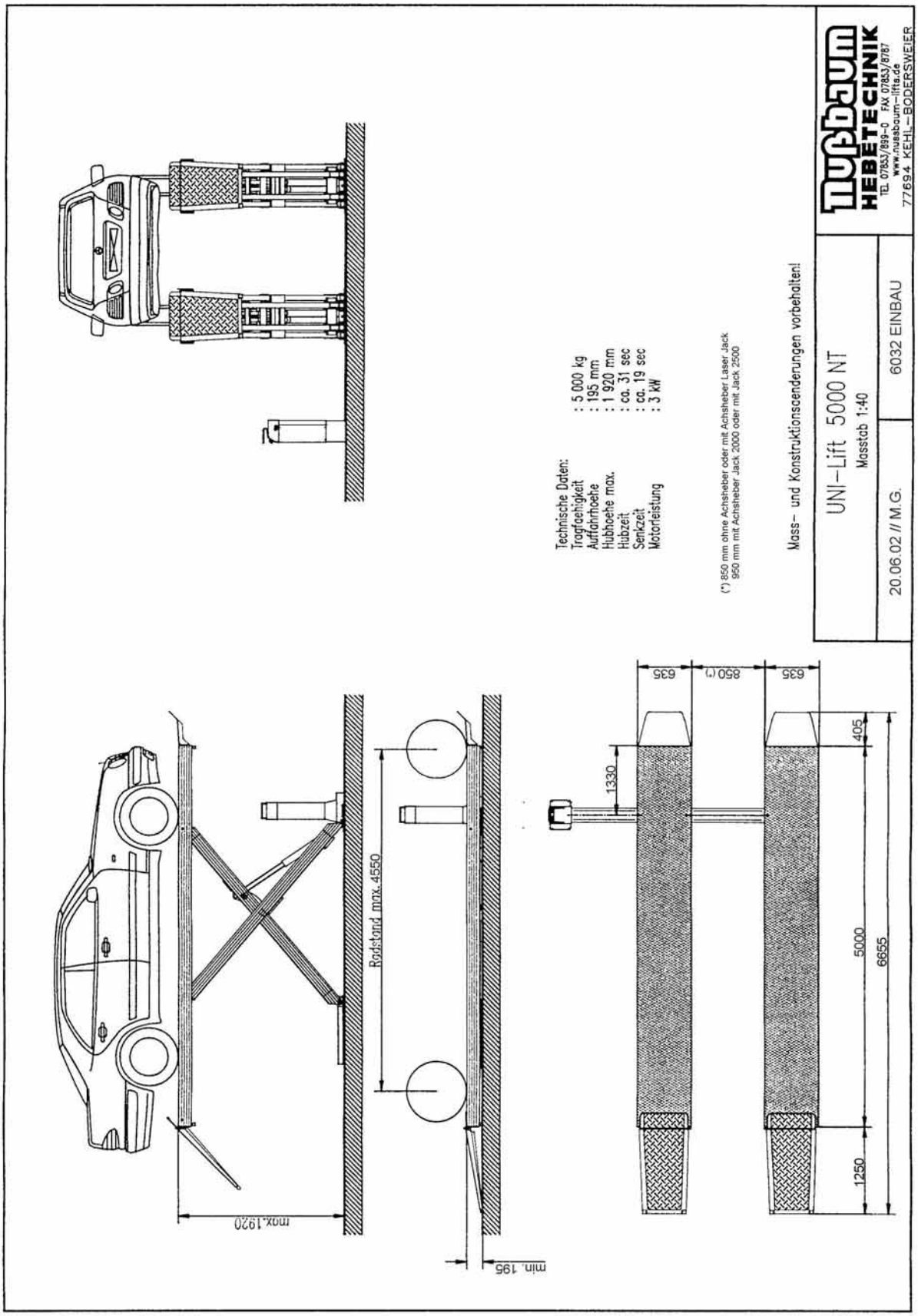
3.1 Technical ratings

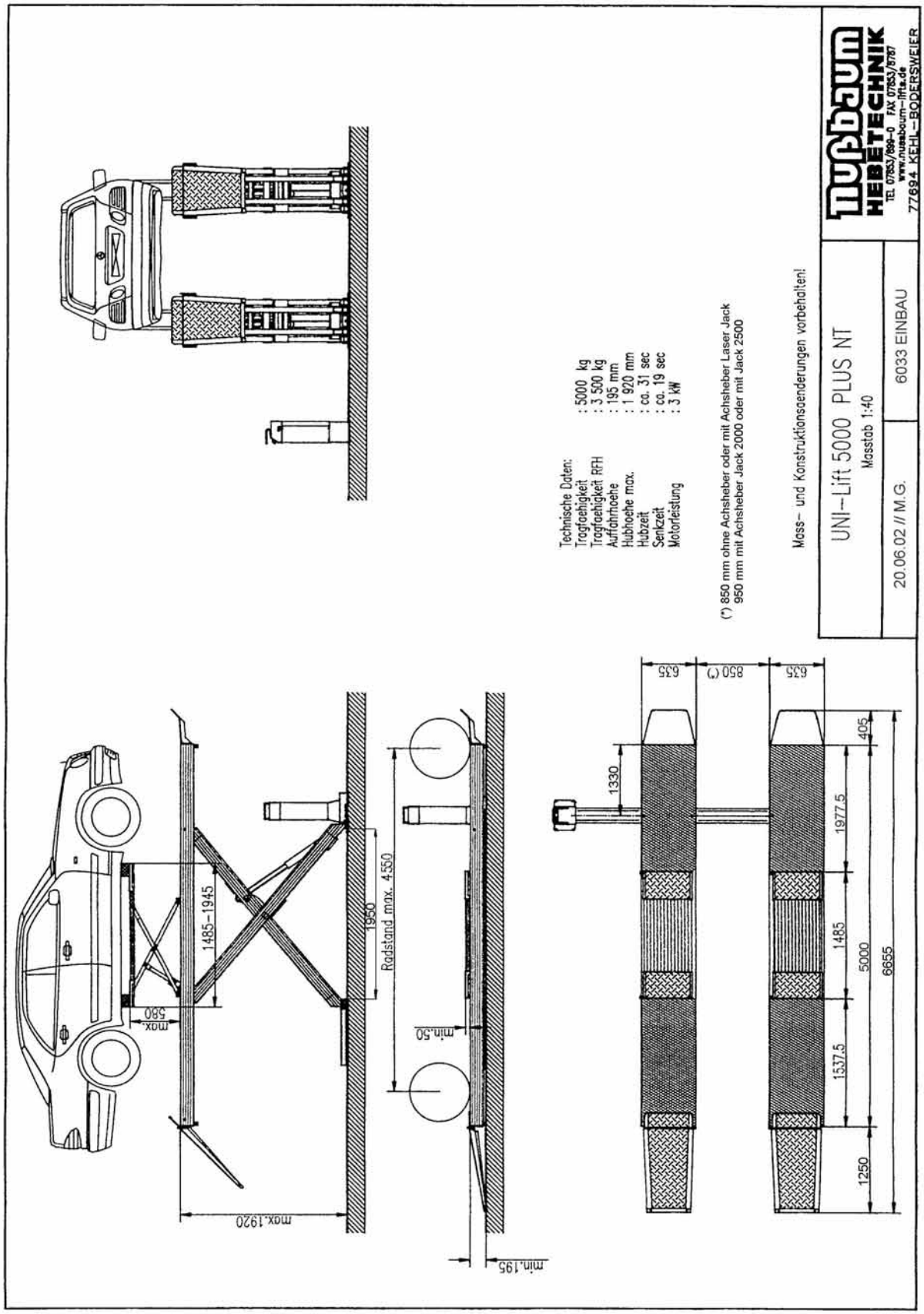
capacity automotive lift	5000 kg
capacity wheel free lift	3500 kg
load distribution	max. 2:1 in or against drive-on direction
Lifting time (main lift)	approx. 30 sec. with load
Lowering time (main lift)	approx. 30 sec. with load
Lifting time (wheel free lift)	approx. 5 sec. with load
Lowering time (wheel free lift)	approx. 12 sec. with load
capacity detector „SPID“	max. axle load 2300 kg
Line voltage	3 x 400 Volt , 50Hz
Power rating	3 kW
Motor speed	3000 rot./min.
Pump capacity	3 cm²
Hydraulic pressure	ca. 270 bar
pressure relief valve	ca. 300 bar
Oil tank	approx. 14 Litre
Sound level	≤ 75 dB(A)
Connection by customer	3~/N+PE, 400V, 50 Hz (standard version) with fuse T16A (Pay attention to the voltage of your state)

3.2 Safety devices

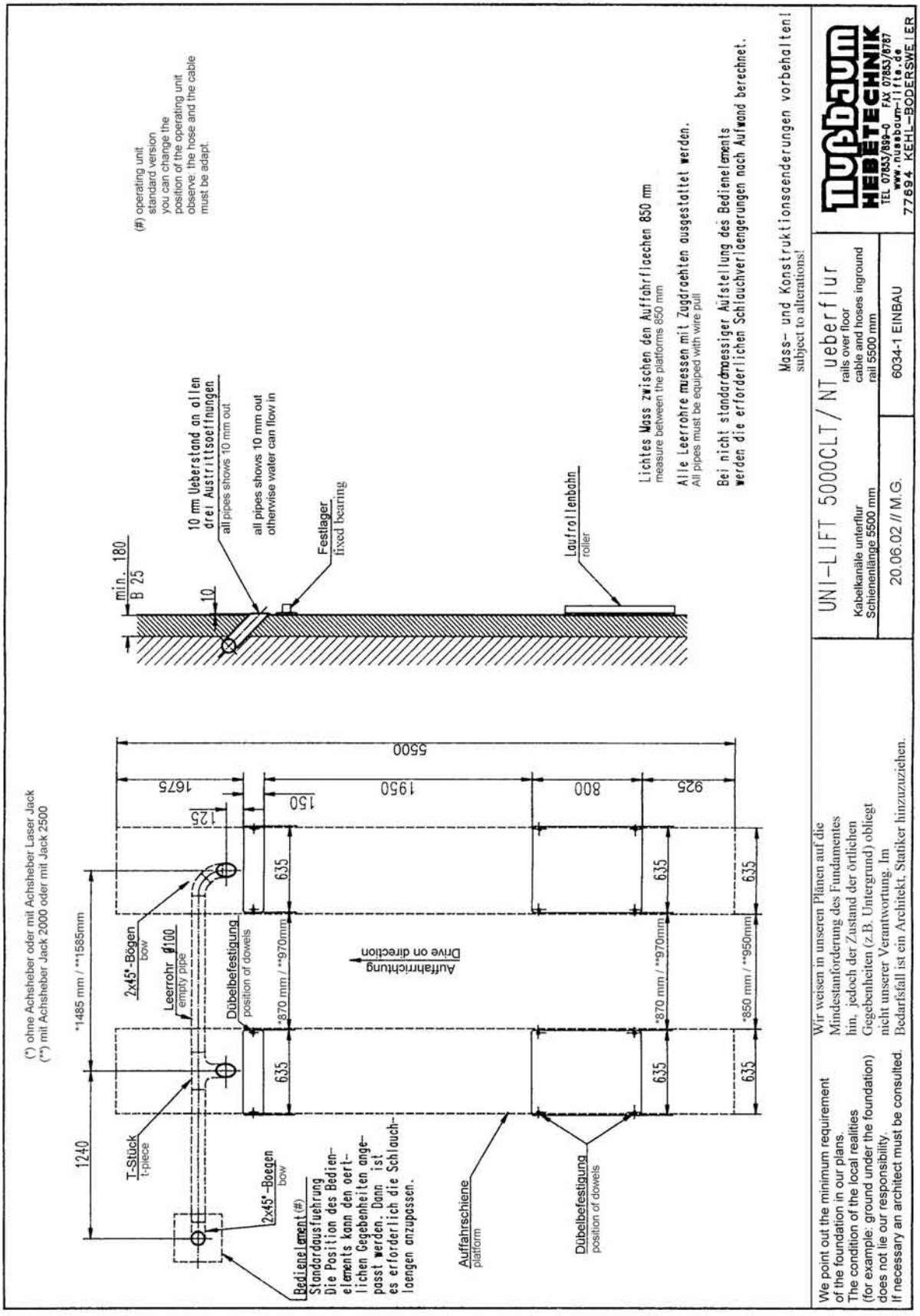
1. Pressure relief valve
   Overprint-safety of the hydraulic system
2. Holding valve
   safety device against unintentional lowering
3. Lockable main switch
   safety device against unauthorised operation
4. Feet protection
   safety device against bruises in the area of the feet
5. Two independent cylinders
   (each side master- and slave-cylinder)
   safety device against unintentional lowering
6. Seat valves at the cylinders of the wheel free lift
   safety device against unintentional lowering of the wheel free lift
7. CE-STOP
   safety device against squeeze

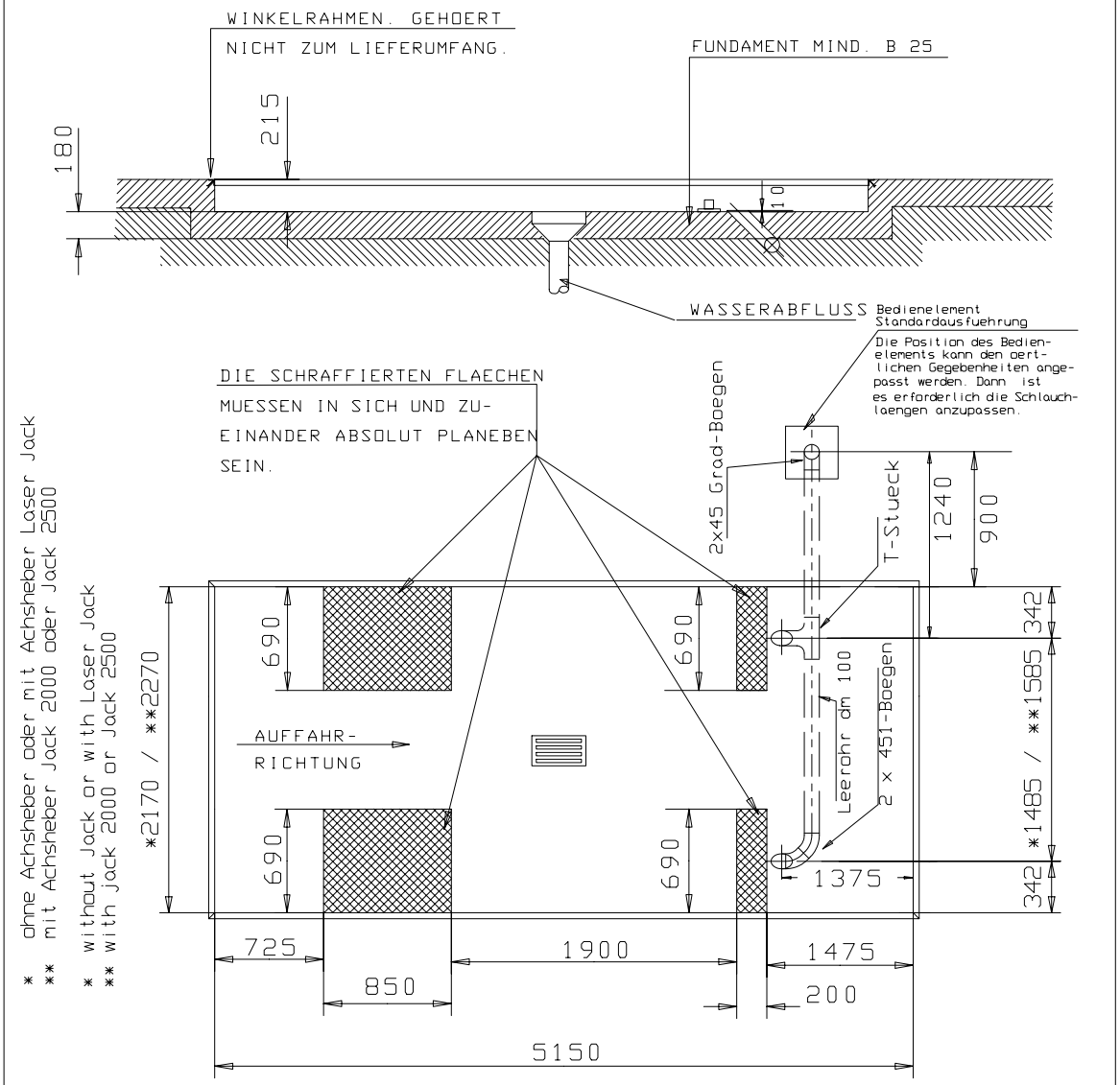
3.3 Data sheet




Nussbaum
HEBETECHNIK
TEL 07853/899-0 FAX 07853/8787
www.nussbaum-lifts.de
77694 KEHL-BODERSWEIER
UNI-Lift 5000 PLUS NT
Massstab 1:40
20.06.02 // M.G.
6033 EINBAU
Mass- und Konstruktionsaenderungen vorbehalten!
(*) 850 mm ohne Achsheber oder mit Achsheber Laser Jack
950 mm mit Achsheber Jack 2000 oder mit Jack 2500
Technische Daten:
Tragfaehigkeit : 5000 kg
Tragfaehigkeit RFH : 3 500 kg
Auffahrhoehe : 195 mm
Hubhoehe max. : 1 920 mm
Hubzeit : ca. 31 sec
Senkzeit : ca. 19 sec
Motorleistung : 3 kW
635
850 (*)
635
1330
405
1977.5
1485
5000
6655
1537.5
1250
1950
Radstand max. 4550
1485-1945
max.580
max.1920
min.50
min.195

3.4 Foundation diagram drawing





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

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

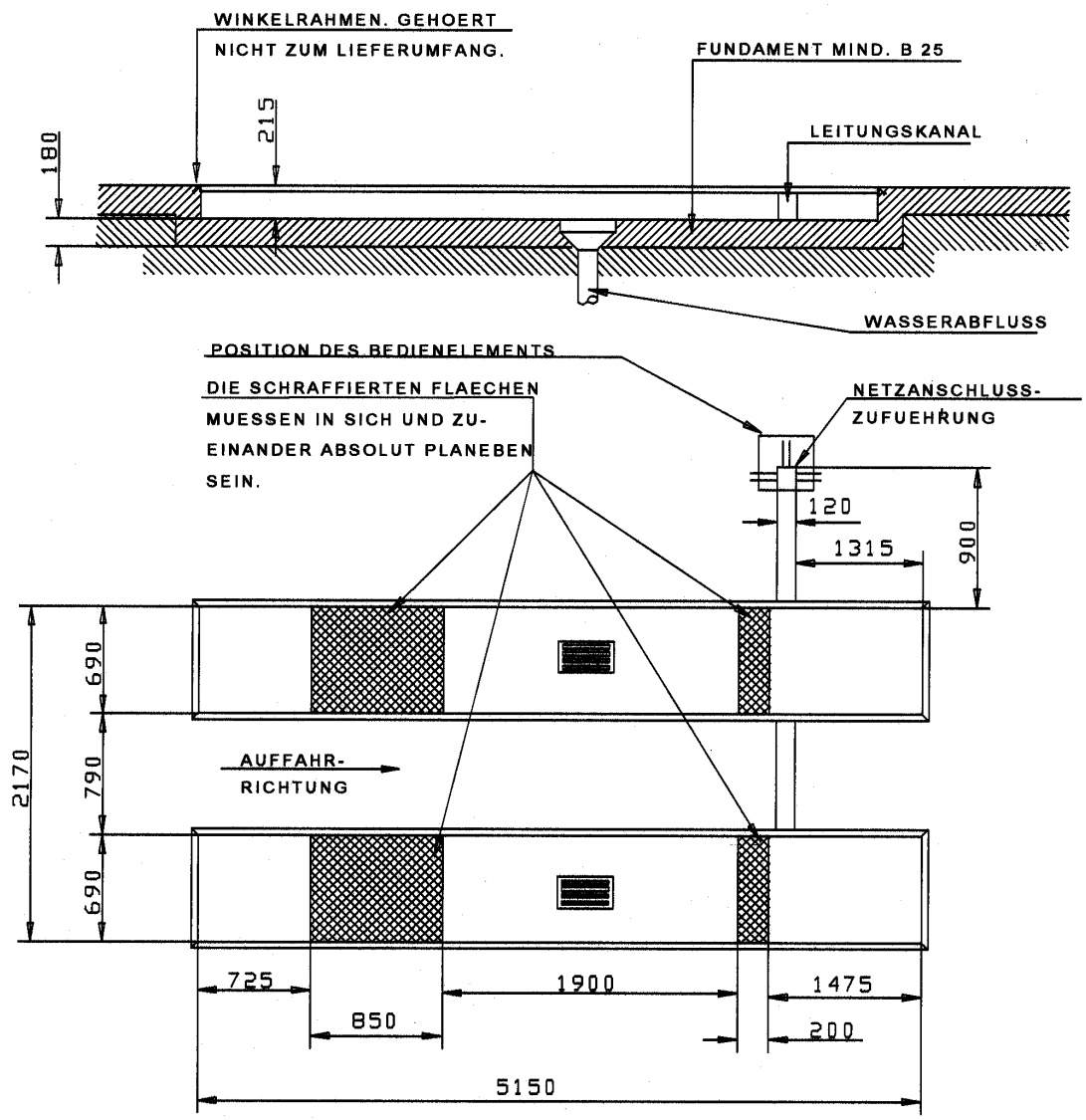
Wir weisen in unseren Fundamentplaenen auf die Mindestanforderungen des Fundamentes hin, jedoch der Zustand der oertlichen Gegebenheiten (z.b. Untergrund) obliegt nicht in unserer Verantwortung. Ggf. muss ein Architekt oder Statiker hinzugezogen werden.

Änderungen vorbehalten!

Fundamentplan UNI-LIFT 5000 CLT/NT
Komplettfundament f"r Jack // Schienenlaenge 5000 mm
Kabelkanaele unterflur Auffahrschiene bodeneben

13-03-02 M.G | 6010 EINBAU

Nussbaum
TEL 07853/899-0 FAX 07853/8787
FERTIGUNGSTECHNIK + MASCHINENBAU
D-77694 Kehl-Bodersweier



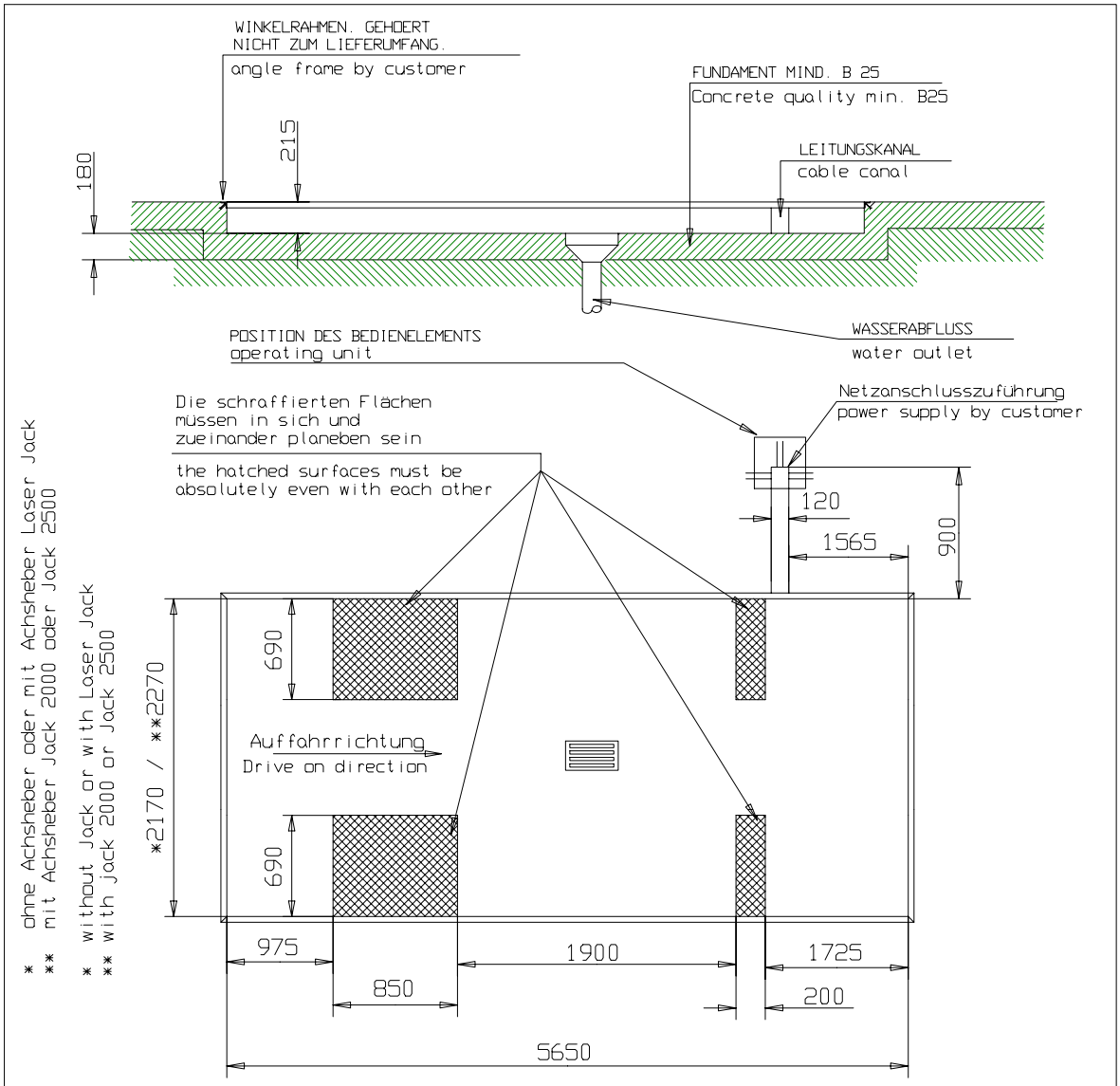
ACHTUNG: GILT NUR FUER DIE SERIENAUSFUEHRUNG MIT STELLPLATTEN UND BEIDSEITIGEN AUFFAHRKLAPPEN.
ANSTELLE DES LEITUNGSKANALS KANN AUCH EIN LEERROHR dm 100 VERLEGT WERDEN.

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

Wir weisen in unseren Fundamentplönen auf die Mindestanforderungen des Fundamentes hin jedoch der Zustand der +rtlichen Gegebenheiten (z.B Untergrund) obliegt nicht in unserer Verantwortung. Ggf. Mu_ ein Architekt oder Statiker hinzugezogen werden.

Aenderungen vorbehalten!

Fundamentplan UNI-LIFT 5000 CLT/NT Oberkante Auffahrschiene bodeneben Schienenlaenge 5000 mm	Nussbaum HEBETECHNIK TEL 07853/899-0 FAX 07853/8787 www.nussbaum-lifts.de 77694 KEHL-BODERSWEIER
13.03.02 M.G.	EINBAU 6008



Achtung: Gilt nur für die Serienausführung mit Stellplatten und beidseitigen Auffahrklappen. Anstelle des Leitungskanales kann auch ein Leerrohr dm 100 verlegt werden.
Bauseits: ausreichende Stromversorgung und Absicherung bis zu Bedienaggregat
Wasserabflussin der Vertiefung empfohlen

Valid for the inground of the lift with drive-on ramps at each end of the rails.
By customer: At the location of the power unit the following has to ber prepared:
208 - 240 volt, 60 Hz, single phase,
wateroutlet

Wir weisen in unseren Plänen auf die Mindestanforderung des Fundamentes hin, jedoch der Zustand der örtlichen Gegebenheiten (z.B. Untergrund) obliegt nicht unserer Verantwortung. Im Bedarfsfall ist ein Architekt, Statiker hinzuzuziehen.

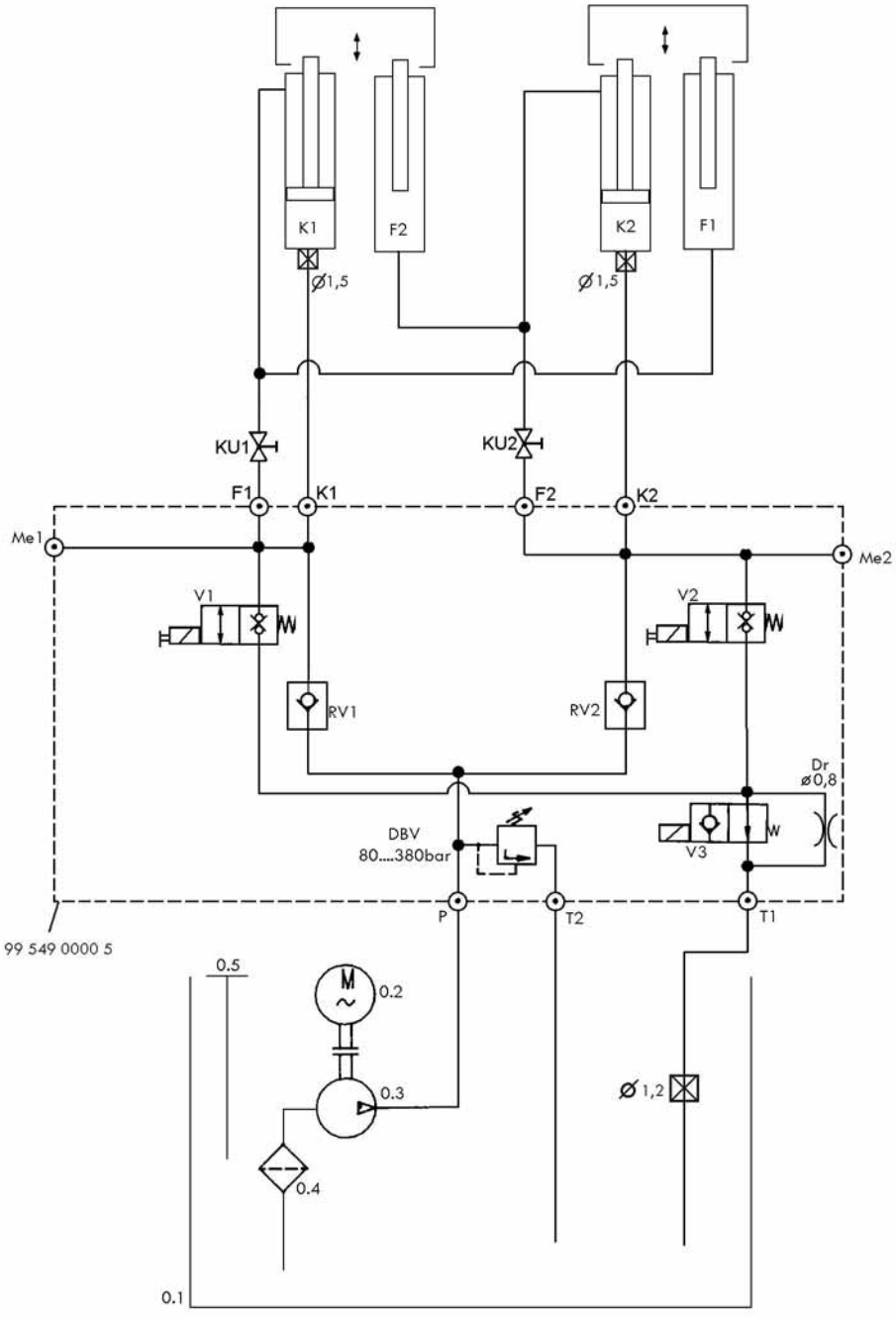
We point out the minimum requirement of the foundation in our plans. The condition of the local realities (for example: ground under the foundation) does not lie our responsibility. If necessary an architect must be consulted.

Änderungen vorbehalten/ Subject to alterations!

UNI-LIFT 5000 CLT/NT		
Grube für Achsheber Schiene bodeneben Schienenlänge 5500mm	pit for Jack rail flush with floor rail length 5500mm	
30.09.03 // M.G.	2291-2 EINBAU	

Nussbaum HEBETECHNIK
TEL 07853/899-0 FAX 07853/8787
www.nussbaum-lifts.de
77694 KEHL-BODERSWEIER

3.5 Hydraulic diagram drawing (without wheel free lift)

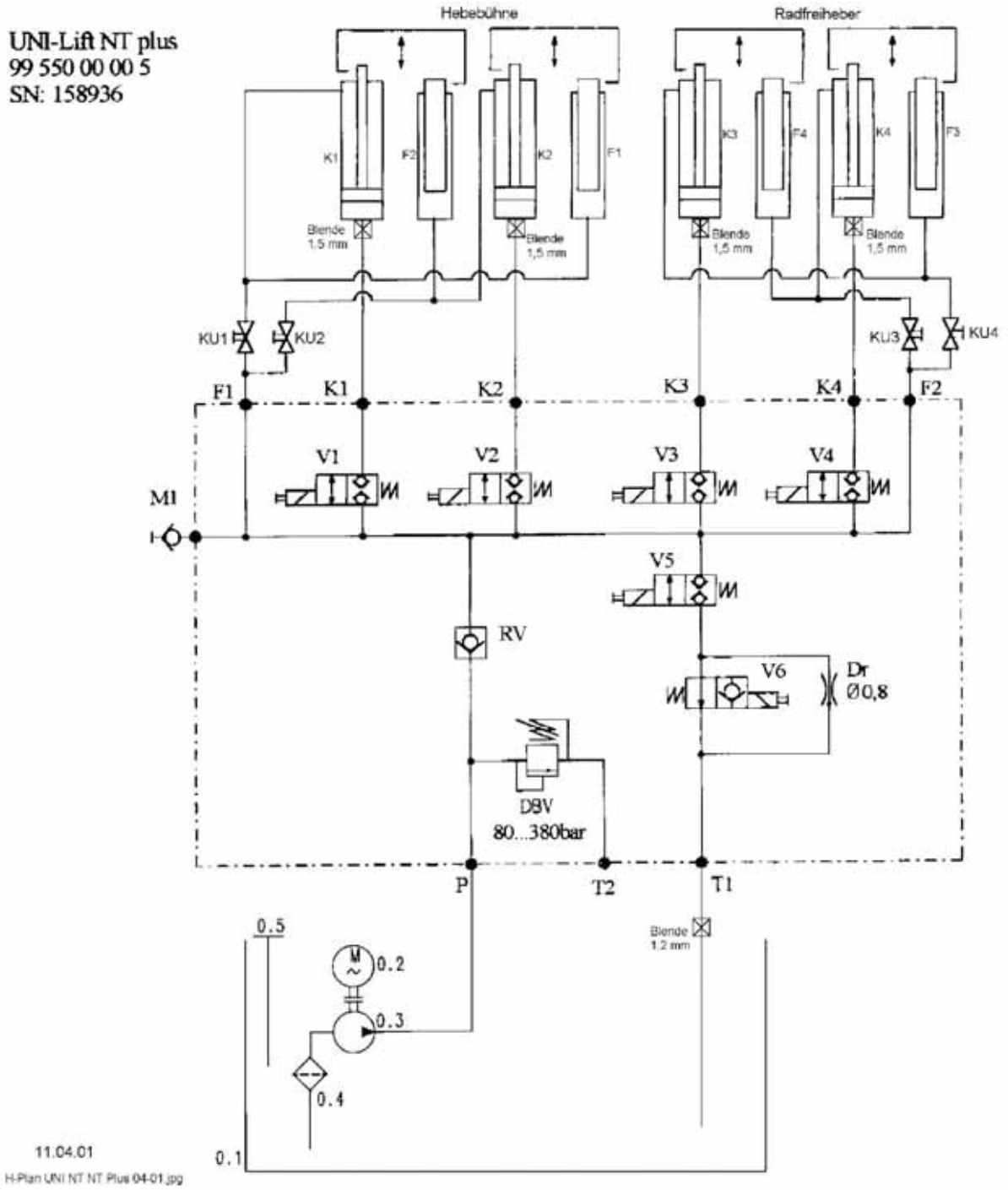


Stand 04-01
H-Plan UNI NT 04-01.jpg

Hydraulic parts list

Nr.	description		order number
0.1	oil tank		
0.2	motor		990445
0.3	gear pump		9750510112304
0.4	sub oil filter		980012
0.5	oil level gauge		980098
RV1	holding valve		980480
RV2	holding valve		980480
DBV	pressure control valve		155211
V1	double seat valve (manual unlocking)		980853
V2	double seat valve (manual unlocking)		980853
V3	seat valve (manual unlocking)		980338
DR	regulating valve Ø 0,8		
Me1	measuring connection		155470
Me2	measuring connection		155470
KU1	ball valve		980513
KU2	ball valve		980513
K1	master cylinder 1	pair of cylinders complete	050UNI02200K
F1	slave cylinder 1		
K2	master cylinder 2	pair of cylinders complete	050UNI02200K
F2	slave cylinder 2		

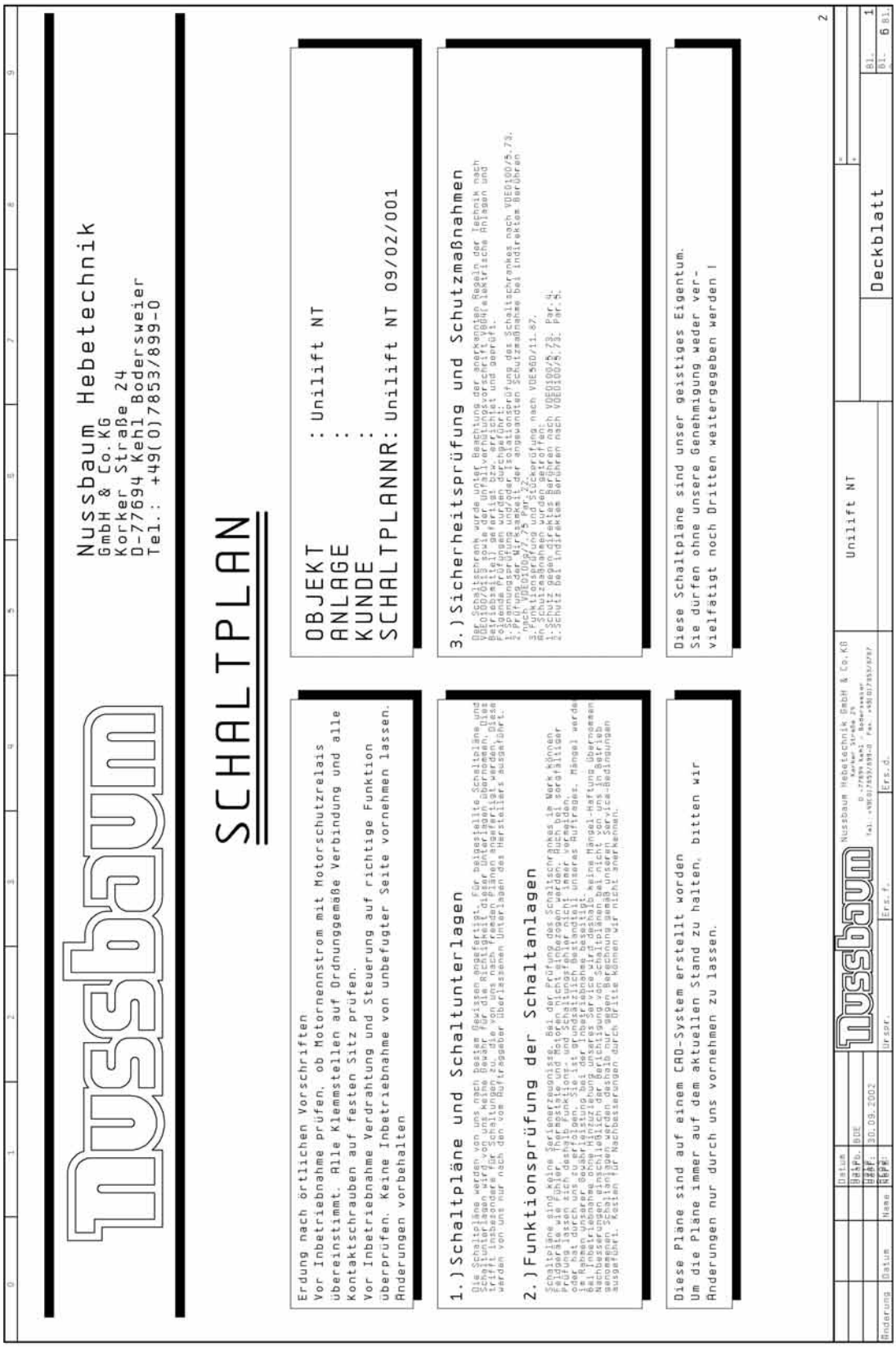
3.6 Hydraulic diagram drawing (with wheel free lift)

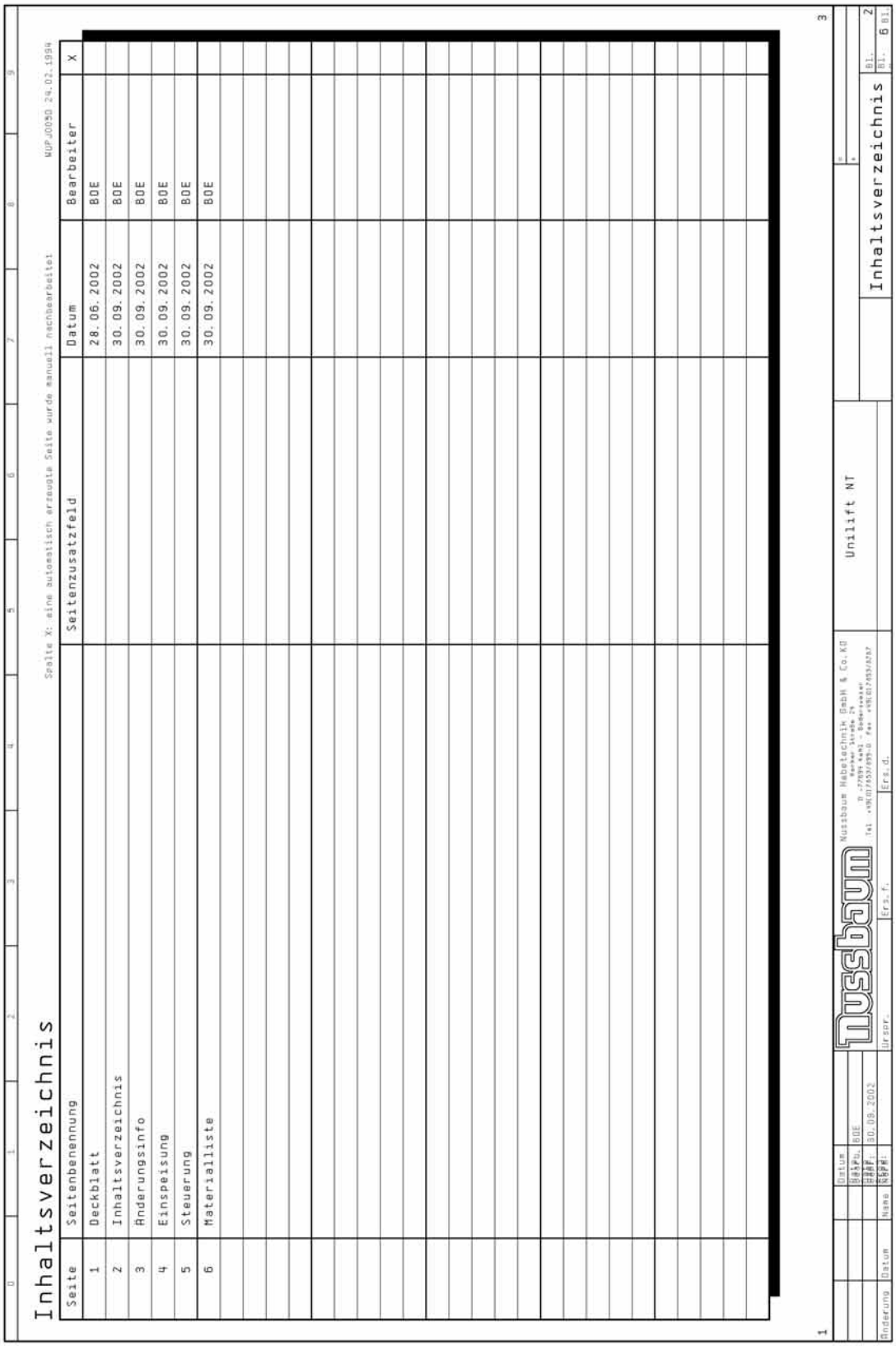


Hydraulic parts list

Nr.	description		order number
0.6	oil tank		
0.7	sub oil motor		990445
0.8	gear pump		9750510112304
0.9	oil filter		980012
0.10	oil level gauge		980098
RV	holding valve		980480
DBV	pressure control valve		155211
V1	double seat valve (manual unlocking)		980853
V2	double seat valve (manual unlocking)		980853
V3	double seat valve (manual unlocking)		980853
V4	double seat valve (manual unlocking)		980853
V5	double seat valve (manual unlocking)		980853
V6	double seat valve (manual unlocking)		980338
DR	regulating valve Ø 0,8		
M1	measuring connection		155470
KU1	ball valve		980513
KU2	ball valve		980513
KU3	ball valve		980513
KU4	ball valve		980513
K1	master cylinder 1	pair of cylinders complete	050UNI02200K
F1	slave cylinder 1		
K2	master cylinder 2	pair of cylinders complete	050UNI02200K
F2	slave cylinder 2		
K3	master cylinder wheel free lift		
K4	master cylinder wheel free lift		
F2.1	slave cylinder wheel free lift		
F1.1	slave cylinder wheel free lift		

3.7 Electrical diagram drawing (without wheel free lift)





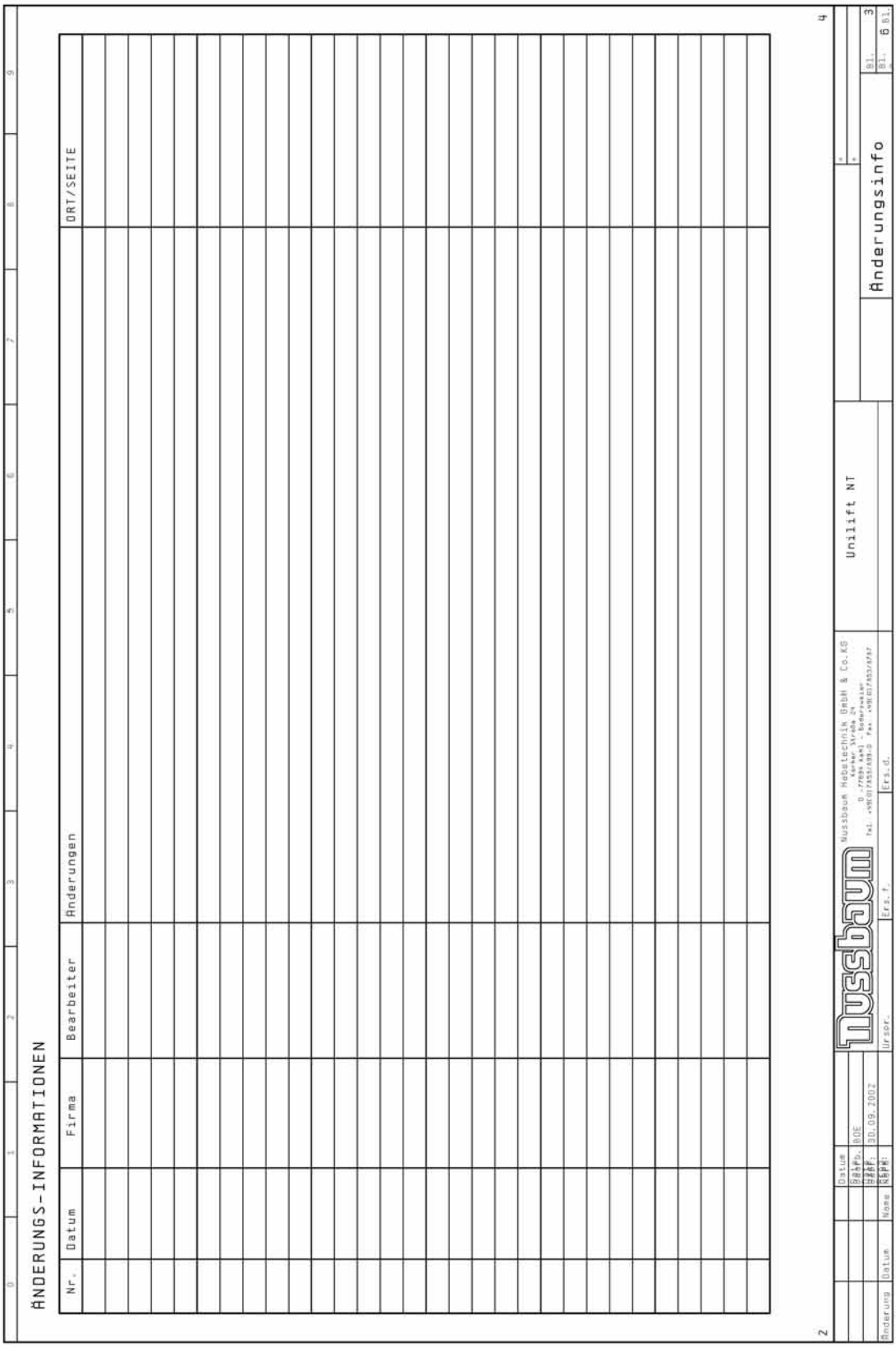
Inhaltsverzeichnis

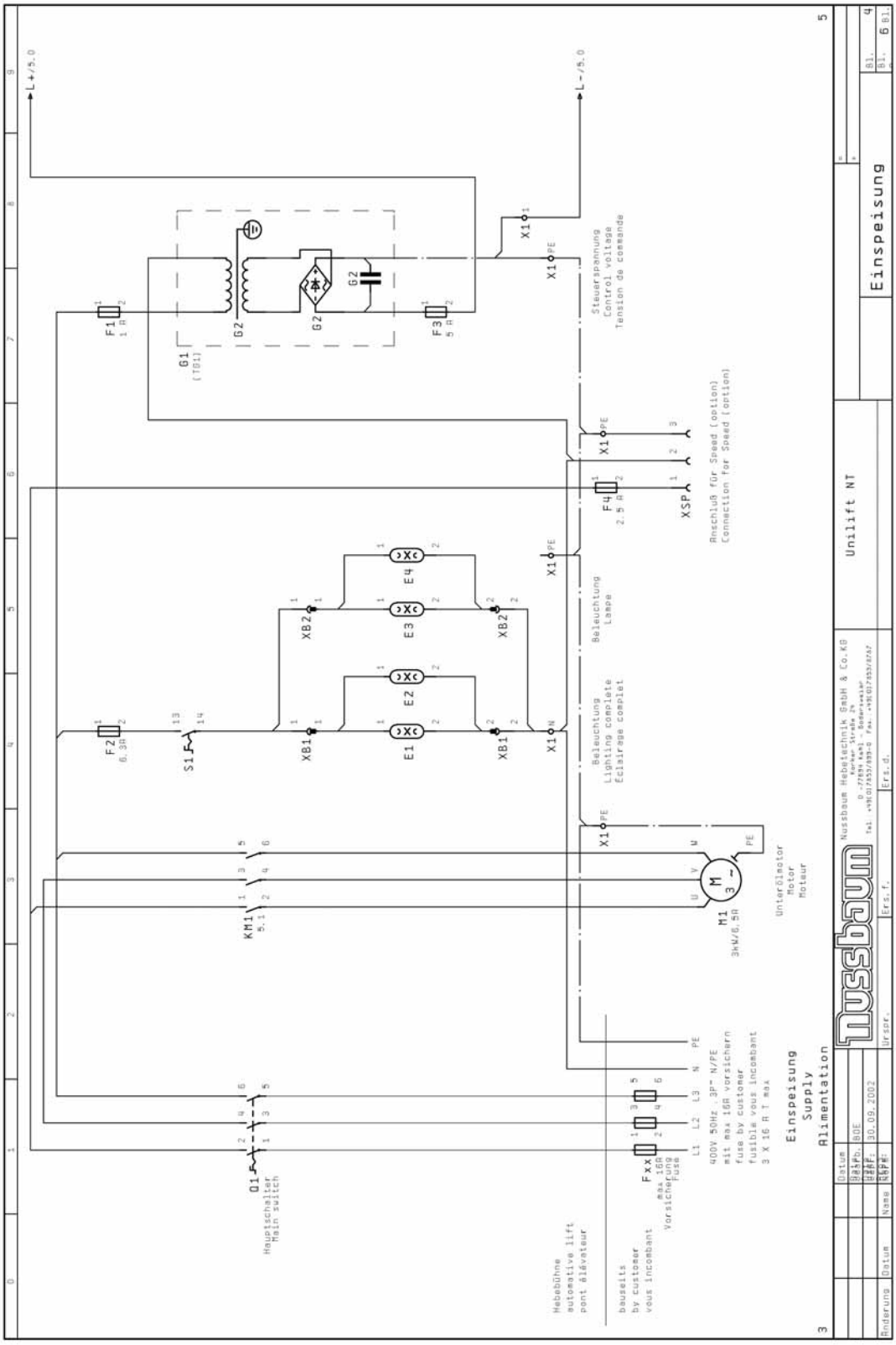
Seite X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

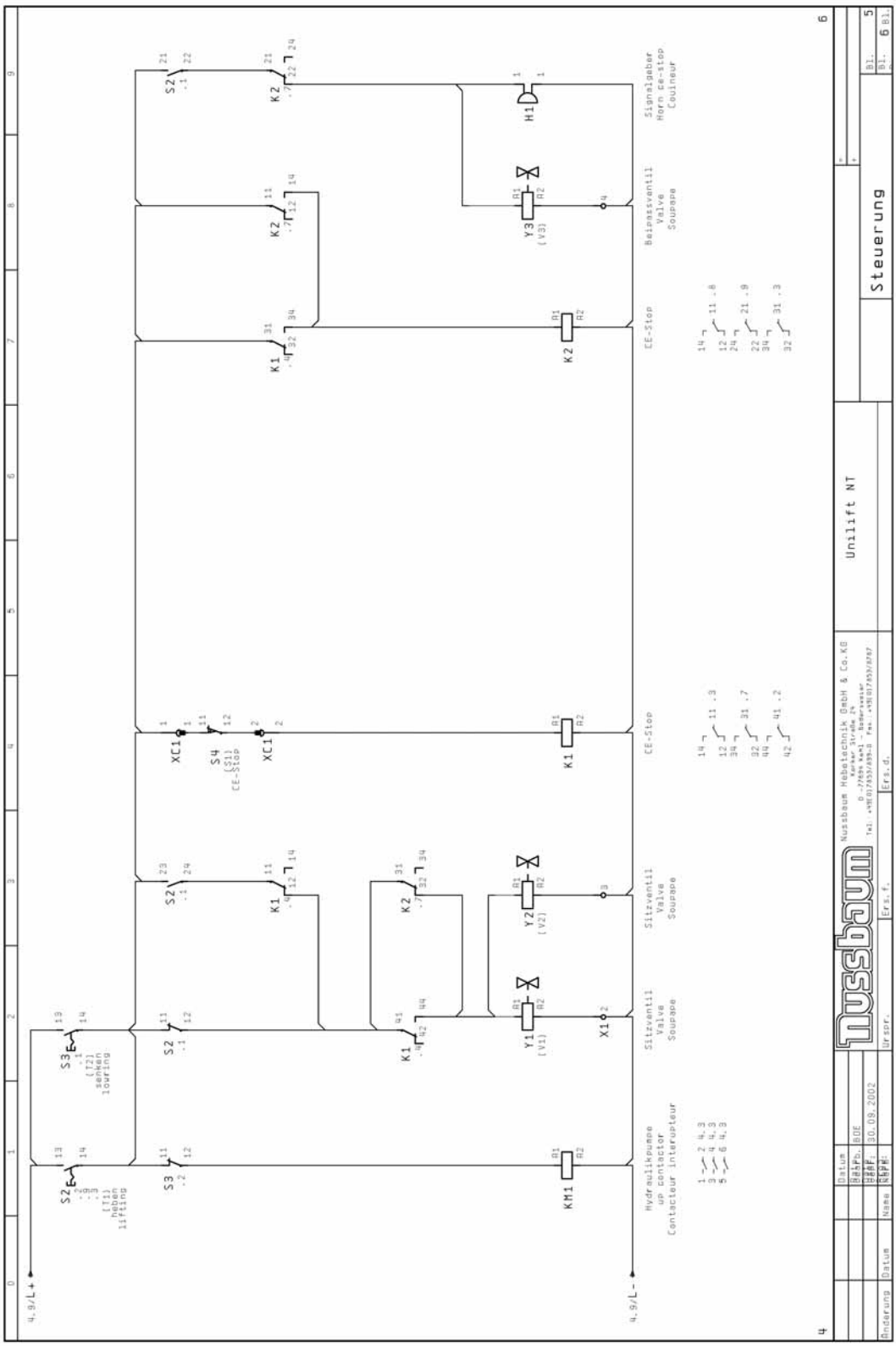
WUPJ0050 24.02.1994

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		28.06.2002	BOE	
2	Inhaltsverzeichnis		30.09.2002	BOE	
3	Änderungsinfo		30.09.2002	BOE	
4	Einspeisung		30.09.2002	BOE	
5	Steuerung		30.09.2002	BOE	
6	Materialliste		30.09.2002	BOE	

Änderung Datum Name
Datum
Gepr. BOE 30.09.2002
Bearb. BOE 30.09.2002
Ursprung
Ers. f.
Ers. d.
Nussbaum Hebetechnik GmbH & Co. KG
Unilift NT
Inhaltsverzeichnis
Bl. 2
Bl. 6 Bl.


ÄNDERUNGS-INFORMATIONEN
Nr.
Datum
Firma
Bearbeiter
Änderungen
ORT/SEITE
Änderungsinfo
Unilift NT
Nussbaum


Einspeisung
Unilift NT
Einspeisung
Supply
Alimentation
Hebebühne
automative lift
pont élévateur
bauseits
by customer
vous incombant
Hauptschalter
Main switch
Steuerspannung
Control voltage
Tension de commande
Anschluß für Speed (option)
Connection for Speed (option)
Beleuchtung
Lighting complete
Eclairage complet
Lampe
Unterölmotor
Motor
Moteur
400V 50Hz 3P~ N/PE
mit max 16A vorsichern
fuse by customer
fusible vous incombant
3 X 16 A T max
Nussbaum Hebetechnik GmbH & Co.KG


Steuerung
Unilift NT
Nussbaum Hebetechnik GmbH & Co.KG
Hydraulikpumme
up contactor
Contacteur interrupteur
Sitzventil
Valve
Soupape
Bypassventil
Valve
Soupape
Signalgeber
Horn ce-stop
Couineur
CE-Stop
S2
S3
S4
K1
K2
KM1
XC1
X1
Y1
Y2
Y3
H1
4.9/L+
4.9/L-

Stückliste

WUP00030 24.02.1994

Bauteilbenennung	Menge	Bezeichnung	Typen Nummer	Lieferant	Artikelnummer
Q1	1	Hauptsch. Net-Aus 3p 16A 5.5kW	A 105/3.0200-EV/SO	Merz GmbH	990403
M1	1	Unterölmotor 3kW/6.5A 50Hz 400V 2750min-1	D25/T		990445
X1	1	Schutzleiterkl DR 2.5/8.P.ADO schn-schn	DR 2.5/8.P.ADO	Entrelec	990679
X1	1	Reihenklemme D 2.5/8.ADO grau schn-schn	D 2.5/8.ADO	Entrelec	990680
X1	3	Schutzleiterkl D 1.5/6.P.ADO schn-schn	D 1.5/6.P.ADO	Entrelec	990578
X1	4	Reihenklemme D 1.5/6.ADO grau schn-schn	D 1.5/6.ADO	Entrelec	990183
F2	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
F2	1	Feinsicherung	FEINSICHERUNG	GIF	990266
S1	1	Wahltaste 2St.Drehkn. 1.0 rast.(M22)	M22-WR	Moeller	990446
S1	1	Kontaktblock 1S (M22)	M22-AK10	Moeller	990142
E1	1				03DULN03302
E3	1				03DULN03302
F4	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
F4	1	Feinsicherung	FEINSICHERUNG	GIF	990124
G1	1	+ Gleichrichter +Kondensator	TRAFO 1-PH	Schmelzer	990835
F1	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
F1	1	Feinsicherung	FEINSICHERUNG	GIF	990662
F3	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
F3	1	Feinsicherung	FEINSICHERUNG	GIF	990307
S2	1	Drucktaste schwarz 2S 2Ö Marquard	1663.0101	Marquardt GmbH	990334
S2	1	PVC-KAPPE für Schalter Marquard	203.201.011	Marquardt GmbH	990321
KM1	1	Leistungschütz 5.7 kW 24 V DC	118612.01 0 24V DC		990842
S3	1	Drucktaste schwarz 2S 2Ö Marquard	1663.0101	Marquardt GmbH	990334
S3	1	PVC-KAPPE für Schalter Marquard	203.201.011	Marquardt GmbH	990321
K1	1	INDUSTRIERELAIS 24V 4 Wechsler	274I	BTR	990267
K1	1	Industrierelaissockel für 4 Wechsler	110178	BTR	990381
K2	1	INDUSTRIERELAIS 24V 4 Wechsler	274I	BTR	990267
K2	1	Industrierelaissockel für 4 Wechsler	110178	BTR	990381
H1	1	Digisond akustischer Signalgeber	B/P 226	Daltron Components	990331

5

Änderung	Datum	Name		Datum	30.09.2002
				Gepr.	BDE
				Norm:	30.09.2002
				Gepr:	

Nussbaum Hebetechnik GmbH & Co.KG
Kurzer Straße 24
D -77694 Kehl - Sundheusen
Tel. +49(0)7853/859-0 Fax. +49(0)7853/8787

Ursprung | Ers. f. | Ers. d.

Unilift NT

Materialliste

Bl. 6
Bl. 6 Bl.

3.8 Electrical diagram drawing (with wheel free lift)

Inhaltsverzeichnis

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

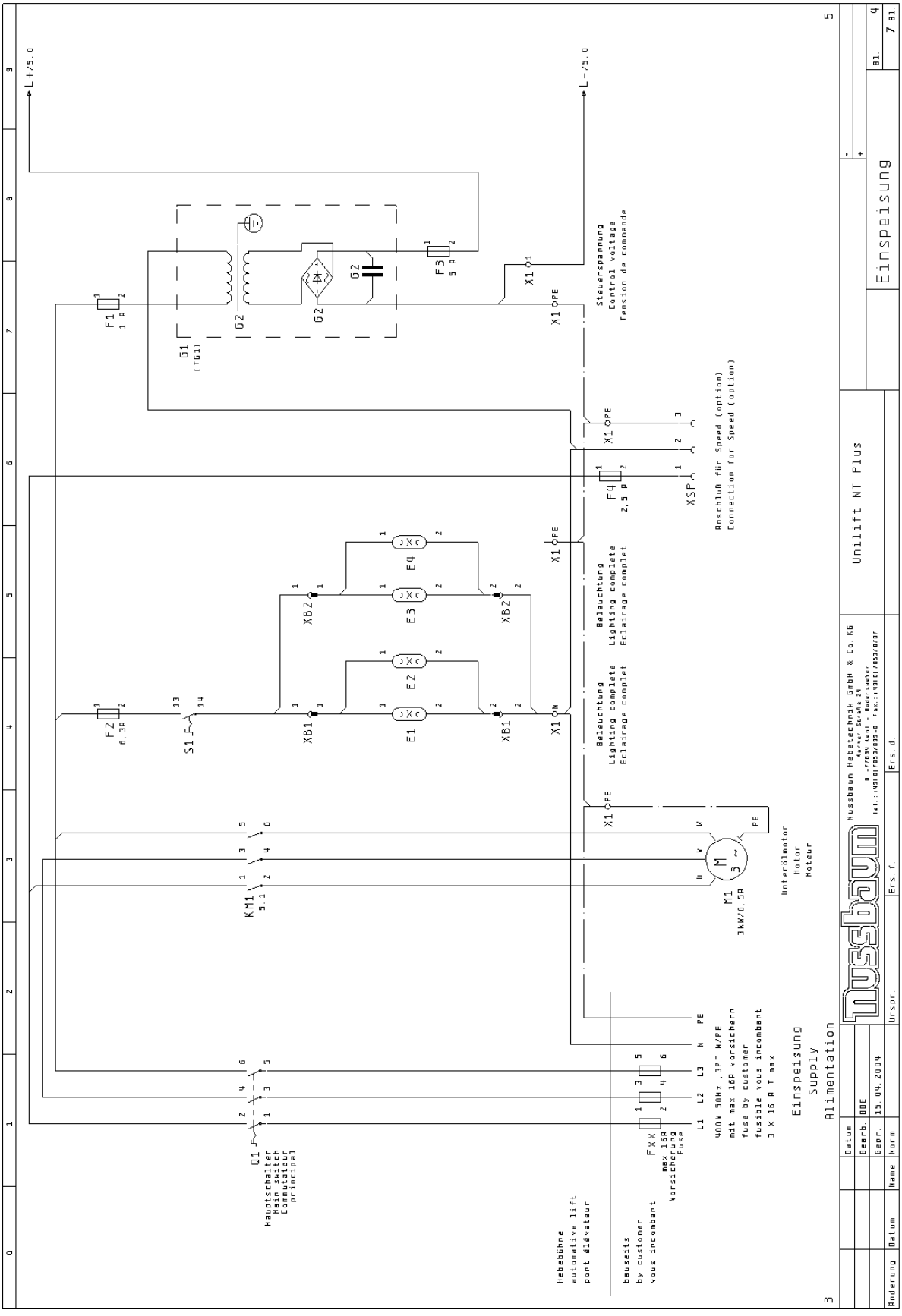
0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

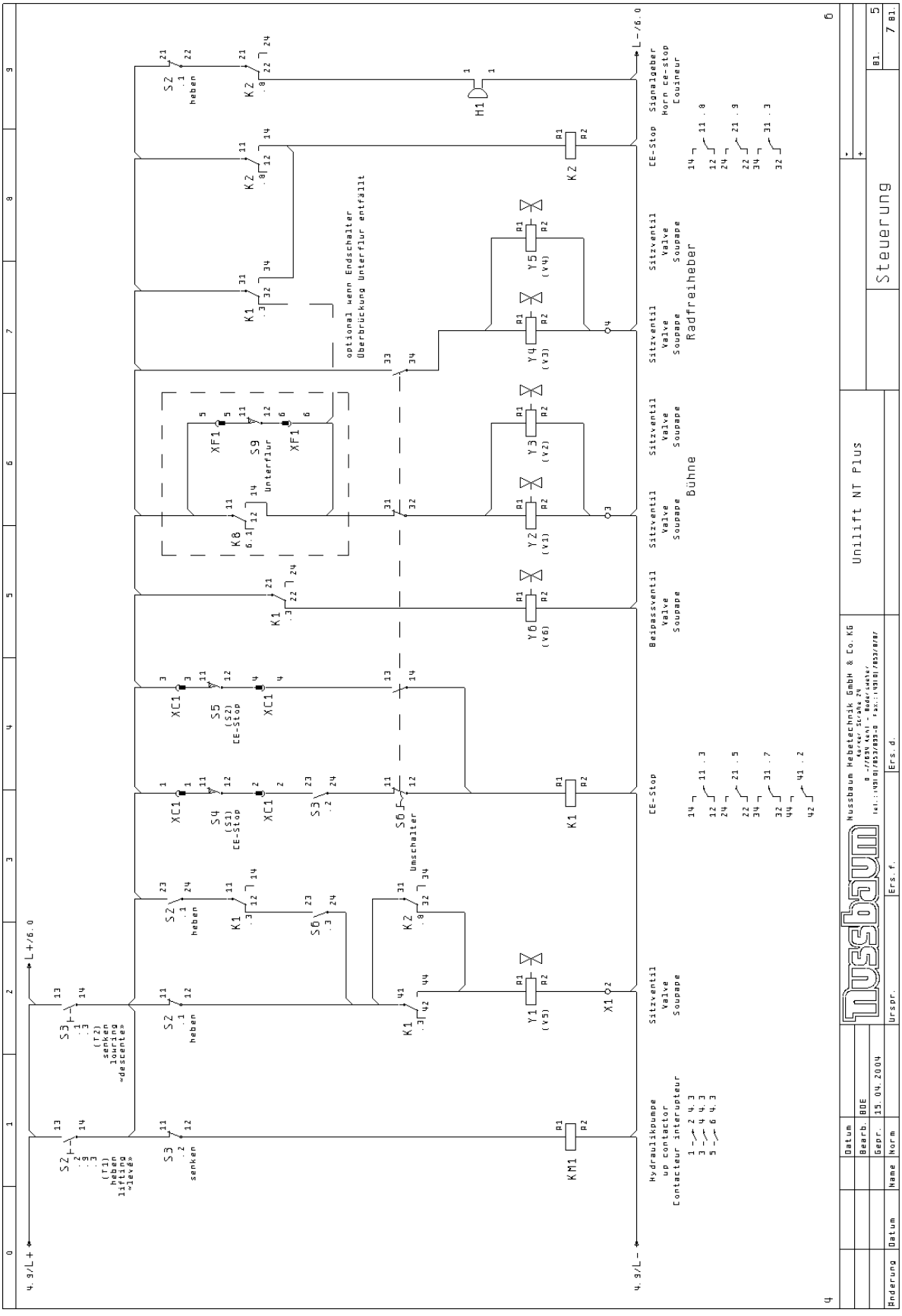
ÄNDERUNGS-INFORMATIONEN

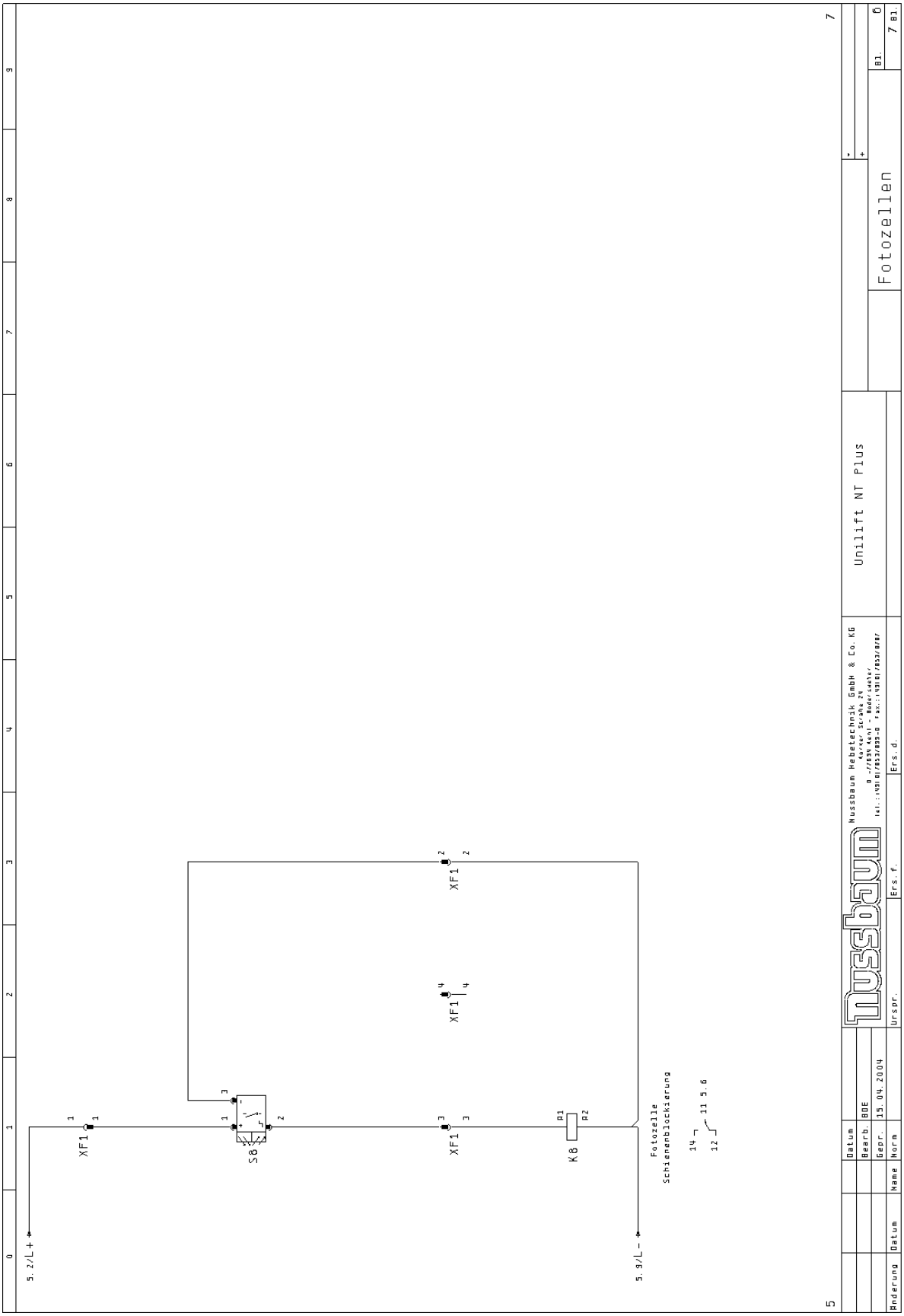
Nr.	Datum	Firma	Bearbeiter	Änderungen	ORT/SEITE

Z 4

			Datum		Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 29 D -77839 Kehl - Bodersweier Tel.: (49 01) 7853/899-0 Fax.: (49 01) 7853/87 87	Unilift NT Plus	-	
			Bearb.	BDE			+	
			Gepr.	15. 04. 2004			Änderungsinfo	Bl. 3
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	7 Bl.


L+/5.0
L-/5.0
F1 1 A
G1 (TG1)
G2
F3 5 A
X1
Steuerspannung
Control voltage
Tension de commande
F4 2,5 A
XSP
Anschluß für Speed (option)
Connection for Speed (option)
E4
E3
E2
E1
XB2
XB1
F2 6,3A
S1
Beleuchtung
Lighting complete
Eclairage complet
KM1 5.1
M1 3kW/6,5A
Unterölmotor
Motor
Moteur
Q1
Hauptschalter
Main switch
Commutateur principal
FXX max 16A
Vorsicherung
Fuse
400V 50Hz 3P~ N/PE
mit max 16A vorsichern
fuse by customer
fusible vous incombant
3 X 16 A T max
Einspeisung
Supply
Alimentation
bauseits
by customer
vous incombant
Hebebühne
automative lift
pont élévateur
Nussbaum Hebetechnik GmbH & Co. KG
Unilift NT Plus
Einspeisung


Steuerung
Unilift NT Plus
Nussbaum Hebetechnik GmbH & Co. KG
Radfreiheber
Bühne
optional wenn Endschalter Überbrückung Unterflur entfällt
Hydraulikpumpe up contactor Contacteur interrupteur
Sitzventil Valve Soupape
CE-Stop
Beipassventil Valve Soupape
Signalgeber Horn ce-stop Couineur
Umschalter
Unterflur
heben lifting «levé»
senken lowering «descente»
Datum
Bearb.
Gepr.
Norm
Name
Änderung
Ursprr.
Ers. f.
Ers. d.


Fotozellen
Unilift NT Plus
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb.
BDE
Gepr.
15.04.2004
Name
Norm
Änderung
Datum
Ursprr.
Ers. f.
Ers. d.
XF1
S8
K8
Fotozelle
Schienenblockierung
5.2/L+
5.9/L-
14
12
11 5.6

Stückliste

WUP00030 24.02.1994

Bauteilbenennung	Menge	Bezeichnung	Typen Nummer	Lieferant	Artikelnummer
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	990662
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	990124
G1	1	Trafo + Gleichrichter + Kondensator	TRAFO 1-PH	Schmelzer	990835
H1	1	Digisond akustischer Signalgeber	B/P 220	Deltron Components	990331
K1	1	INDUSTRIERELAIS 24V 4 Wechsler	2741	BTR	990267
K1	1	Industrierelaissockel für 4 Wechsler	110170	BTR	990381
K2	1	INDUSTRIERELAIS 24V 4 Wechsler	2741	BTR	990267
K2	1	Industrierelaissockel für 4 Wechsler	110170	BTR	990381
K8	1	INDUSTRIERELAIS 24V 4 Wechsler	2741	BTR	990267
K8	1	Industrierelaissockel für 4 Wechsler	110170	BTR	990381
KM1	1	Leistungschütz 5,7 kW 24 V DC	11BG12.01 0 24V DC	Lovato electric	990842
M1	1	Unterölmotor 3kW/6,5A 50Hz 400V 2750min-1	D25/T	Leroy Somer	990445
Q1	1	Hauptsch. Not-Aus 3p 16A 5,5kW	A 105/3.0200-EV/SO	Herz GmbH	990403
S1	1	Wahltaste 2St.Drehkn. I,O rast.(M22)	M22-WR	Moeller	990446
S1	1	Kontaktblock 1S (M22)	M22-AK10	Moeller	990142
S2	1	Drucktaste schwarz 2S 2Ö Harquard	1663.0101	Harquardt GmbH	990334
S2	1	PVC-KAPPE für Schalter Harquard	203.201.011	Harquardt GmbH	990321
S3	1	Drucktaste schwarz 2S 2Ö Harquard	1663.0101	Harquardt GmbH	990334
S3	1	PVC-KAPPE für Schalter Harquard	203.201.011	Harquardt GmbH	990321
S6	1	Wahltaste 2St.Drehkn. I,O rast.(M22)	M22-WR	Moeller	990446
S6	1	Kontaktblock 1S 1Ö (M22)	M22-AK11	Moeller	990132
S6	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
S6	1	Kontaktelement 1Ö (M22)	M22-K01	Moeller	990181
S8	1	ORO5PS-DATP-04.0-30E; 0-4m	SPIEGELREFLEXLICHTTASTER	Bernstein	990901
S9	1	TI-U1 RO 90	GRENZTASTER 1Ö 1S KLEIN STANGE	Bernstein	990003

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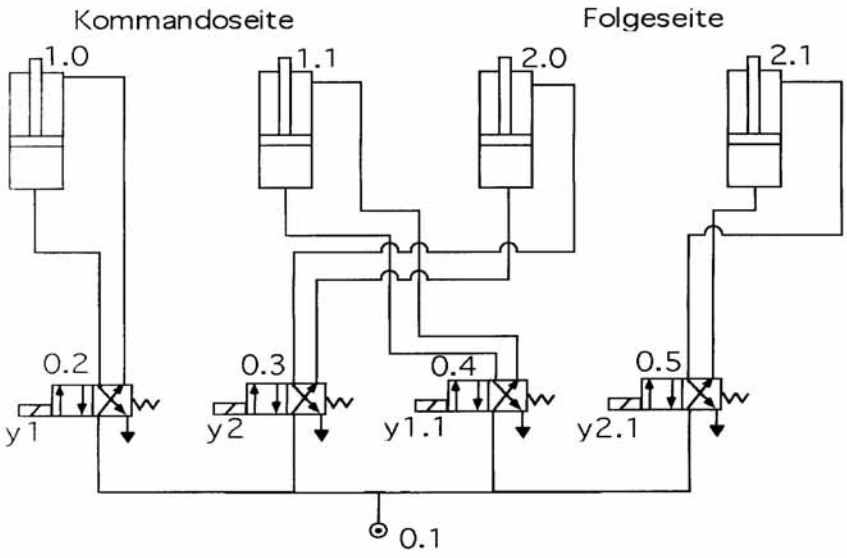
			Datum	15.04.2004	Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 29 D-77694 Kehl - Bodersweier Tel.: +49(0)7853/833-0 Fax.: +49(0)7853/8787	Unilift NT Plus		-	
			Bearb.	BOE				+	
			Gepr.	15.04.2004			Materialliste	Bl. 7	
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.		7 Bl.

3.10 Pneumatic diagram drawing SPID



Nr:	Description	order number
0.1	pneumatic connection min. 8 bar	
0.2	4/2 way valve (pneumatic)	airtec M06510-HN
0.3	4/2 way valve (pneumatic)	airtec M06510-HN
0.4	4/2 way valve (pneumatic)	airtec M06510-HN
0.5	4/2 way valve (pneumatic)	airtec M06510-HN
1.0	double-effect cylinder	1260500100 master side
1.1	double-effect cylinder	1260500100 master side
2.0	double-effect cylinder	1260500100 slave side
2.1	double-effect cylinder	1260500100 slave side

4. Safety regulations

If you use the automotive lift, the German following regulations are to be considered: BGG945: Examine of automotive-lifts; BGR260 Using automotive-lifts; (VBG14).

Especially the following regulations are very important:

- The laden weight of the lifted vehicle mustn't be more than 5000 kg for the automotive lift, 3500 kg for the wheel free lift.
- The maximal axle load must not be more than 2300 kg for the SPID.
- 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.

☞ ***(Wheel free lift): If necessary use the ramps to secure the safetyness of the vehicle.***

- 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)
- Choose between main lift/ wheel free lift (see pic.1, 4)
- (wheel free lift) 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!
- Raise the lift. Press the button „lifting“.
- (wheel free lift): Stop the lifting when the wheels are free to check the safe position of the vehicle on the polymer pads.
- Lift the vehicle on the working height. Press the button „lifting“ .

pic. 1: operation unit

1 main switch

2 button „lifting“

3 button „lowering“

4 reversing switch main lift/wheel free lift

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.
- Choose between main lift/ wheel free lift (see pic.1, 4)
- Lower the vehicle to the working height or until the platform reaches the lowest point; press the button „lowering“ .
- Observe the complete process.
- 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.
- When the lift is in its lowest position, remove the polymer supports (wheel free lift)
- Drive the vehicle out of the lift if the lift (main lift) is in the lowest position.

5.3 Equalisation of the platforms

Because there are two independent hydraulic systems, differences between the two rails should normally not appear when you operate the lift correctly.
Check possible mistakes before you equalize the two platforms (for instance a leakage of the hydraulic system or another external mistake)

Equalize the rails only without load!
Before an equalisation you have to remove any kind of load of the lift!

An equalisation could be necessary when one side isn't let down completely into the lowest position or if the loads of the two rails are very different of each other, for example.

Correct equalisation:

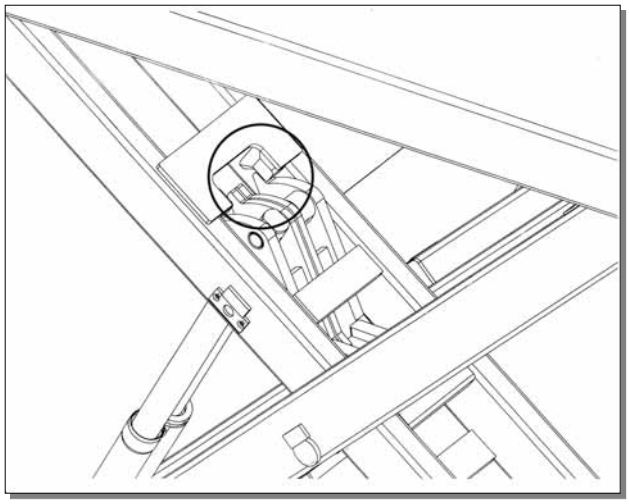
Situation: One rail is higher than the other.

preparations/measures:

- Lower the lift as far as possible into the lowest position. Press button „lowering".

pic. 2: ball valves for the equalisation of the lift.

- Remove the covers of the operation unit (back side)
- Pull ball valve KU1 and press button „lowering". One rail lowers. Put button and ball valve in normal (original) position again.
  Pull ball valve KU2 and press button „lowering". The second rail lowers also. Put button and ball valve in normal position again.
- Repeat this process for the wheel free lift with the ball valves KU3 and KU4.
- Lift the rails 1500 mm.
- Check now the position of the cylinder levers. All four cylinder levers have to sit close to the limit stops of the scissors. (compare to pic 3)



pic. 3
cylinder levers (circle)
2 x each side of the lift

- If the cylinder levers do not sit absolutely close to the limit stops then the rails have to be equalised still one time with the ball valves, according to the following description.
- **Equalisation of the main lift:**
  Choose the main lift at the reversing switch (see pic.1, 4)
  Press button „lifting“ and pull the ball valve KU1. Observe if the cylinder levers move to the limit stops. If no cylinder lever moves, put KU1 in his original position. Pull ball valve KU2 and press button „lifting“.
- **Equalisation of the wheel free lift:**
  Choose the wheel free lift (“RFH”) at the reversing switch (see pic.1, 4)
  Lift the wheel free lift in the highest position. Check the rails for torsion.

  Pull ball valve KU3 and press button „lowering“.
  Observe the rails if one of them lowers. If no rail lowers, put KU3 in his original position and pull ball valve KU4. Push button „lowering“. The torsion should have disappeared.

  If the rails have different heights, push the button „lowering“ until the rails of the wheel free lift have reached their lowest position. Hold the button „lowering“ pushed and pull the ball valves KU3 and KU4 until both rails are on the same level.
- Put the ball valves in their original position 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!

possible causes:	**solution:**
- *no power supply*	*let the power supply check*
- *main switch is not engaged*	*put main switch on*
- *fuse defect*	*check fuse and replace it if necessary*
- *the feed line is cut*	*repair it*
- *thermal switch in the motor is active*	*let it cool down*

Problem: Motor starts, lift does not lifting!

possible causes:	**solution:**
- *The vehicle is too heavy*	*unload it*
- *Level of the oil is too low*	*fill oil in*
- *leakage of the hydraulic system*	*repair the system*
- *gear pump does not work*	*call your service partner*

Problem: The lift does not lower!

possible causes:	**solution:**
- *The lift is standing on a obstacle*	*Push button „lifting“*
- *hydraulic valve defect*	*call your service partner*
- *fuse defect*	*check fuse and replace it if necessary*
- *Button „lowering“ not pushed*	*Push the correct button!*
- *Seat valves cannot be unlocked*	*emergency lowering*

6.1 Driving on an obstacle

If the lift drives on an obstacle, the hydraulic system has got no more pressure and the lift stops. To remove the obstacle the lift has to rails have to be lifted a little. Therefore push button „lifting“ until the obstacle can be removed.

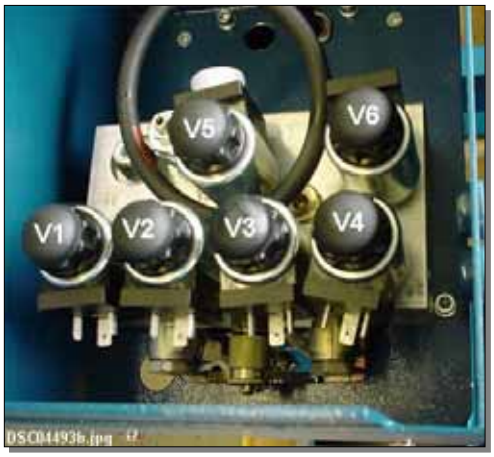
6.2 Emergency lowering of the main lift/ wheel free lift

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 must be removed. This is necessary particular before an emergency lowering.

Reasons which provoke an emergency lowering are e.g. disturbances of the valves or a breakdown of the power supply.

1. Disconnect the lift from the power supply before starting the emergency lowering.
2. Open the covers of the aggregate. You have to be able to reach the seat valves of the hydraulic bloc. (pic. 4)
3. 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.
4. Emergency lowering of the main lift: press simultaneously the valves V1, V2.
5. Emergency lowering of the wheel free lift: press simultaneously the valves V3,V4.
6. The lowering starts immediately. If there is any danger, let off the valves and stop the emergency lowering!!



pic. 4
Valves with buttons for emergency lowering

7. Lower the lift or the wheel free lift in his lowest position.
8. Observe the complete process.
9. Change the defect parts of the lift, before you initiate the lift again, if it is necessary. Therefore call your service partner.

Switch off the main switch and lock it. Do not work with the lift until the faulty parts are exchanged.

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.
If the lift is used very often the intervals of cleaning have to be shortened. Observe the function of the lift while you use it. If there is disturbance or leakage call your service partner.

7.1 Maintenance plan of the lift

- Clean the piston rods of the hydraulic cylinders from sand and dirt.
- 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 oil 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. 14 litres are needed. A high quality hydraulic oil is recommended, it should be 32 cst. (e.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 devices of the lift.
- Check the Polymer supports and replace them if its necessary.
- Check the turning moment of the screws.

Turning moment for screws

property class 8.8

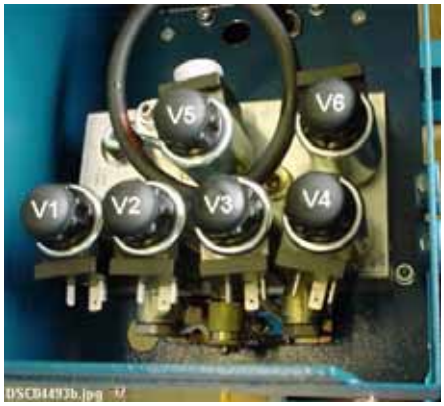
	0,10*	0,15**	0,20***
M8	20	25	30
M10	40	50	60
M12	69	87	105
M16	170	220	260
M20	340	430	520
M24	590	740	890

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

Drehmomenttabelle 8.8-10.9 E

* 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



- The valves (cartrigdes) have to be tightened with approx. 30 – 35 Nm in regular intervals. (see attachment) With intensive utilization of the lifting platform, the maintenance interval has to be curtailed.

- Before the cartridges with the demanded turning moment can be tightened, the coils have to be removed through releasing the black turn-lock fastener.

7.2 Cleaning of the automotive lift

A regular and appropriate maintenance serves 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.
- Dry the lift after the cleaning with a cloth. 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:

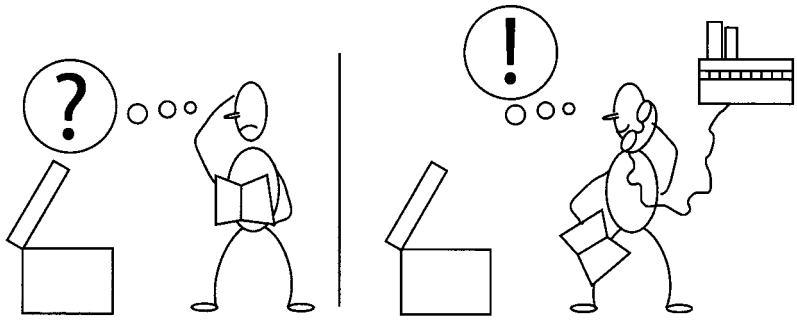
1. Before the initial operation, after the first installation
Use the form "First security check before initiation"
2. In regular intervals after the initial operation, at least annually.
Use the form "Regular security check at least annually"
3. Every time the construction of that particular lift has 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 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 mm^2.
- All cable ducts have to be equipped with protective coverings to prevent accidents.

9.2 Erection and doweling of the lift

- Install the lift according to the data sheet and the foundation plan.
- Install the operating unit at its designed place. Connect the power supply.
- Connect the hydraulic. All hoses are marked.
- Fill in the hydraulic oil, approx. 14 litres are needed. A high quality hydraulic oil is recommended, it should be 32 cst. (e.g. HLP 32 LTD. OEST Company) After the fill up, the hydraulic oil must be between the upper and low marking of the oil level gauge.
- Push button „lifting“ until the vent screws (on the top of the slave cylinders, see pic. 5) can be reached. Execute a deaerate according to chapter 9.6, if necessary.
- 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. 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 plate 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.

- Dowel the aggregate in the floor.
- Tighten the Liebig-dowels with the dynamometric key (M = 80Nm).

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

- Raise and lower the lift several times with load. Check the torque of the dowels and check the hydraulic hoses tightness.
- Equalize the lift, if this is necessary.
- Mount the covers: Do not damage the cables.

9.3 Deaerate the hydraulic system (main lift)

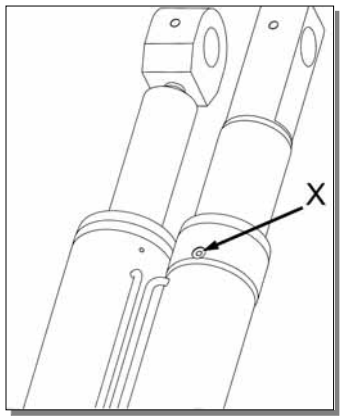
- The correct power supply, the correct hydraulic oil and the closeness of the hydraulic system have to be controlled after the installation of the lift.
  By connecting the hydraulic hoses, air might enter the hydraulic system and provoke problems of ganging. In consequence a deaerating is necessary.
  Check again the correct installation of the hydraulic hoses!

Effects, which make a deaerating necessary are e.g. a sudden lifting out of the lowest position or unequal rails.

Correct deaerating:

There have to be 14 litres of hydraulic oil filled in the oil tank.

- Choose the main lift at the reversing switch (see pic.1, 4)
- Open the vent screws on the top of the slave cylinders (see pic. 5) a little bit. ***Do not open them completely.***
- Push button „lifting“. The air streams out of the borings on the slave cylinders. Keep the screws open until only hydraulic oil comes out of the borings. Close the vent screws afterwards.



pic. 5
pos. X = vent screw on the top of the slave cylinders

If you do not close the vent screws, trouble and disturbances of the lift will occur!

- Push button „lifting“ and drive the lift into the highest position. Repeat the procedure of deaerating, if necessary.
- Check if the vent screws are closed
- Push button „lowering“ and drive the lift into the lowest position. (While you lower the lift it is possible that the oil-air mix makes sounds)
- Lift the rails on 1500 mm without load. Check up the holding time.
- Check again if the cylinder levers: All four cylinder levers have to sit close to the limit stops of the scissors. (compare to pic 3). Repeat the procedure of point 5.3 if necessary.

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 its new place.
- Install the lift in accordance with chapter 9 " Installation and Initiation".
- Equalize and deaerate the lift!

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

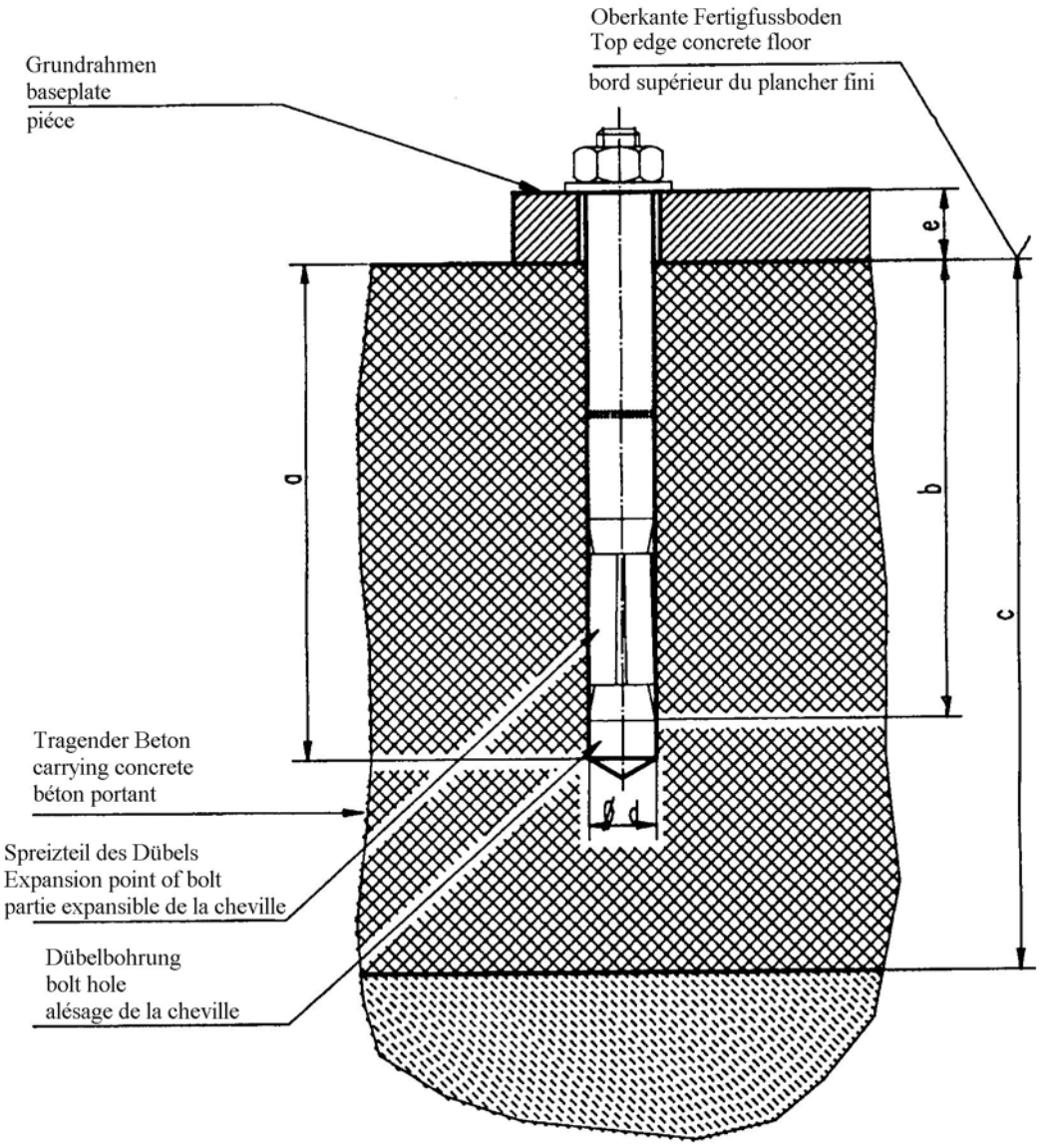


Table to pic. 8

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 lengths (without floor pavement or tile surface)

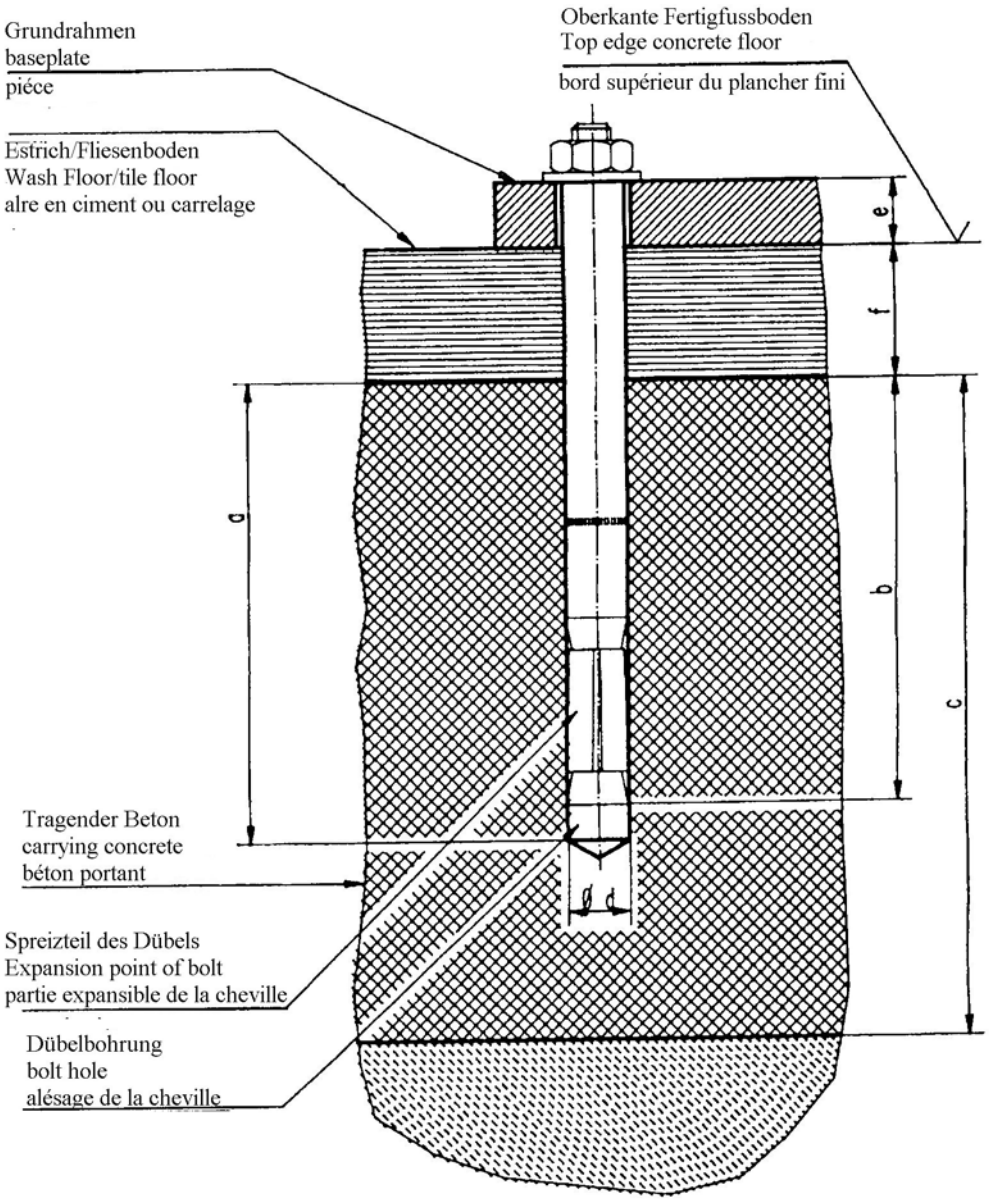


Table to pic. 9

Liebig-dowels

Type of dowels		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-piece	e	40-65	65-90	90-100	100-140
Number of dowel		16	16	16	16
Turning moment		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
Short operating instruction.....				.....
Type plate.....				.....
Warning designation.....				.....
Function button ”lifting/lowering”.....				.....
Function lever „main lift/wheel free lift“.....				.....
Condition / function ramps.....				.....
Function play-detector.....				.....
Condition/Function pocket-lamp.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Condition sliding blocks.....				.....
Condition colour.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowel.....				.....
Turning moment of the screws.....				.....
Condition operating unit.....				.....
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 test wheel free lift with vehicle.....				.....
Condition Polymer supports.....				.....
Condition welding.....				.....
Function CE-Stop.....				.....

(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
Short operating instruction.....				.....
Type plate.....				.....
Warning designation.....				.....
Function button ”lifting/lowering”.....				.....
Function lever „main lift/wheel free lift“.....				.....
Condition / Function ramp.....				.....
Function play-detector.....				.....
Condition/Function pocket-lamp.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Condition sliding blocks.....				.....
Condition colour.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowel.....				.....
Turning moment of the screws.....				.....
Condition operating unit.....				.....
Condition piston rod.....				.....
Condition of the cover.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function test wheel free lift with vehicle.....				.....
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Condition welding.....				.....
Function CE-Stop.....				.....

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kind of check	all right	defect missing	veri-fication	remark
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Type plate				
Warning designation				
Function button ”lifting/lowering”				
Function lever „main lift/wheel free lift“				
Condition / Function ramp				
Function play-detector				
Condition/Function pocket-lamp				
Security of the bolts				
Condition bolts and bearing				
Condition sliding blocks				
Condition colour				
Construction (deformation, cracking)				
Torque moment of the dowel				
Turning moment of the screws				
Condition operating unit				
Condition piston rod				
Condition of the cover				
Closeness of the hydraulic system				
Level of hydraulic oil				
Condition hydraulic hoses				
Condition electrical wires				
Function test with vehicle				
Function test wheel free lift with vehicle				
Condition Polymer supports				
Condition welding				
Function CE-Stop				

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Torque moment of the dowel.....				.....
Turning moment of the screws.....				.....
Condition operating unit.....				.....
Condition piston rod.....				.....
Condition of the cover.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function test wheel free lift with vehicle.....				.....
Condition Polymer supports.....				.....
Condition welding.....				.....
Function CE-Stop.....				.....

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

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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

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Function play-detector.....				.....
Condition/Function pocket-lamp.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Condition sliding blocks.....				.....
Condition colour.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowel.....				.....
Turning moment of the screws.....				.....
Condition operating unit.....				.....
Condition piston rod.....				.....
Condition of the cover.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function test wheel free lift with vehicle.....				.....
Condition Polymer supports.....				.....
Condition welding.....				.....
Function CE-Stop.....				.....

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Security check carried out:.....

Carried out the company:.....

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

Result of the Check:

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signature of the expert signature of the operator

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

Regular security check

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Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires.....				.....
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Function test wheel free lift with vehicle.....				.....
Condition Polymer supports.....				.....
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Function CE-Stop.....				.....

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signature of the expert signature of the operator

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

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Function CE-Stop.....				.....

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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

Extraordinary security check

☞ Filling out and leave in this manual

kind of check	all right	defect missing	veri-fication	remark
Short operating instruction.....				.....
Type plate.....				.....
Warning designation.....				.....
Function button ”lifting/lowering”.....				.....
Function lever „main lift/wheel free lift“.....				.....
Condition / Function ramp.....				.....
Function play-detector.....				.....
Condition/Function pocket-lamp.....				.....
Security of the bolts.....				.....
Condition bolts and bearing.....				.....
Condition sliding blocks.....				.....
Condition colour.....				.....
Construction (deformation, cracking).....				.....
Torque moment of the dowel.....				.....
Turning moment of the screws.....				.....
Condition operating unit.....				.....
Condition piston rod.....				.....
Condition of the cover.....				.....
Closeness of the hydraulic system.....				.....
Level of hydraulic oil				.....
Condition hydraulic hoses				.....
Condition electrical wires.....				.....
Function test with vehicle.....				.....
Function test wheel free lift with vehicle.....				.....
Condition Polymer supports.....				.....
Condition welding.....				.....
Function CE-Stop.....				.....

(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