

## Operating instruction and documentation

Automotive lift date: 03/2017  
Manual date: 01/2021

Original instructions

UNI LIFT 6500  
UNI LIFT 8000

Serial number:

Art : 0007889



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## 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.

***The Nussbaum Custom Lifts not liable for damages arising from this. The user carries the risk alone.***

### 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.

**Maintenance works, remedy of faults and disposal**

- Fixed Adjusting-, maintenance- and inspection works 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.**

**Nussbaum Custom Lifts GmbH**

**D-77694 Kehl - Sundheim**

[www.nussbaumlifts.com](http://www.nussbaumlifts.com)

**Record of installation**

The automotive lift with the

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

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

The initial safety check was carried out and the lift was started.

The installation was carried out by the operating authority/competent (please delete as applicable).

The initial safety check was carried out by a competent person before the initial operation.

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

Used Dowels(\*):.....(Type/Name)

Minimum anchorage depth (\*) kept: .....mm  ok

Starting torque (\*) kept: .....NM  ok

.....  
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:.....(stamp)

**(\*) see supplement of the dowel manufacturers**

Automotive Lift date: 01/2010 Manual date: 23.03.2020

### Record of handing over

The automotive lift 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.

### 1.1 Installation 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

Nussbaum Custom Lifts GmbH  
 D-77694 Kehl - Sundheim  
 www.nussbaumlifts.com

### 2.2 Application

The automotive lift UNI-LIFT 6500 / 8000 is a lifting mechanism for lifting motor vehicles with a laden weight of up to 8000 kg. The max. load distribution is 2:1 or 3:2 in or against drive-on direction (please see table 4 of the EN 1493:2010).

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 and 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

### EG- Konformitätserklärung



gemäß Maschinenrichtlinie Anhang II 1A

Declaration of Conformity according Machinery Directive 2006/42/EG ANNEX II 1A  
Déclaration de conformité selon directive machines annexe II 1A  
Declaración de conformidad según Directiva Maquinaria 2006/42/EG ANNEX II 1A  
Dichiarazione di conformità in accordo alla direttiva 2006/42/EG ANNEX II 1A

Hiermit erklären wir, daß die Hebebühne, Modell:

Hereby we declare that the lift model:  
Par la présente nous déclarons que le pont élévateur modèle  
Por la presente declara, que el elevador modelo:  
Con la presente si dichiara che il sollevatore:

UNI LIFT 6000  
UNI LIFT 6500  
UNI LIFT 6500 AMS  
UNI LIFT 8000

allen einschlägigen Bestimmungen der folgenden Richtlinien entspricht:

fulfils all the relevant provisions of the following Directives:  
correspond aux normes suivantes:  
cumple todas las disposiciones pertinentes de las Directivas siguientes:  
adempie a tutte le richieste delle seguenti direttive:

Maschinenrichtlinie / Machinery Directive	2006/42/EG
EMV Richtlinie / EMC Directive	2014/30/EU
Niederspannungsrichtlinie / Low Voltage Directive	2014/35/EU

in Übereinstimmung mit den folgenden harmonisierten Normen gefertigt wurde

was manufactured in conformity with the harmonized norms  
fabriqué en conformité selon les normes harmonisées en vigueur.  
producido de acuerdo a las siguientes normas armonizadas.  
è stato fabbricato in conformità con le norme armonizzate

Fahrzeug- Hebebühnen / Vehicle lifts	EN 1493: 2010
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Beauftragter für die Technische Dokumentation Authorised to compile the technical file	Nussbaum Custom Lifts GmbH
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Baujahr Year of manufacture	20__
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Seriennummer Serial number	_____
	Seriennummer

Kehl- Sundheim, 15.01.2021

  
Steffen Nußbaum  
Geschäftsführer

Doc-NCL\_UNILIFT\_6000-6500-8000\_2021-01



Nussbaum Custom Lifts GmbH | Hertzstraße 6 | 77694 Kehl-Sundheim |



### 3. Technical information

#### 3.1 Technical ratings

Capacity:	6500 kg / 8000 kg
load distribution	please see table 4 of EN 1493:2010 max. 2:1 (or 3:2) in or against drive-on direction
Lifting time (main lift)	approx. 30 sec. with load
Lowering time (main lift)	approx. 30 sec. with load
Line Voltage	3 x 400 Volt, 50Hz
Power rating	3 kW
Motor speed	3000 rot./min.
Pump capacity	3 cm <sup>3</sup>
Hydraulic pressure	ca. 270 bar
pressure relief valve	ca. 300 bar
Oil tank	approx. 14 Litre
Sound level L <sub>PA</sub>	≤ 70 dB
Connection by customer	3~/N+PE, 400V, 50 Hz (standard version) with fuse T16A (Pay attention to the voltage of your country)

#### 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. Foot 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 Datasheet

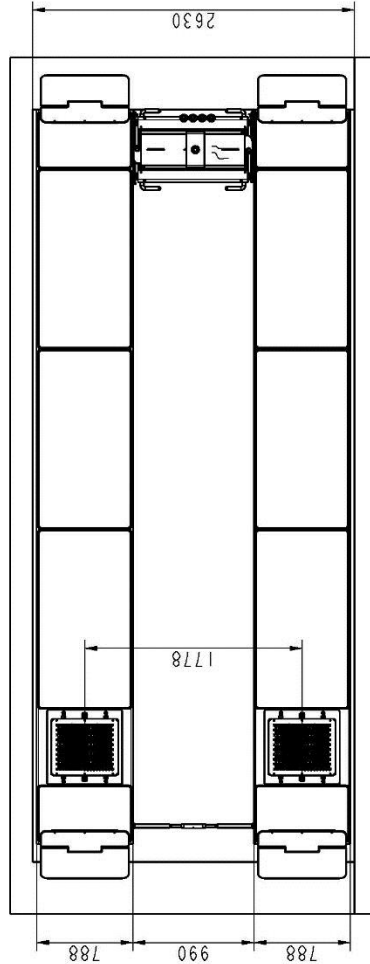
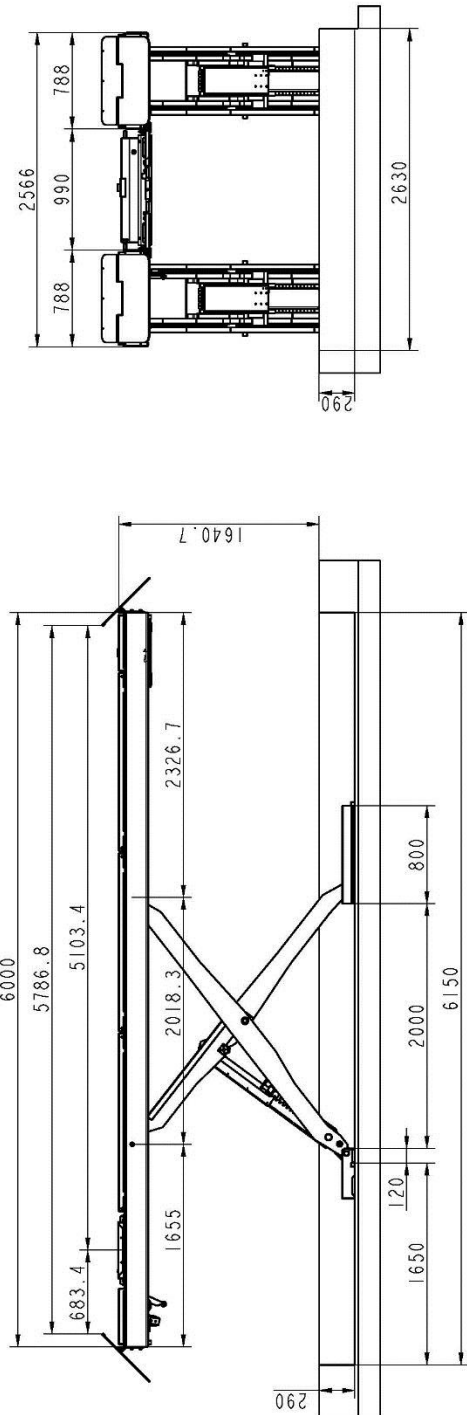
Technical drawings of the Uni lift 8000 platform. The side view shows a platform height of 2000 mm and a base width of 1875 mm (approx.). The top view shows a platform width of 6000 mm and a depth of 1287 mm. A perspective view shows the platform in its retracted position. Dimensions include 133, 239, 152, 1580, 1287, 788, 788, 6000, 1288, and 6880.

Messgebend ist die Zeichnungsbemessung I

MASS. DNE TOLERANZGABEN	BEREICH	MASSSTAB	WECHSELSTUFE	BEWEICH:	kg
PASSMASS	ABMASS	DATUM	NAME	BENENNUNG	-
		BEZUGS- GERÄT	SKIZZE		
		NUM.			
		FIRMA	NUSSBAUM	ZEICHNUNGSNUMMER	080ULN000008
		HEBE-TECHNIK			BLATT
					VON
Nr Änderung	Datum	Name	URSPR.	ERSATZ FLER	ERSATZ DURCH

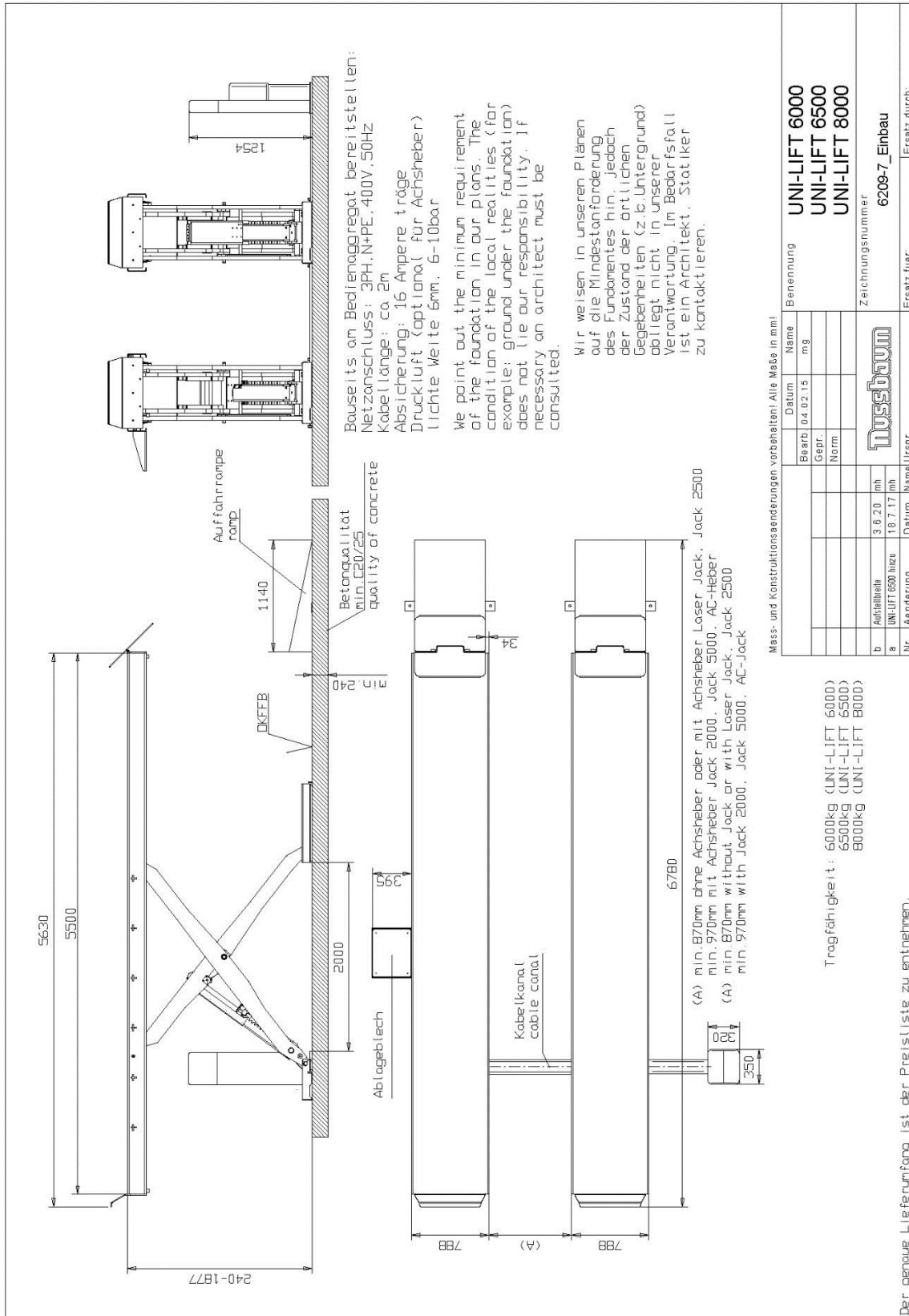
Lfd. Nr.	Verf.	Zeichnungs-Nr.:	Benennung
1		080ULN00004	Arbeitsber. kompl.
2		080ULN1E20	Auffahrtrape SZ
3		080ULN1E301	Folgeschleife
4		080ULN1E301	Kommandoschiene

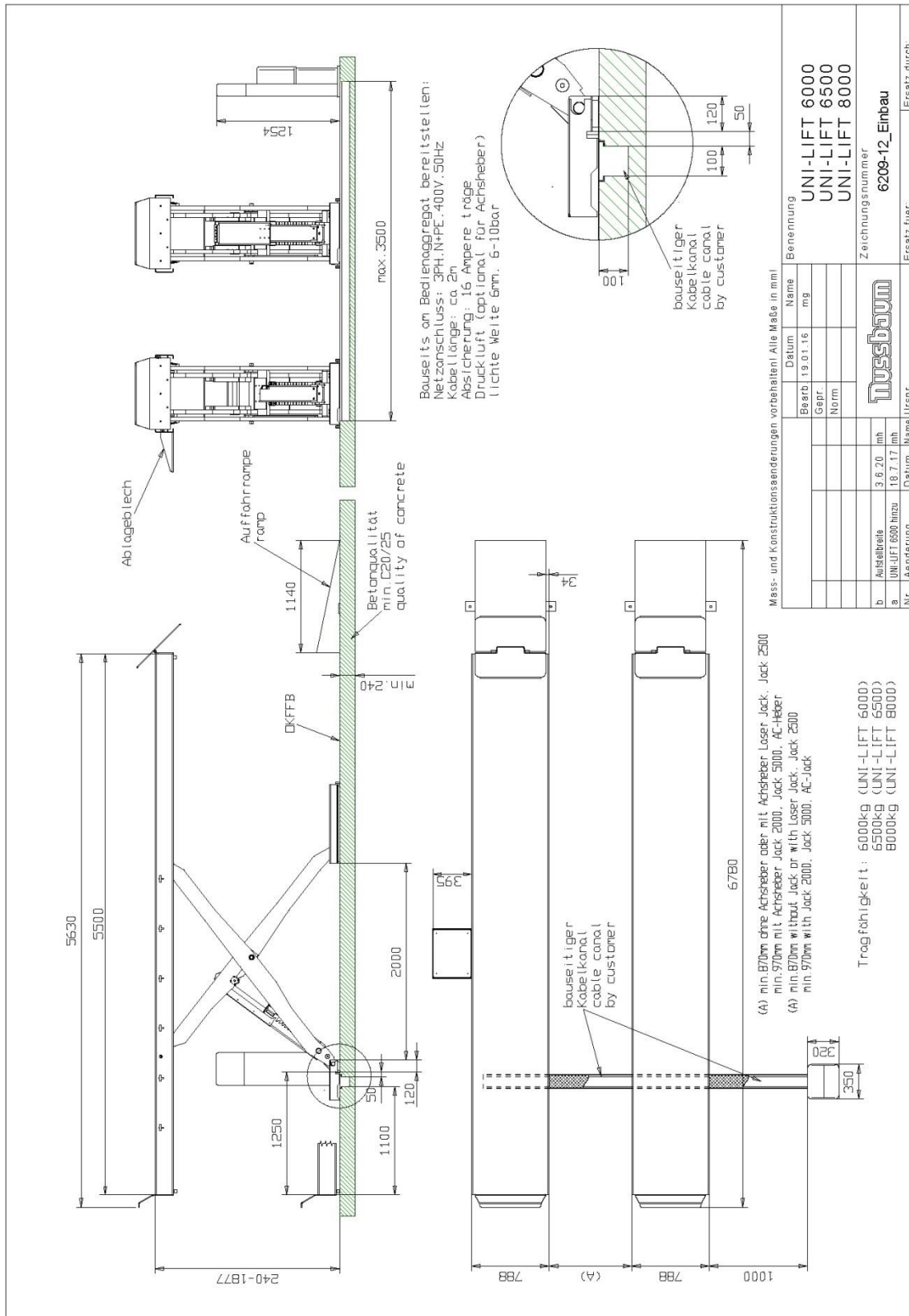


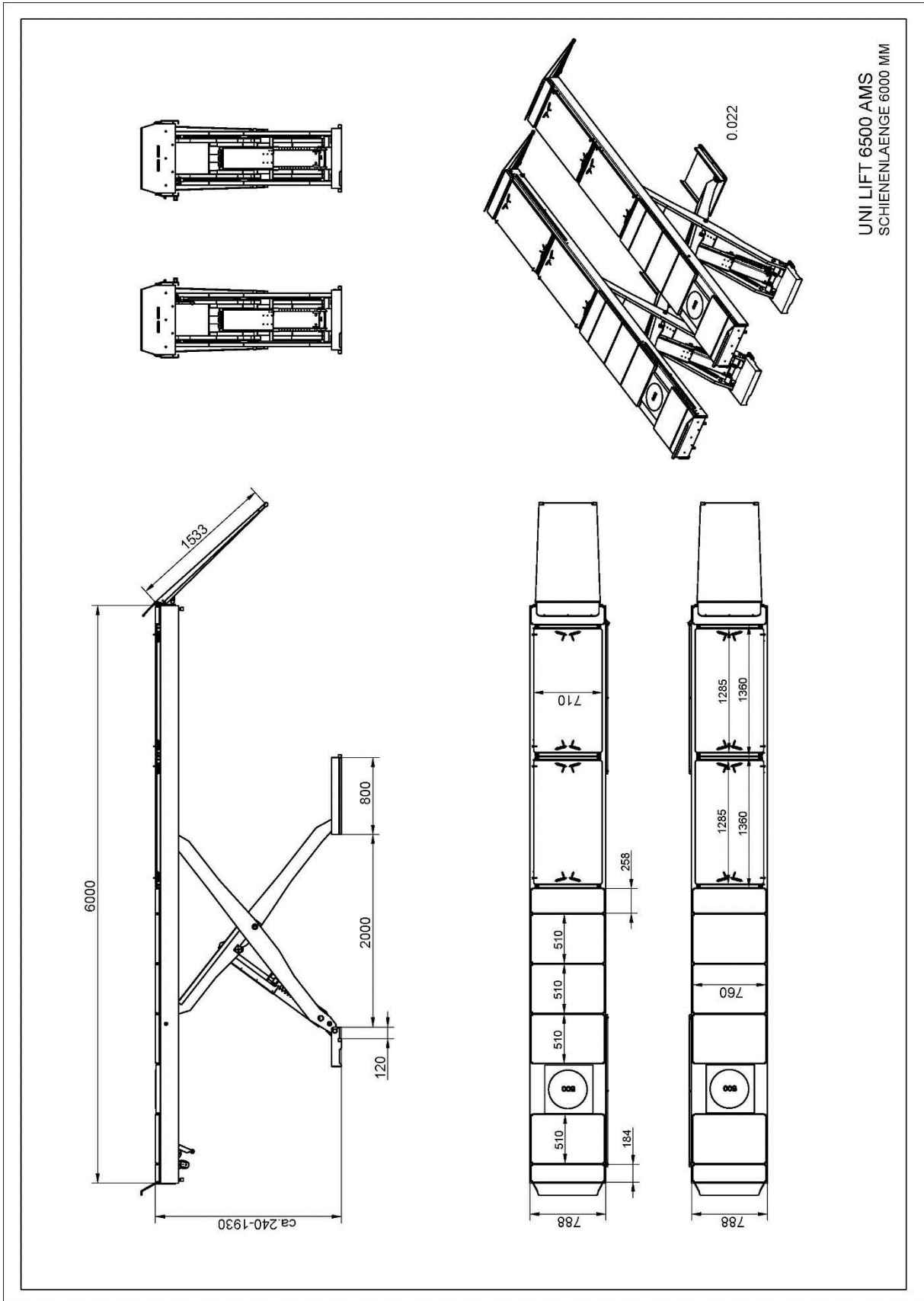


Schiene nlaenge: 6000mm  
Schienebreite: 788 mm

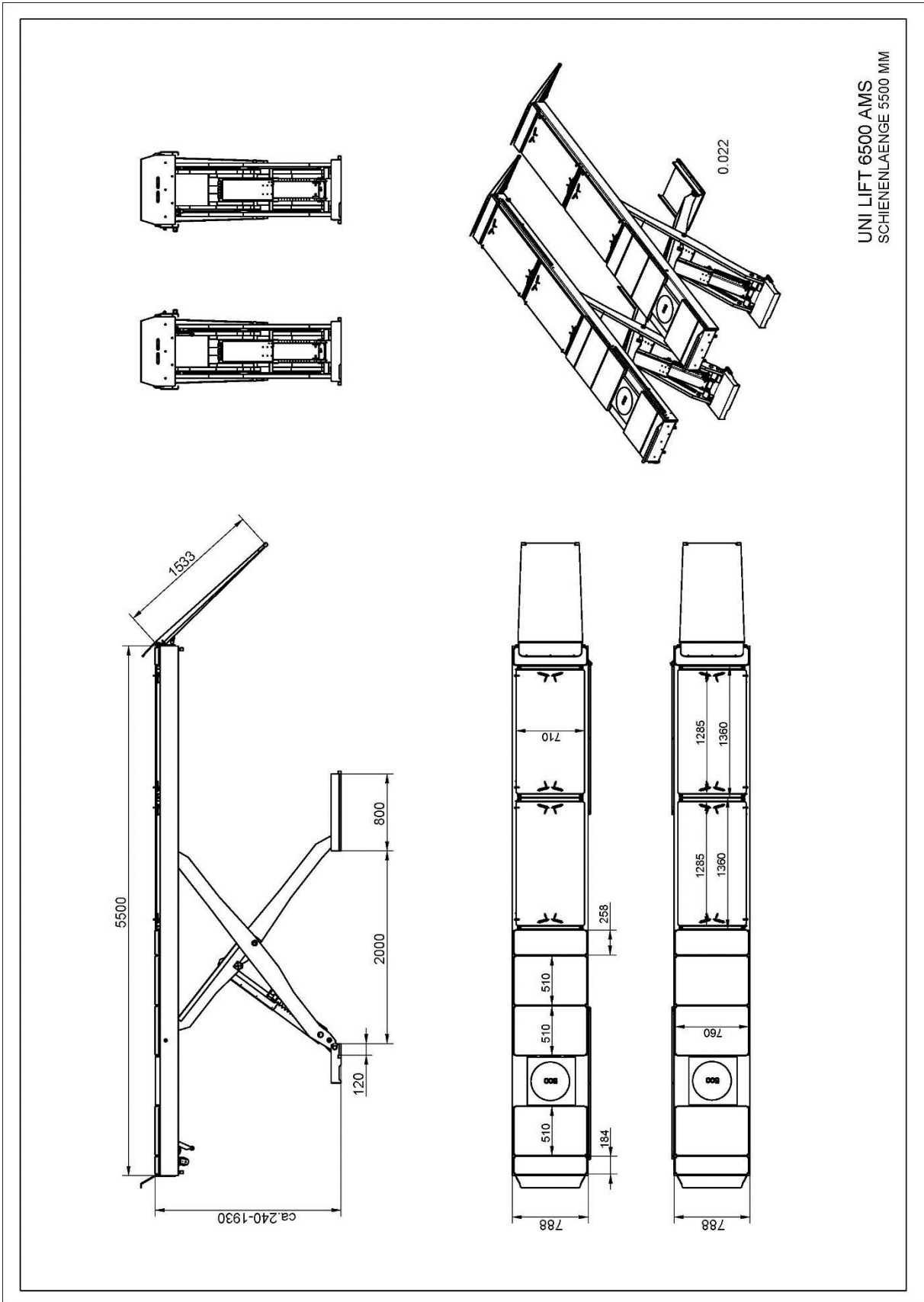
Teilnamen und Normen Allgemeine: DIN ISO 2149 RH Schiene: DIN ISO 1102 Schiene: DIN ISO 1102-2		ISO 9001 Werkstoff / Halbzeug M.A.		Massestab: 0,030 Gewicht: 0,000 kg	
Datum: - Name: - Gepr.: - Norm: -		Datum: 04.05.18 Name: M.A. Gepr.: - Norm: -		Benennung Unilift Schiene 6000mm/02HS kompl.	
Nr. / Änderung: - Datum: - Name: Urspr. Gepr.: - Norm: -		Zeichnungsnummer 080ULN00046UF		Blatt 1 von 4	
Ersatz durch: - Bemerkungen verzeichnen im Änderungsprotokoll. Für weitere Informationen wenden Sie sich bitte an den technischen Support.					







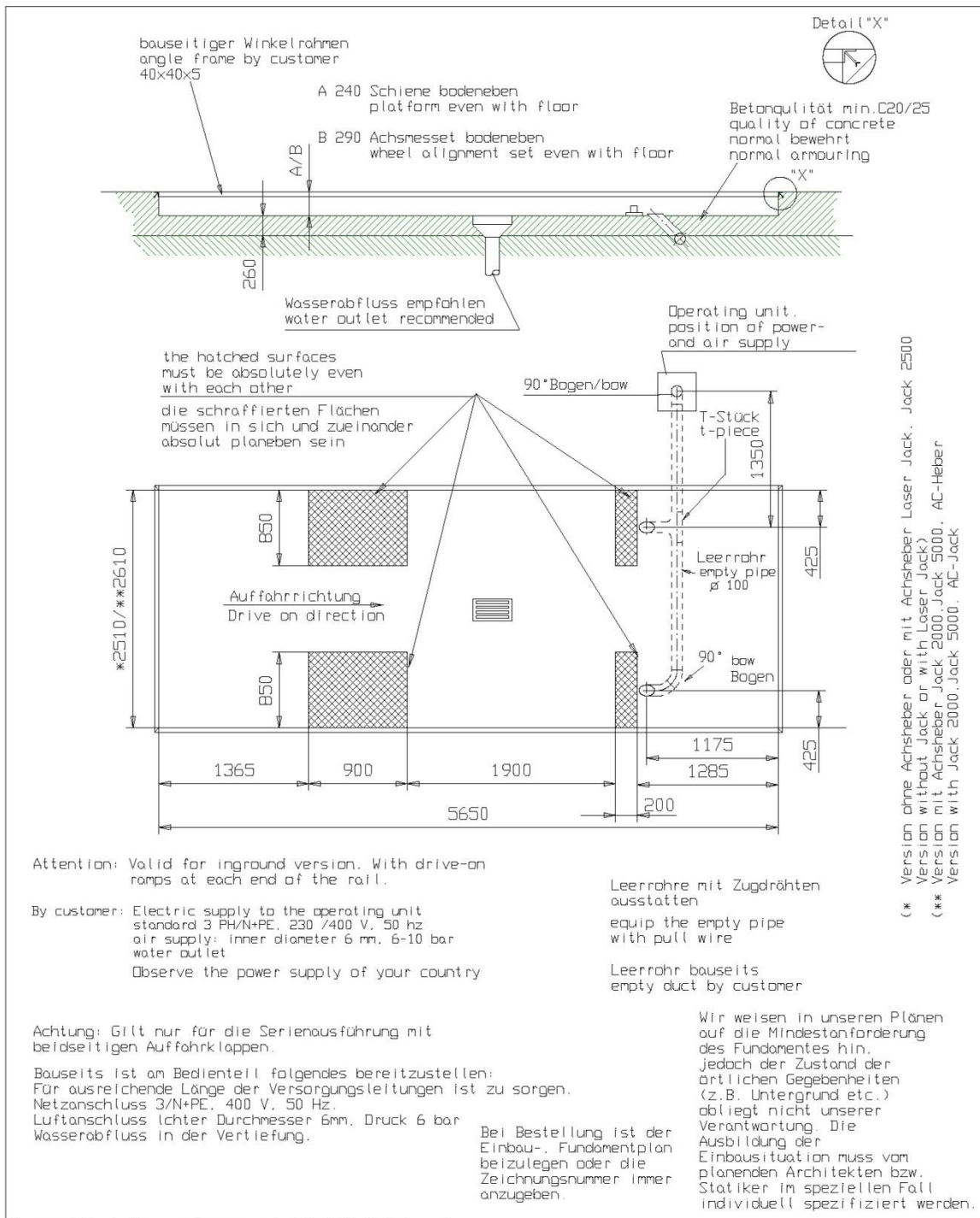
UNI LIFT 6500 AMS  
SCHIENENLAENGE 6000 MM



UNI LIFT 6500 AMS  
SCHIENENLAENGE 5500 MM



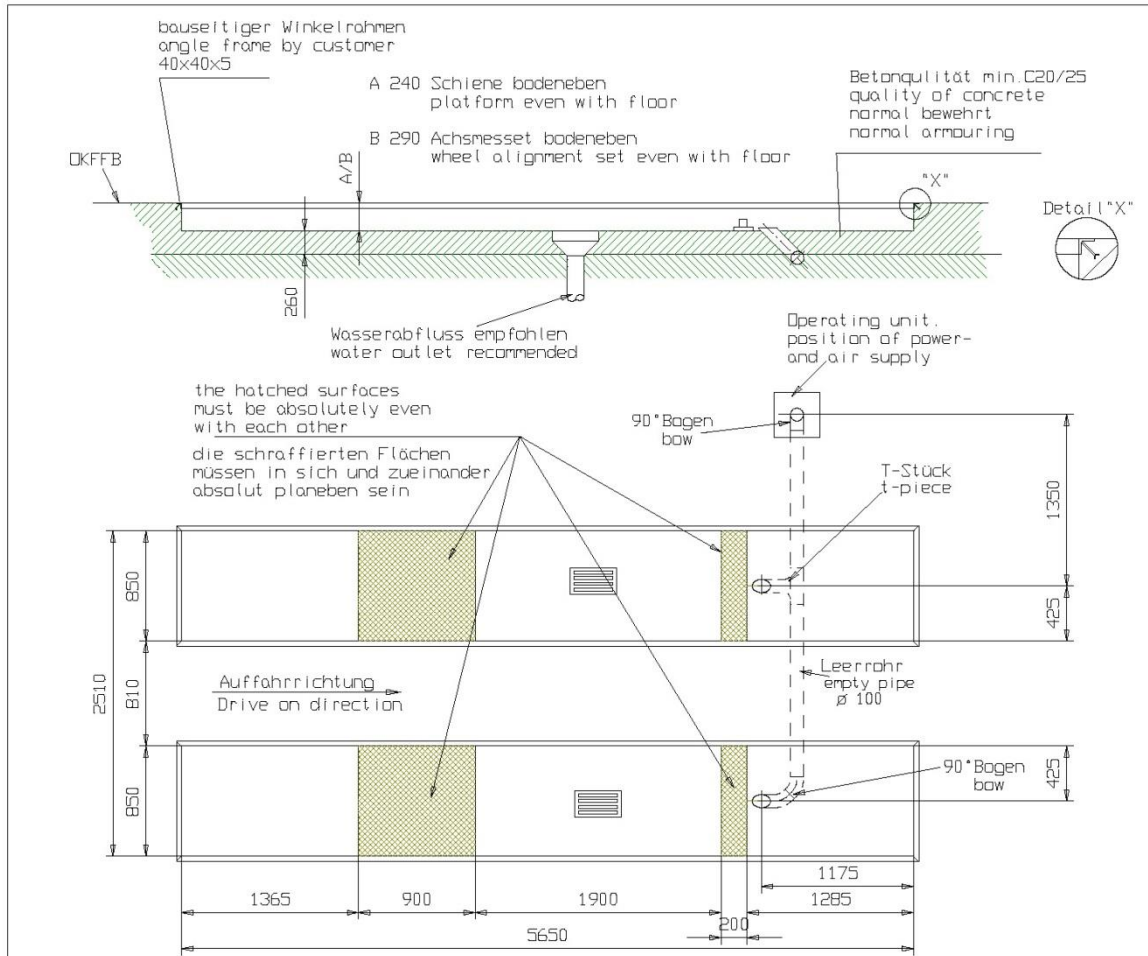
### 3.4 Foundation plan



(\* Version ohne Achsheber oder mit Achsheber Laser Jack, Jack 2500  
Version without Jack or with Laser Jack)  
(\*\* Version mit Achsheber Jack 2000, Jack 5000, AC-Heber  
Version with Jack 2000, Jack 5000, AC-Jack)

Mass- und Konstruktionsänderungen vorbehalten! Alle Maße in mm!

				Datum	Name	Benennung <b>UNI-LIFT 6000</b> <b>UNI-LIFT 6500</b> <b>UNI-LIFT 8000</b> Schiene Länge/platform 5500mm
			Bearb.	04.02.15	mg	
			Gepr.			
			Norm			
			<b>Nussbaum</b>			Zeichnungsnummer <b>6209-2_Einbau</b>
b	Aufstellbreite Jack	3.6.20	mh			
a	UNI-LIFT 6500 hinzu	18.7.17	mh			
Nr	Aenderung	Datum	Name	Urspr.	Ersatz fuer:	Ersatz durch:



Attention: Valid for Inground version. With drive-on ramps at each end of the rail.

By customer: Electric supply to the operating unit standard 3 PH/N+PE, 230 /400 V, 50 hz  
air supply: inner diameter 6 mm, 6-10 bar  
water outlet  
Attention: observe the power supply from your state

Achtung: Gilt nur für die Serienausführung mit beidseitigen Auffahrklappen.

Bauseits ist am Bedienteil folgendes bereitzustellen:  
Für ausreichende Länge der Versorgungsleitungen ist zu sorgen.  
Netzanschluss 3/N+PE, 400 V, 50 Hz.  
Luftanschluss lichter Durchmesser 6mm, Druck 6 bar  
Wasserabfluss in der Vertiefung empfohlen

Bei Bestellung ist der Einbau-, Fundamentplan beizulegen oder die Zeichnungsnummer immer anzugeben.

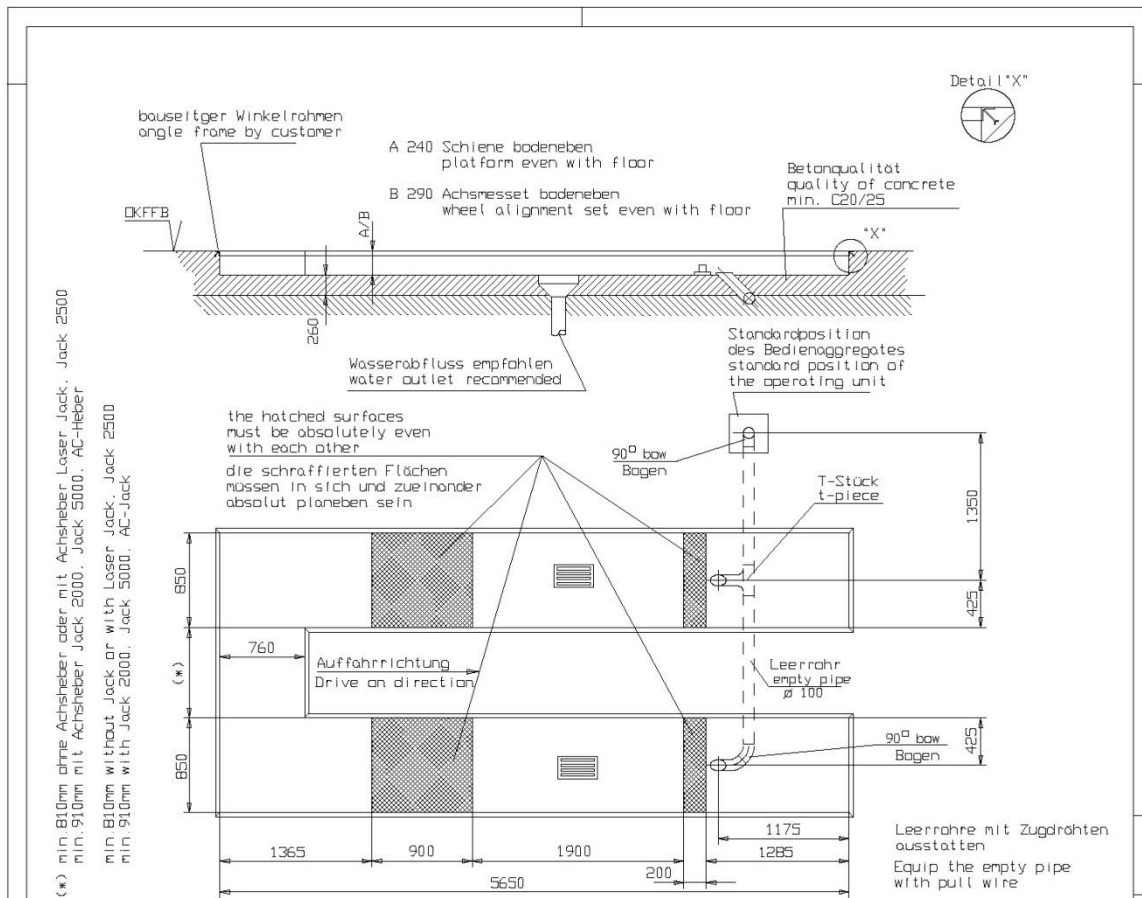
Leerrohre mit Zugdrähten ausstatten  
equip the empty pipe with pull wire

Leerrohr bauseits empty duct by customer

Wir weisen in unseren Plänen auf die Mindestanforderung des Fundamentes hin, jedoch der Zustand der örtlichen Gegebenheiten (z.B. Untergrund etc.) obliegt nicht unserer Verantwortung. Die Ausbildung der Einbausituation muss vom planenden Architekten bzw. Statiker im speziellen Fall individuell spezifiziert werden.

Mass- und Konstruktionsänderungen vorbehalten! Alle Maße in mm!

				Datum	Name	Benennung UNI-LIFT 6000 UNI-LIFT 6500 UNI-LIFT 8000 (Schienenlänge / platform length 5500mm)
				Bearb. 04.02.15	mg	
				Gepr.		
				Norm		
						Zeichnungsnummer 6209-4_Einbau
a	UNI-LIFT 6500 hinzu	18.7.17	mh			
Nr	Änderung	Datum	Name	Urspr.	Ersatz fuer:	Ersatz durch:



(\*) min 810mm ohne Achsheber oder mit Achsheber Loser Jack, Jack 2500  
 min. 910mm mit Achsheber Jack 2000, Jack 5000, AC-Heber  
 min 810mm without Jack or with Loser Jack, Jack 2500  
 min. 910mm with Jack 2000, Jack 5000, AC-Jack

Valid for inground version. With drive-on ramp at each end of the rail  
 Prepared by customer at the operating unit:  
 Power supply: 3PH,N+PE, 400V,50Hz  
 Fuse: 16 Ampere (time lag)  
 Air supply: inner diameter 6mm, pressure 6-10bar  
 Water outlet recommended.  
 Observe the power supply of your country

Achtung: Gilt nur für die Serienausführung mit beidseitigen Auffahrklappen.  
 Bauseits ist am Bedienteil folgendes bereitzustellen:  
 Für ausreichende Länge der Versorgungsleitungen ist zu sorgen.  
 Netzanschluss 3/N+PE, 400 V, 50 Hz.  
 Luftanschluss (ichter Durchmesser 6mm, Druck 6 bar  
 Wasserabfluss in der Vertiefung.

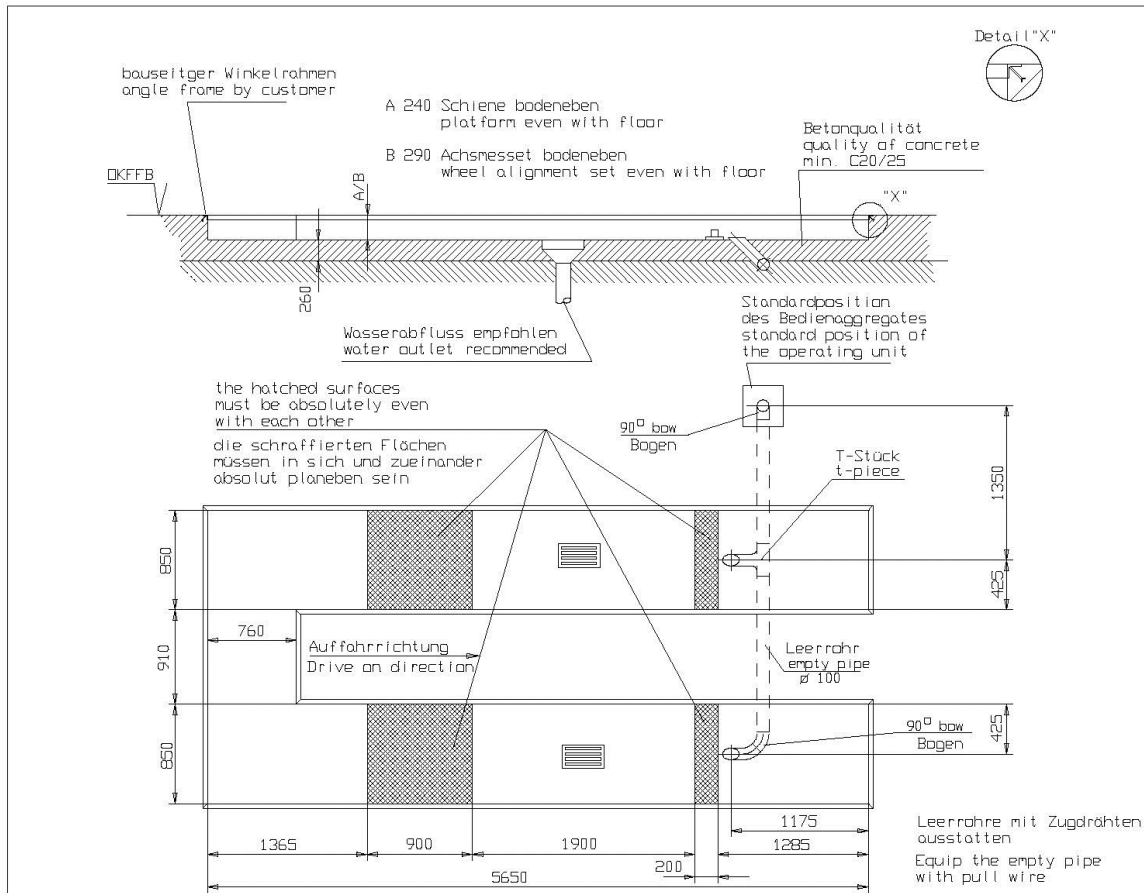
Rohbeton hat lange chemische Ausdünstung. Korrosionsbildung an den Bodenblechen (Grundrahmen, Fest- und Loslager) wird dadurch begünstigt. Wir empfehlen vor Montage der Bühne den Rahfußboden mit einem Schutzstrich (z.B. 2 Komponenten Epoxidharz Bodenbeschichtung) zu versehen.

Wir weisen in unseren Plänen auf die Mindestanforderung des Fundamentes hin. Jedoch der Zustand der örtlichen Gegebenheiten (z.B. Untergrund etc.) obliegt nicht unserer Verantwortung. Die Ausbildung der Einbausituation muss vom planenden Architekten bzw. Statiker im speziellen Fall individuell spezifiziert werden.

Alle Maße in mm! / all dimensions in mm!  
 Mass- und Konstruktionsänderungen vorbehalten! dimensions and design changes reserved!

(3D CAD-Modell)			Projektionsmethode 1 ISO 5456-2		Benennung / designation	
-	-	-	Datum	Name	UNI-LIFT 6000	
-	-	-	Bearb.	28.01.2008	MG	UNI-LIFT 6500
-	-	-	Gepr.			UNI-LIFT 8000
-	-	-	Schienenlänge / platform length 5500mm			
					Zeichnungsnummer / drawing number	
b	Aufstellbreite	02.06.20	MH	Korker Str. 24, 77694 Kehl www.nussbaum-group.de		6209-5_Einbau
a	Unilift 6500 hinzu	18.07.17	MH			
ind.	Aender. / modification	Datum	Name			





Valid for inground version. With drive-on ramp at each end of the rail  
Prepared by customer at the operating unit:  
Power supply: 3PH,N+PE, 400V, 50Hz  
Fuse: 16 Ampere (time lag)  
Air supply: inner diameter 6mm, pressure 6-10bar  
Water outlet recommended.  
Observe the power supply of your country

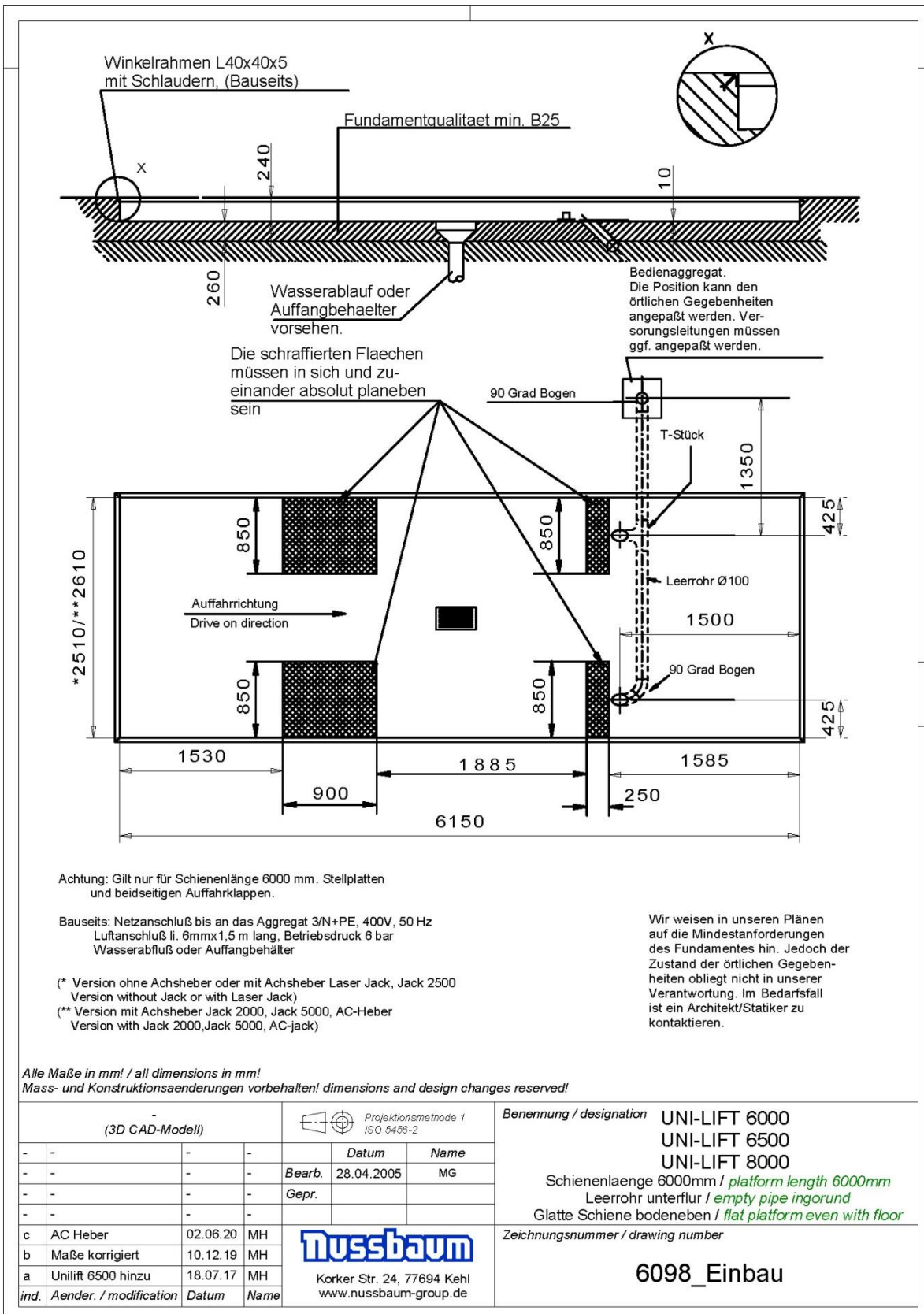
Achtung: Gilt nur für die Serienausführung mit beidseitigen Auffahrklappen.  
Bauseits ist am Bedienteil folgendes bereitzustellen:  
Für ausreichende Länge der Versorgungsleitungen ist zu sorgen.  
Netzanschluss 3/N+PE, 400 V, 50 Hz.  
Luftanschluss lichter Durchmesser 6mm, Druck 6-10 bar  
Wasserabfluss in der Vertiefung.

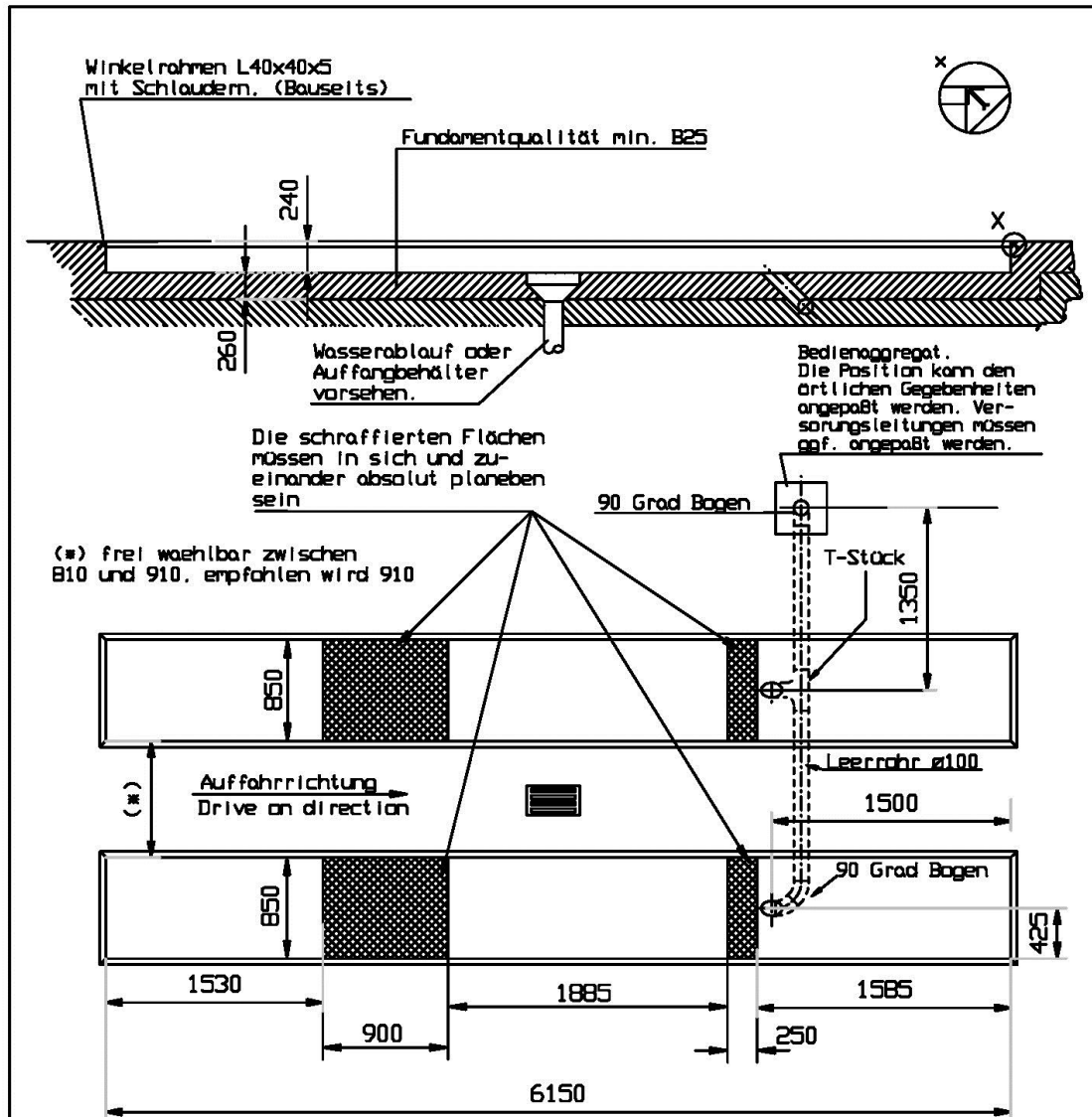
Rohbeton hat lange chemische Ausdünstungen. Korrosionsbildung an den Bodenblechen (Grundrahmen, Fest- und Loslager) wird dadurch begünstigt. Wir empfehlen vor Montage der Bühne den Rohfußboden mit einem Schutzanstrich (z.B. 2 Komponenten Epoxidharz Bodenbeschichtung) zu versehen.

Wir weisen in unseren Plänen auf die Mindestanforderung des Fundamentes hin, jedoch der Zustand der örtlichen Gegebenheiten (z.B. Untergrund etc.) obliegt nicht unserer Verantwortung. Die Ausbildung der Einbausituation muss vom planenden Architekten bzw. Statiker im speziellen Fall individuell spezifiziert werden.

Mass- und Konstruktionsänderungen vorbehalten! Alle Maße in mm!

				Datum	Name	Benennung <b>UNI-LIFT 6000</b> <b>UNI-LIFT 6500</b> <b>UNI-LIFT 8000</b>  (mit Jack 5000, Schienenlänge 5500mm)	
				Bearb.	28.01.08		mg
				Gepr.			
				Norm			
				<b>Nussbaum</b>		Zeichnungsnummer <b>6209-9_Einbau</b>	
b	Aufstellbreite 910	03.06.20	mh				
a	UNI-LIFT 6500 hinzu	18.07.17	mh				
Nr	Änderung	Datum	Name	Urspr.	Ersatz fuer:	Ersatz durch:	





Wir weisen in unseren Plänen auf die Mindestanforderungen des Fundamentes hin. Jedoch der Zustand der örtlichen Gegebenheiten obliegt nicht in unserer Verantwortung. Im Bedarfsfall ist ein Architekt/Statiker zu kontaktieren.

Maß- und Konstruktionsänderungen vorbehalten!

**Fundamentplan UNI-LIFT 8000**

Schienenlänge 6000 mm, Leerröhre unterflur  
Auffahrschiene bodeneben Schienenbreite 788 mm

24.02.03 // M.G.

6101 EINBAU

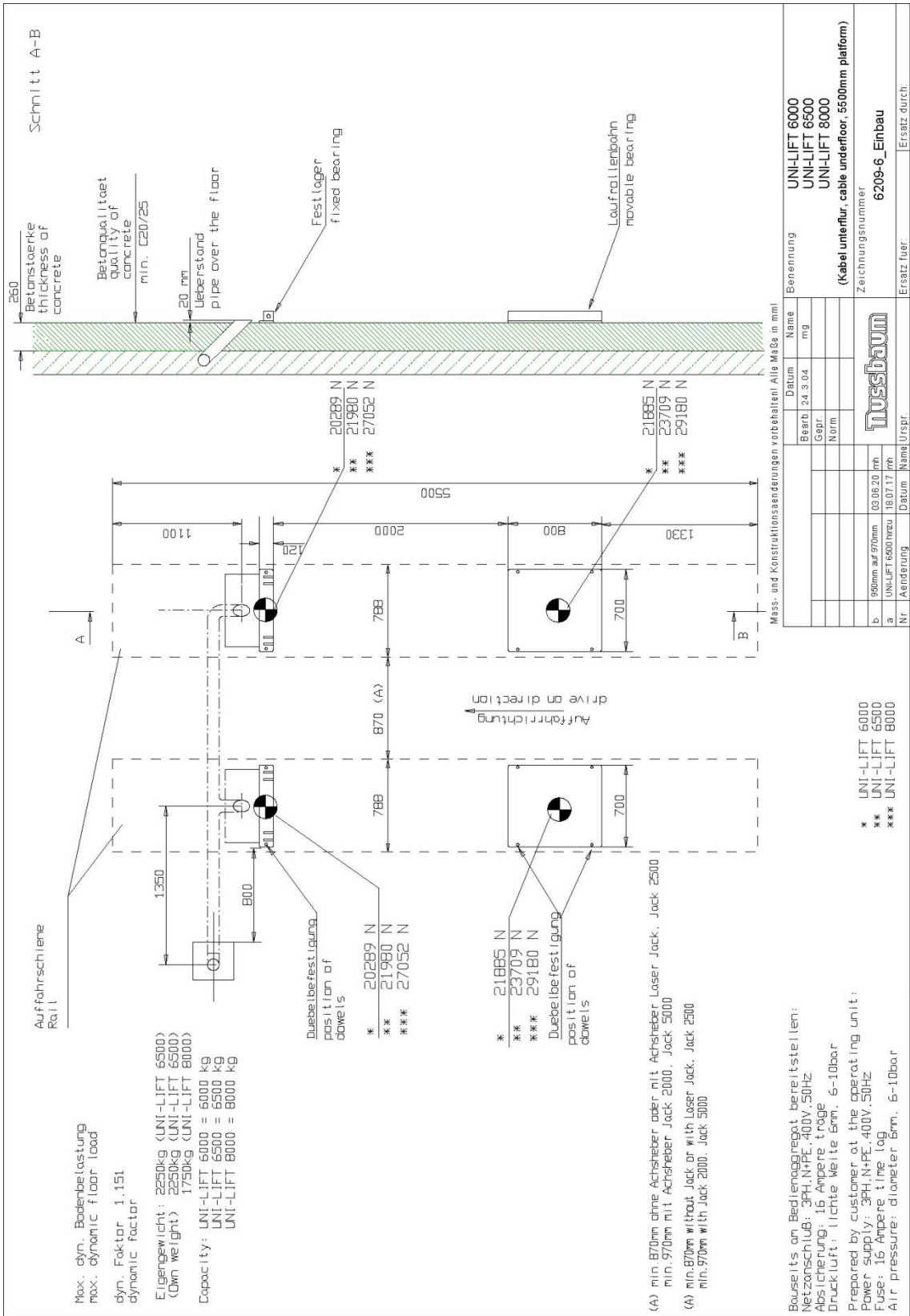
**NUSSBAUM**

TEL 07853/899-0 FAX 07853/8787  
D-77694 Kehl-Badersweiler  
www.nussbaum-lifts.de





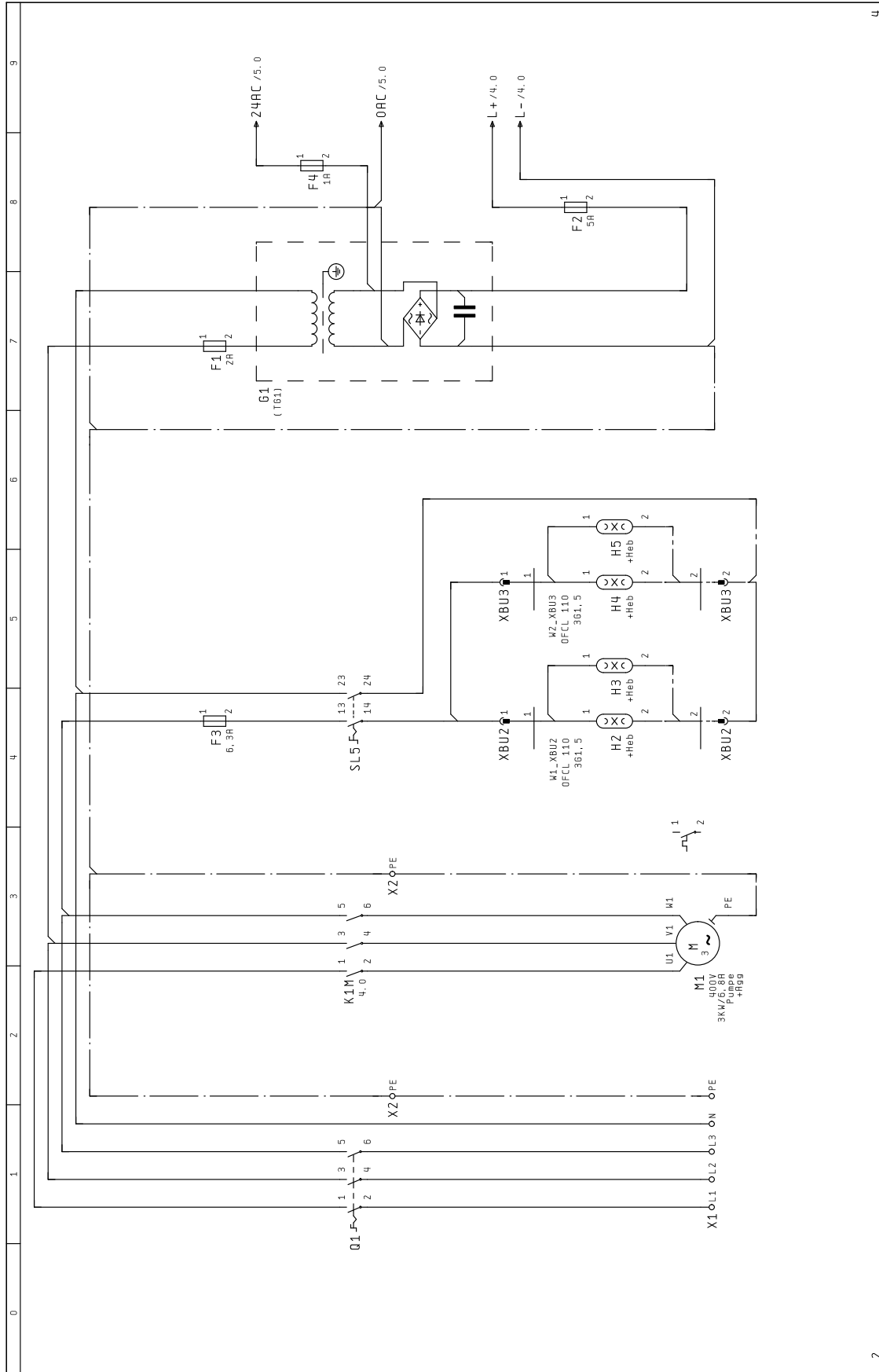
**3.6 Force diagramm**



### 3.7 Electrical diagram

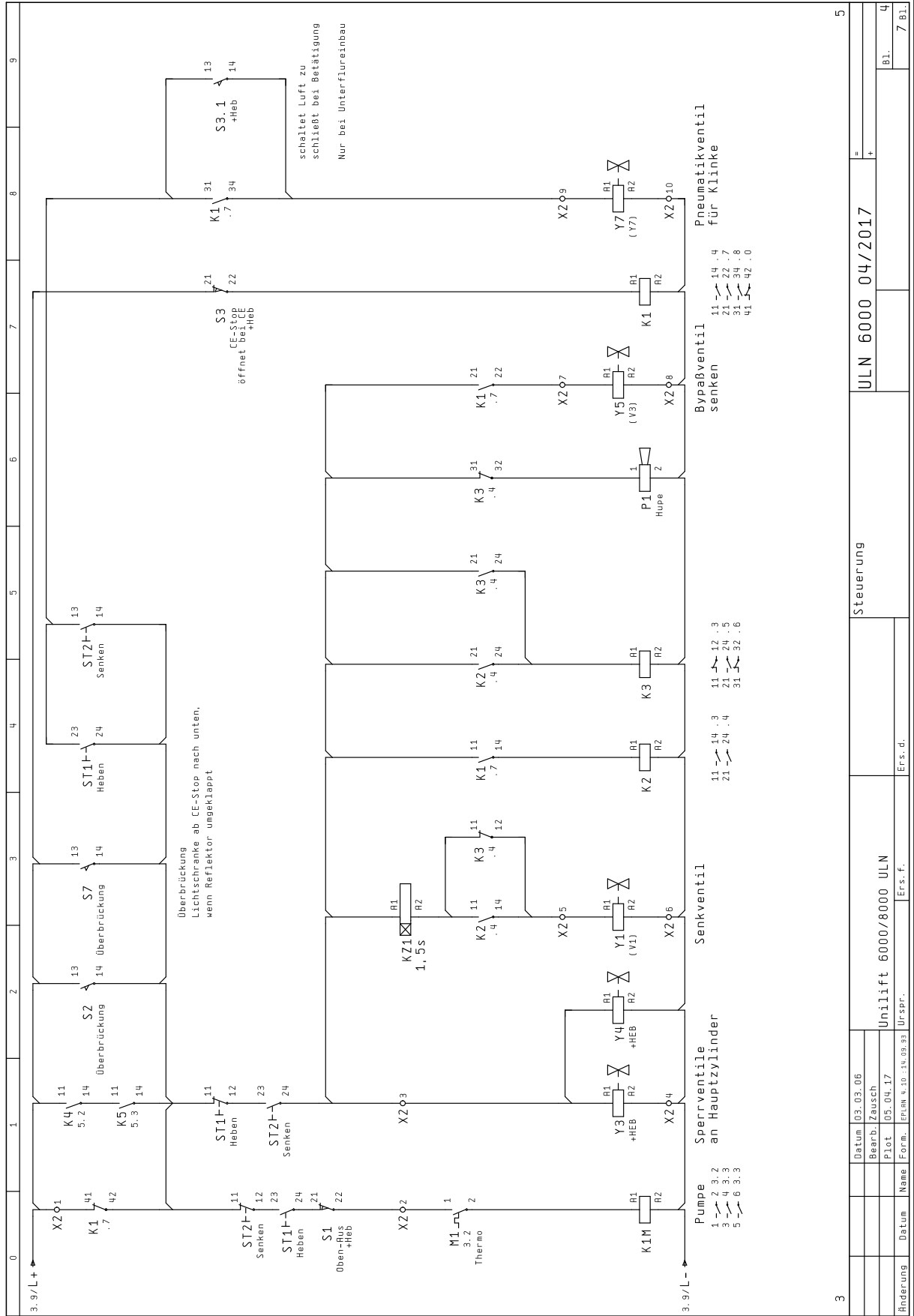
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<h1 style="margin: 0;">SCHALTPLAN</h1>																											
<div style="float: right; width: 200px;"> <p><b>Nussbaum Hebetchnik GmbH &amp; Co. KG</b> Korker Straße 24 D-77694 Kehl, Bodersweier Tel.: +49(0)7853/899-0</p> </div>																											
<p><b>OBJEKT : Unilift 6000/8000 ULN</b></p> <p><b>ANLAGE : :</b></p> <p><b>KUNDE : :</b></p> <p><b>SCHALTPLANNR: ULN 6000 04/2017</b></p>			<p><b>1.) Schaltpläne und Schaltunterlagen</b></p> <p>Die Schaltpläne werden von uns nach bestem Gewissen angefertigt. Für beigezeichnete Schaltpläne und Feldgeräte wie Fühler, Thyristorste und Motoren nicht einbezogen werden. Auch bei sorgfälliger Überprüfung durch uns zu ergreifenden Mängel sind grundsätzlich Bestandteil eines Fußleges. Mängel werden im Rahmen unserer Gewährleistung bei der Inbetriebnahme beseitigt. Keine Haftung übernommen. Nach Inbetriebnahme erfolgt die Verantwortung für den weiteren Betrieb ausschließlich der Inbetriebnehmer. Die Inbetriebnahme wird nur durchgeführt wenn wir vorher von dem Inbetriebnehmer schriftlich mitgeteilt werden. Nach der Inbetriebnahme werden die Schaltpläne in die entsprechenden Unterlagen aufgenommen. Änderungen vorbehalten</p>				<p><b>3.) Sicherheitsprüfung und Schutzmaßnahmen</b></p> <p>Der Schaltschrank wurde unter Beachtung der anerkannten Regeln der Technik nach Betriebsmittelherstellerfertigung bzw. Vertriebsgesellschaft hergestellt und gefertigt. Folgende Prüfungen wurden durchgeführt:</p> <ol style="list-style-type: none"> <li>1. Spannungsprüfung und/oder Isolationprüfung des Schaltschranks nach VDE0100/5:73, nach VDE0100/7:73 Par. 22, der anerkannten Schutzmaßnahmen des indirekten Berührens.</li> <li>2. Funktionsprüfung und Stückprüfung nach VDE560/11:87.</li> <li>3. Schutz gegen direktes Berühren nach VDE0100/5:73 Par. 4.</li> <li>4. Schutz bei indirektem Berühren nach VDE0100/5:73 Par. 5.</li> </ol>																				
<p><b>2.) Funktionsprüfung der Schaltanlagen</b></p> <p>Schaltpläne sind keine Serienzeugnisse. Bei der Prüfung des Schaltschranks im Werk können Feldgeräte wie Fühler, Thyristorste und Motoren nicht einbezogen werden. Auch bei sorgfälliger Überprüfung durch uns zu ergreifenden Mängel sind grundsätzlich Bestandteil eines Fußleges. Mängel werden im Rahmen unserer Gewährleistung bei der Inbetriebnahme beseitigt. Keine Haftung übernommen. Nach Inbetriebnahme erfolgt die Verantwortung für den weiteren Betrieb ausschließlich der Inbetriebnehmer. Die Inbetriebnahme wird nur durchgeführt wenn wir vorher von dem Inbetriebnehmer schriftlich mitgeteilt werden. Nach der Inbetriebnahme werden die Schaltpläne in die entsprechenden Unterlagen aufgenommen. Änderungen vorbehalten</p>			<p><b>Diese Schaltpläne sind unser geistiges Eigentum. Sie dürfen ohne unsere Genehmigung weder vervielfältigt noch Dritten weitergegeben werden!</b></p>																								
<p><b>Erdung nach örtlichen Vorschriften</b></p> <p>Vor Inbetriebnahme prüfen, ob Motorenstrom mit Motorschutzrelais übereinstimmt. Alle Klemmstellen auf Ordnungsgemäße Verbindung und alle Kontaktschrauben auf festen Sitz prüfen.</p> <p>Vor Inbetriebnahme Verdrahtung und Steuerung auf richtige Funktion überprüfen. Keine Inbetriebnahme von unbefugter Seite vornehmen lassen. Änderungen vorbehalten</p>			<p><b>2</b></p>																								
<p><b>Diese Pläne sind auf einem CAD-System erstellt worden. Um die Pläne immer auf dem aktuellsten Stand zu halten, bitten wir Änderungen nur durch uns vornehmen zu lassen.</b></p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Datum</td> <td style="width: 15%;">03.01.17</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td colspan="2" style="width: 40%; text-align: center;">Unilift 6000/8000 ULN</td> </tr> <tr> <td>Bearb.</td> <td>BOE</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Geprf.</td> <td>05.04.17</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								Datum	03.01.17			Unilift 6000/8000 ULN		Bearb.	BOE					Geprf.	05.04.17				
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<p><b>Änderung</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Name</th> <th>Datum</th> <th>Norm</th> <th>Urspr.</th> <th>Ers. f.</th> <th>Ers. d.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Name	Datum	Norm	Urspr.	Ers. f.	Ers. d.							<p style="text-align: right;"><b>Deckblatt</b></p>													
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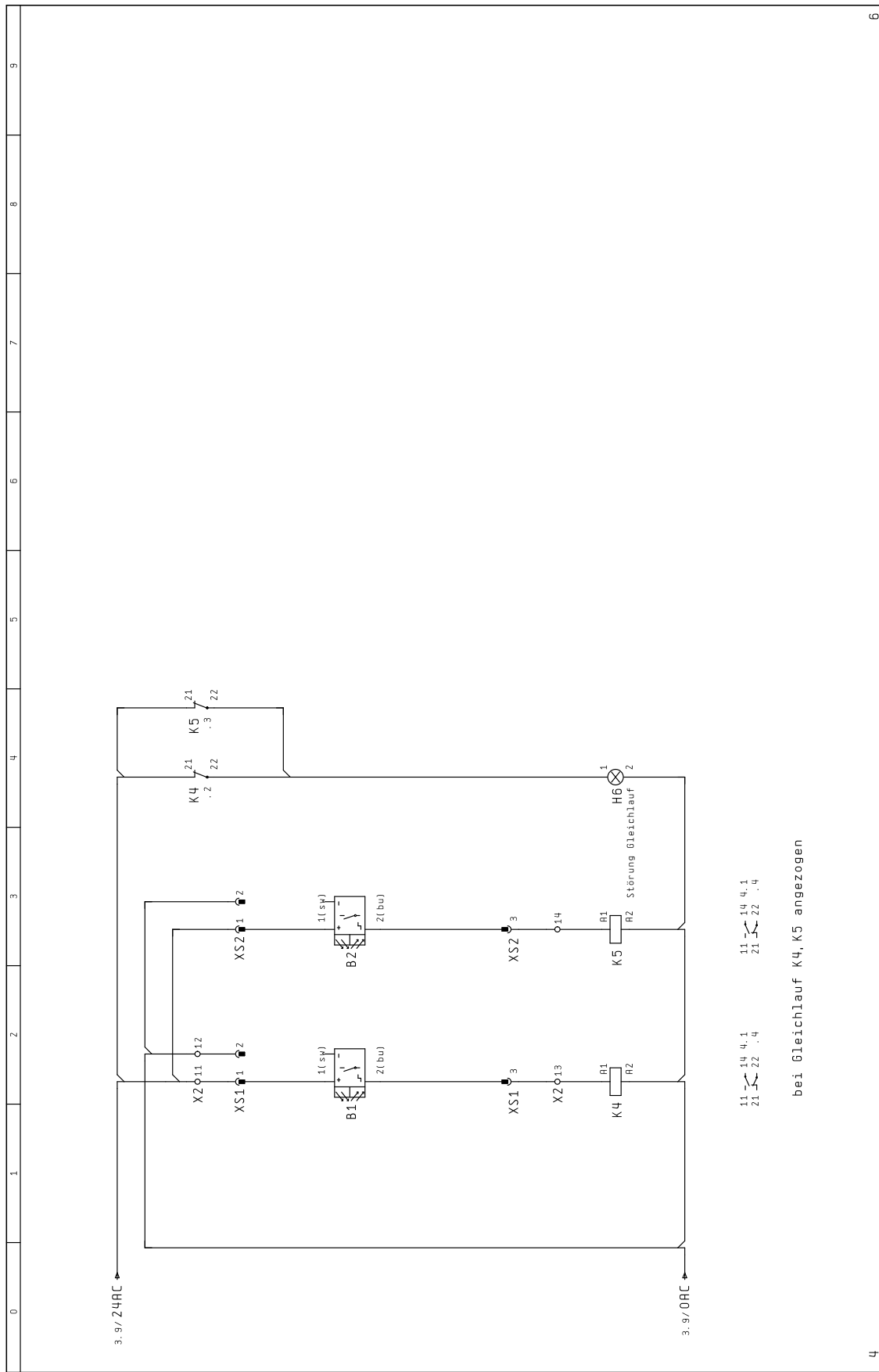


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Unlift 6000/8000 ULN	
Ers.f. Urspr.	
Ers. d.	
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Bearb.	Zausch
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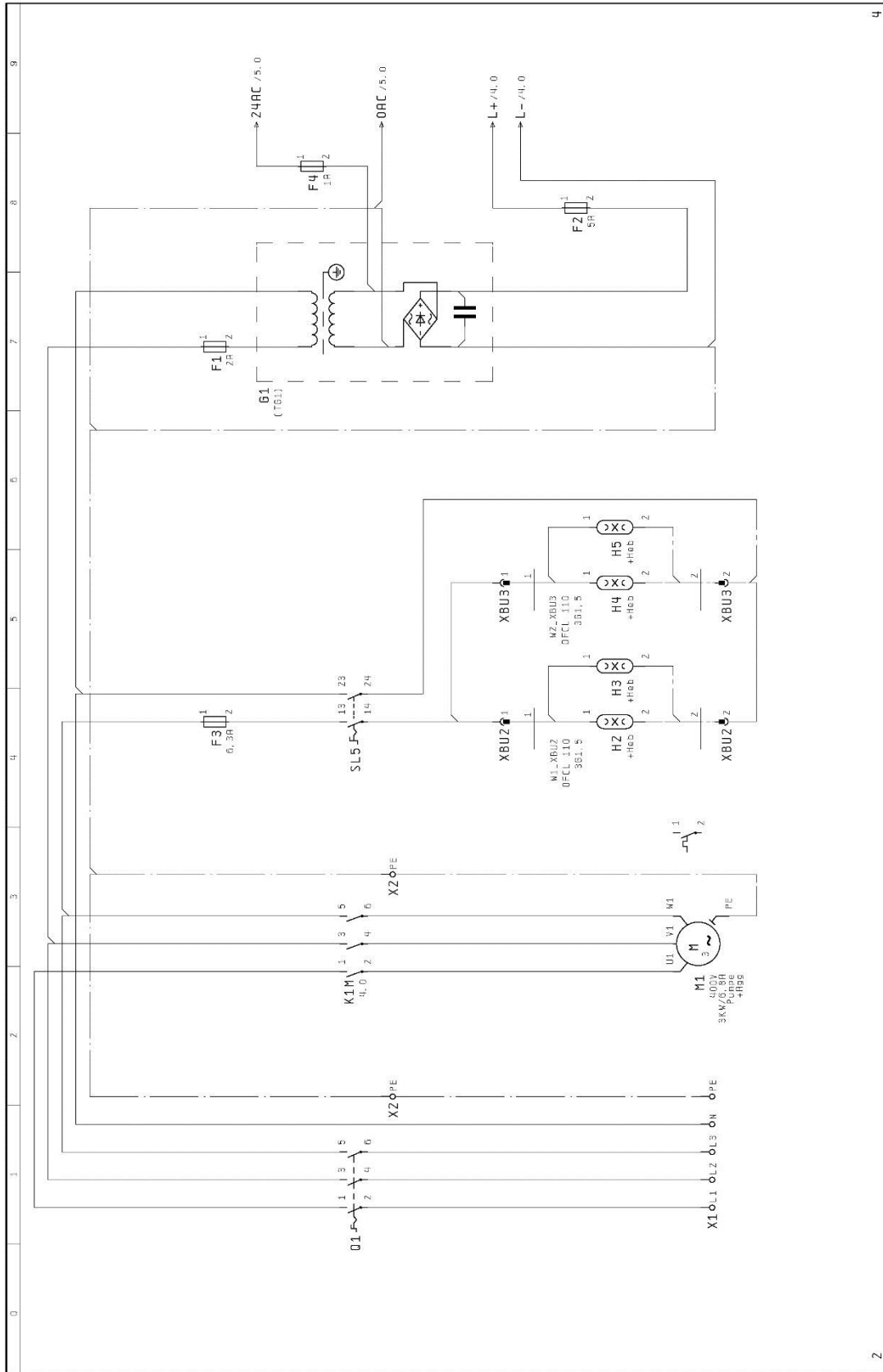
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Leistenbezeichnung														
X1														
Kabelname														
Kabeltyp														
Anschluß														
Zielbezeichnung														
Klemmen-Symbol														
Brücken														
Klemmen-nummer														
Anschluß														
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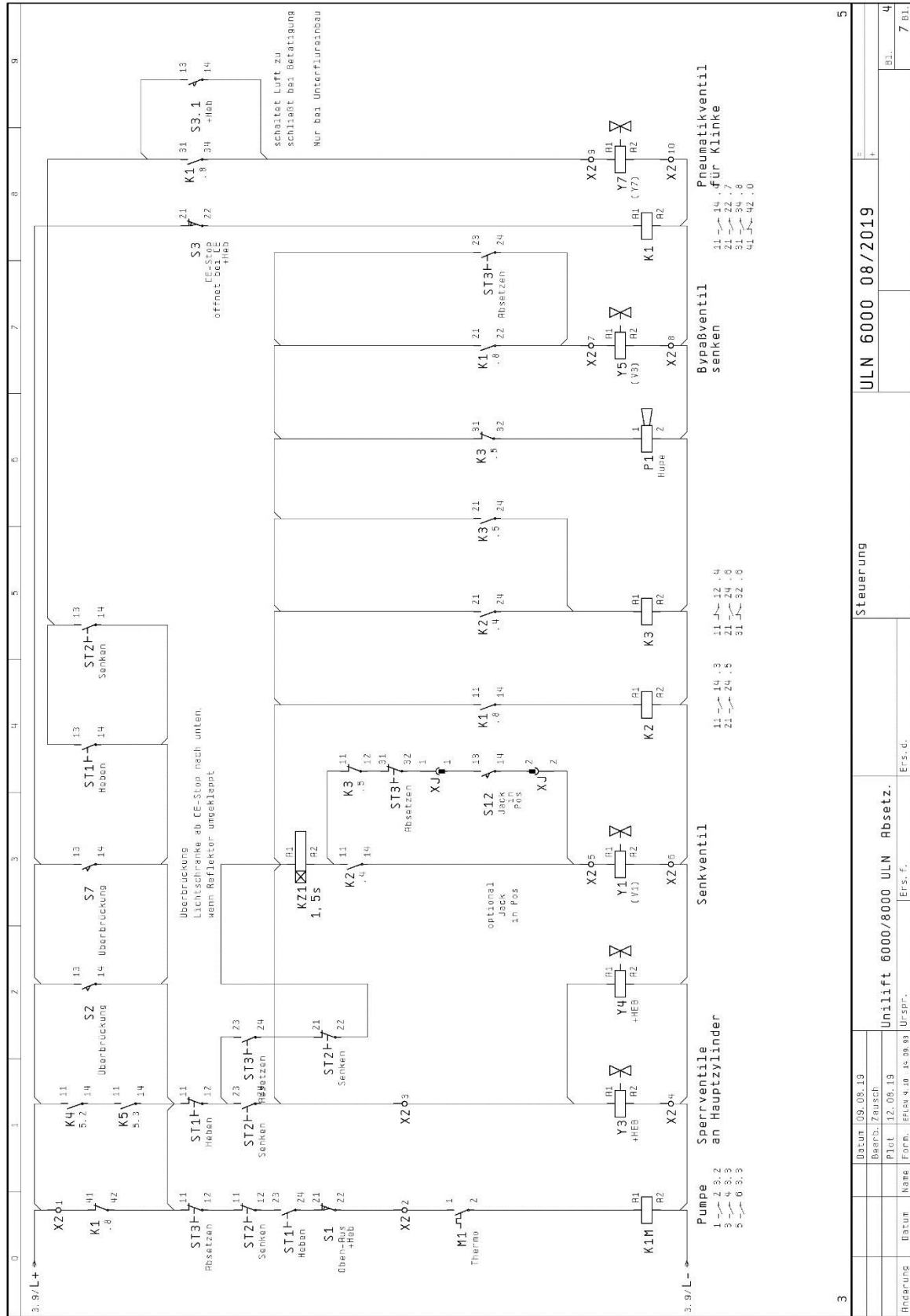


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<p><b>OBJEKT</b> : Unilift 6000/8000 ULN Absetz.  <b>ANLAGE</b> : mit Absetzen in Klinken  <b>KUNDE</b> :  <b>SCHALTPLANNR:</b> ULN 6000 08/2019</p>																																																																										
<p><b>1.) Schaltpläne und Schaltunterlagen</b>          Die Schaltpläne werden von uns nach besten Wissen angefertigt. Für Ergebnisse, Beschaffenheit und Schaltunterlagen wird von uns keine Gewähr für die Richtigkeit dieser Unterlagen übernommen. Dies tritt insbesondere für Schaltungen zu, die von uns nach fremden Plänen angefertigt werden. Diese werden von uns nur nach den von Auftraggeber überlassenen Unterlagen des Herstellers angefertigt.</p> <p><b>2.) Funktionsprüfung der Schaltanlagen</b>          Schaltpläne sind keine Fertigungsunterlagen. Bei der Prüfung der Schaltanlagen ist Merkmal: "Feldgröße" zu prüfen. Thermistoren können nicht gemessen werden. Auch bei vorübergehender Prüfung lassen sich, deshalb, Funktions- und Schaltungsfehler nicht immer vermeiden. Infolgedessen ist eine vollständige Funktionsprüfung der Schaltanlagen nicht möglich. Bei Inbetriebnahme ohne Hinzuziehung unseres Service wird garantiert, keine Mängel-Haftung übernommen. Die Kosten für die Inbetriebnahme sind dem Auftraggeber zu verantworten. Bei Änderungen der Schaltpläne werden die Änderungen durch Dritte nicht anerkannt. Kosten für Nachbesserungen durch Dritte können hier nicht anerkannt werden.</p>																																																																										
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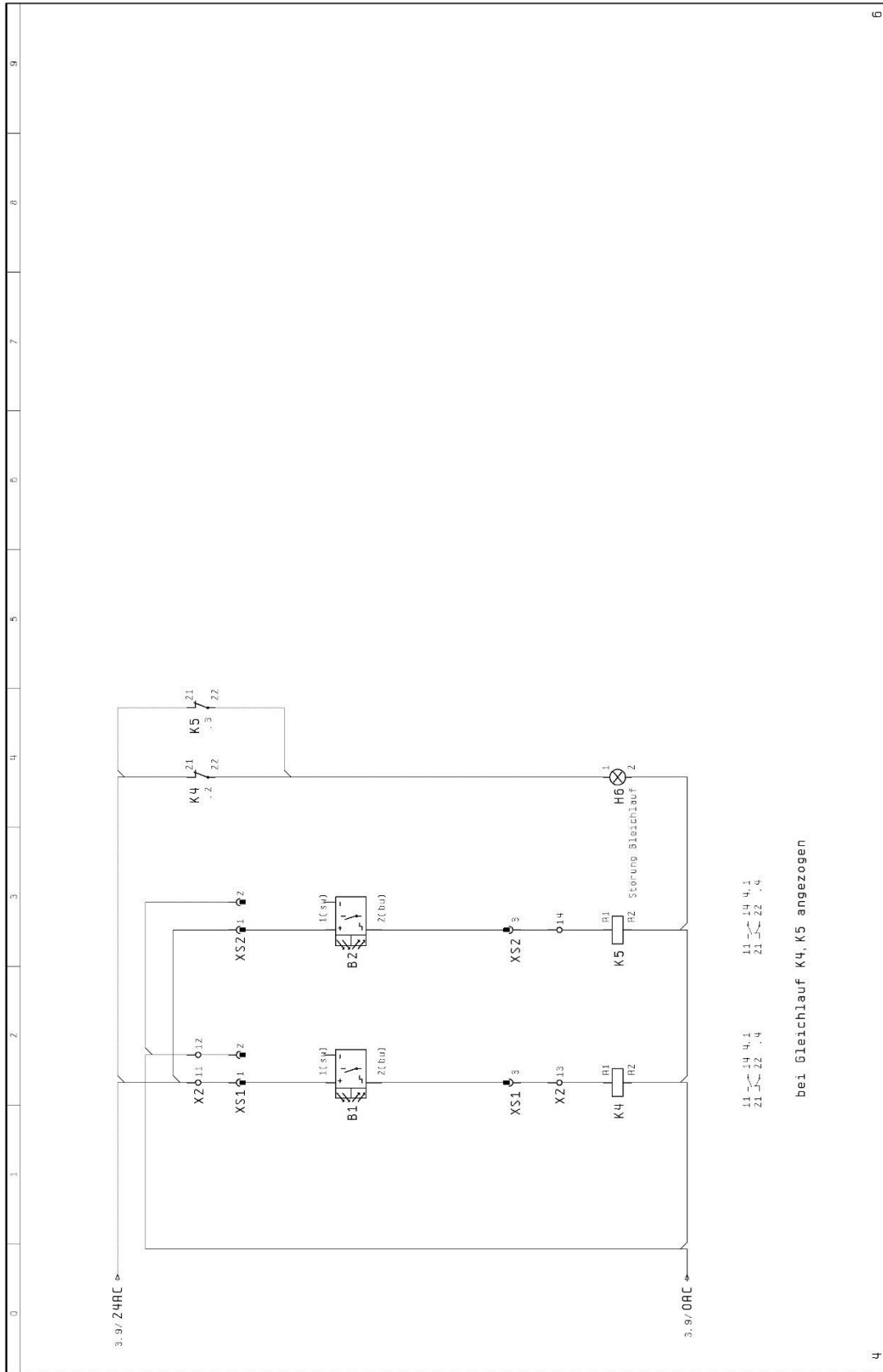




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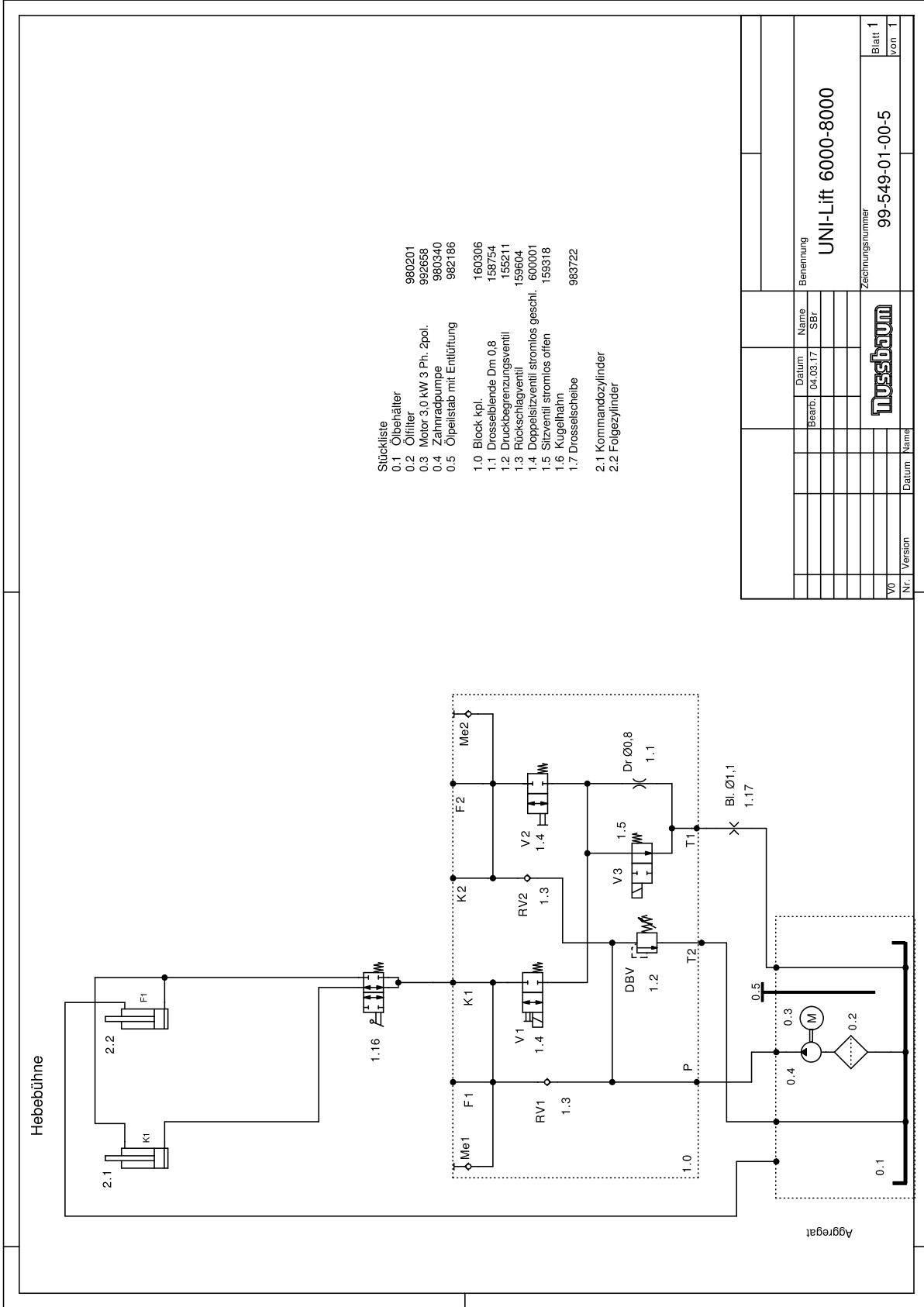


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Bearb. Fausch		Ers.-d.		Ers.-d.		7 B.I.	
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Urspr.		Ers.-d.		Ers.-d.		7 B.I.	





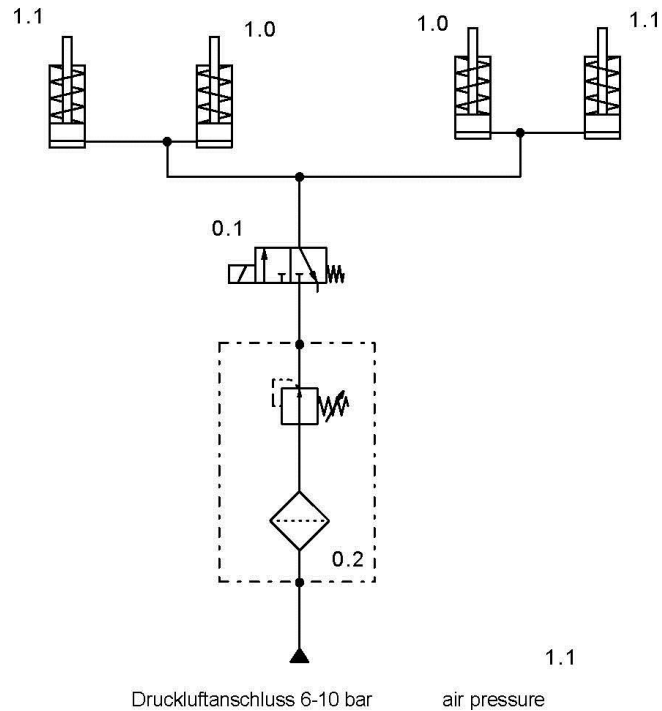
### 3.8 Hydraulic diagram



- Stückliste**
- 0.1 Ölbehälter 980201
  - 0.2 Ölfilter 982658
  - 0.3 Motor 3,0 kW 3 Ph. 2pol. 980340
  - 0.4 Zahnradbombe 982186
  - 0.5 Ölpeilstab mit Entlüftung 160306
  - 1.0 Block kpl. 158754
  - 1.1 Drosselblende Dm 0.8 155211
  - 1.2 Druckbegrenzungsventil 159604
  - 1.3 Rückschlagventil 600001
  - 1.4 Doppelsitzventil stromlos geschl. 158318
  - 1.5 Sitzventil stromlos offen 983722
  - 1.6 Kugelhahn
  - 1.7 Drosselscheibe
  - 2.1 Kommandozyliner
  - 2.2 Folgezyliner

Benennung		UNI-Lift 6000-8000	
Bearb.	Datum	Name	
	04.03.17	SBr	
Zeichnungsnummer		99-549-01-00-5	
Blatt 1		von 1	
<b>Nussbaum</b>			
Nr.	Version	Datum	Name

### 3.9 Pneumatic diagram



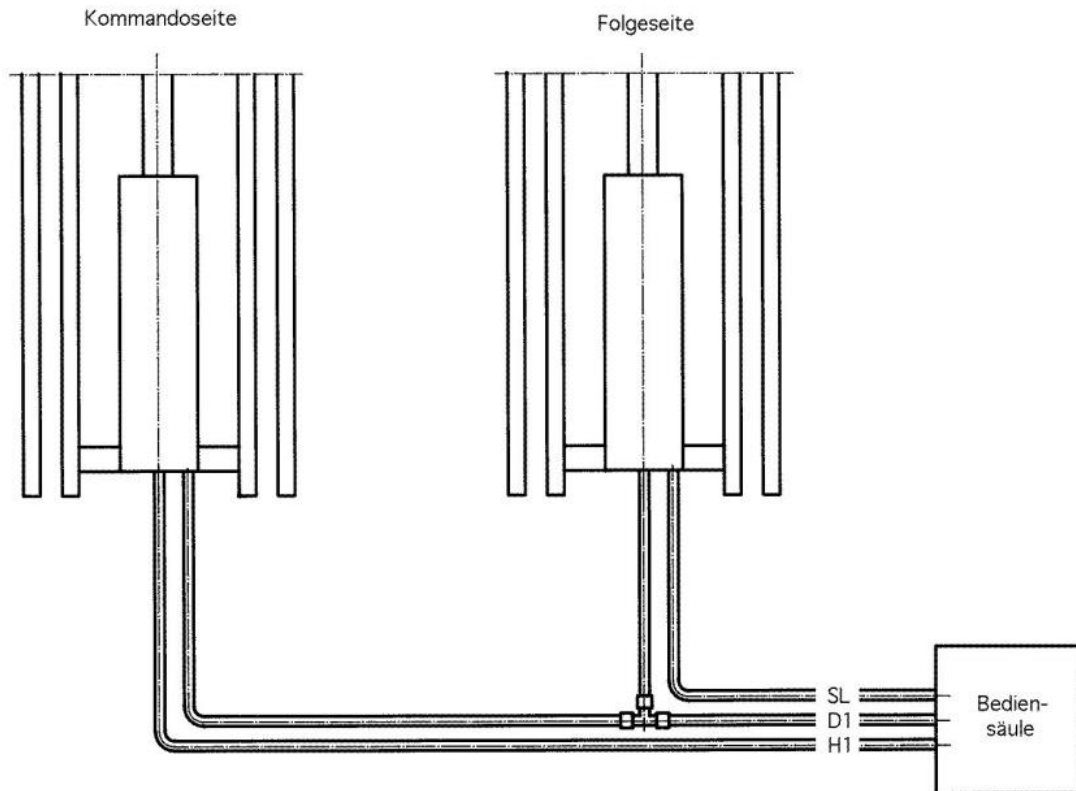
**Stückliste:**

0.1 Pneumatikventil	960100	valve
0.2 Filter-Druckregler	960039	filter regulator
1.0 P-Zyl. kompl. 2 Anschl.	030ULN10035	cylinder
1.1 P-Zyl. kompl.	030ULN10036	cylinder

				<b>Pneumatikplan</b>	
		Bearb.	Datum	Name	Benennung
			18.03.20	SBr	<b>UNI 8000</b>
				<b>Nussbaum</b>	
				Zeichnungsnummer	
				<b>P-Plan</b>	
				Blatt 1	
				von 1	
Nr.	Version	Datum	Name		

### 3.10 Hose connection scheme

Anschlüsse im Bedienaggregat



## 4. Safety regulations

If you use the automotive lift, the German following regulations are to be considered:

BGG945: Examine of automotive-lifts; BGR500 Using automotive-lifts; (VBG14).

### **Especially the following regulations are very important:**

- The laden weight of the lifted vehicle mustn't be more than 6500 kg / 8000
- 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. Operations instructions



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

### 5.1 Lifting the vehicle

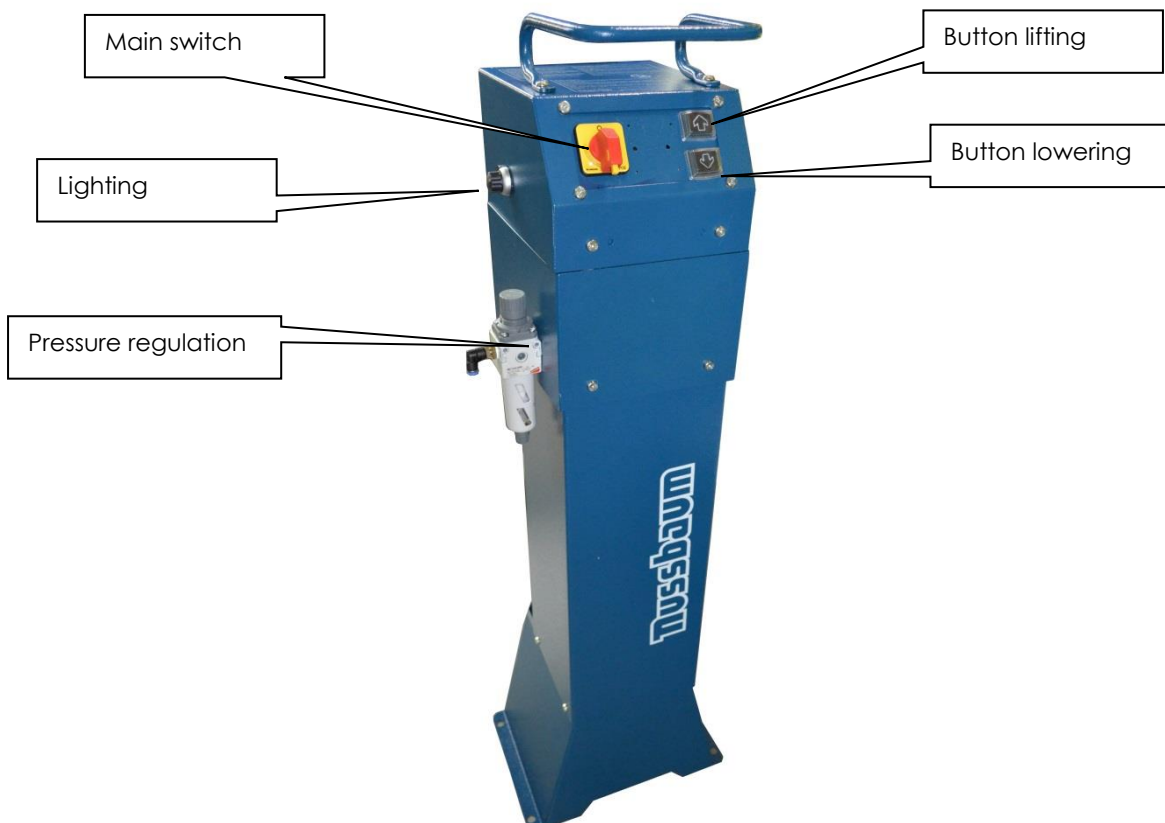
- Drive vehicle over the lift, longitudinal axes on line of the lift.



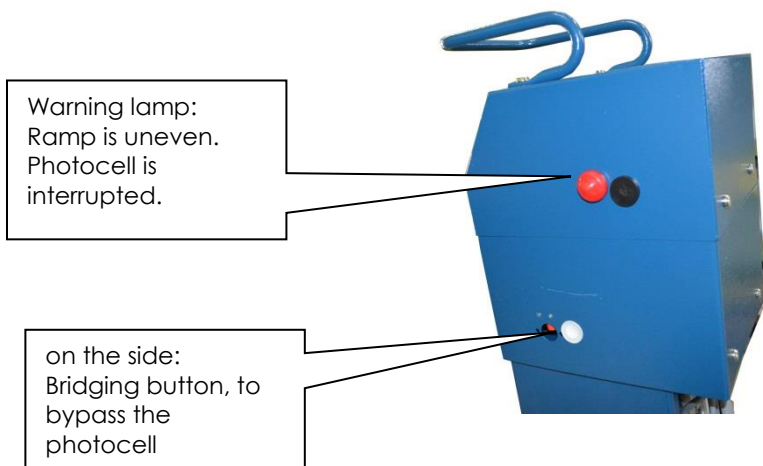
**The entire standing surface of each wheel must be placed completely on the ramp, otherwise there is a risk of falling.**

- Block the vehicle against rolling, put into gear, use the parking brake.
- 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".
- Raise the lift. Press the button „lifting“.

**picture 1: power pack**







## 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“ .



### **Attention!**

**Shortly before reaching the lowest position, the lift stops the lowering process for safety reasons (CE-STOP). Before the button “(lowering” is pressed again, the working area of the lift must be checked again. No person or objects are allowed in the endangered area of the lift.**

- Press the “lowering” button again, to lower to the lowest position. An acoustic warning signal will sound during lowering.

## 5.3 Equalization of the platforms

**If the difference in heights is constantly present, proceed as follows:**



**Equalize the rails only without load.**

**Remove any kind of load from the lift, before starting an equalization.**

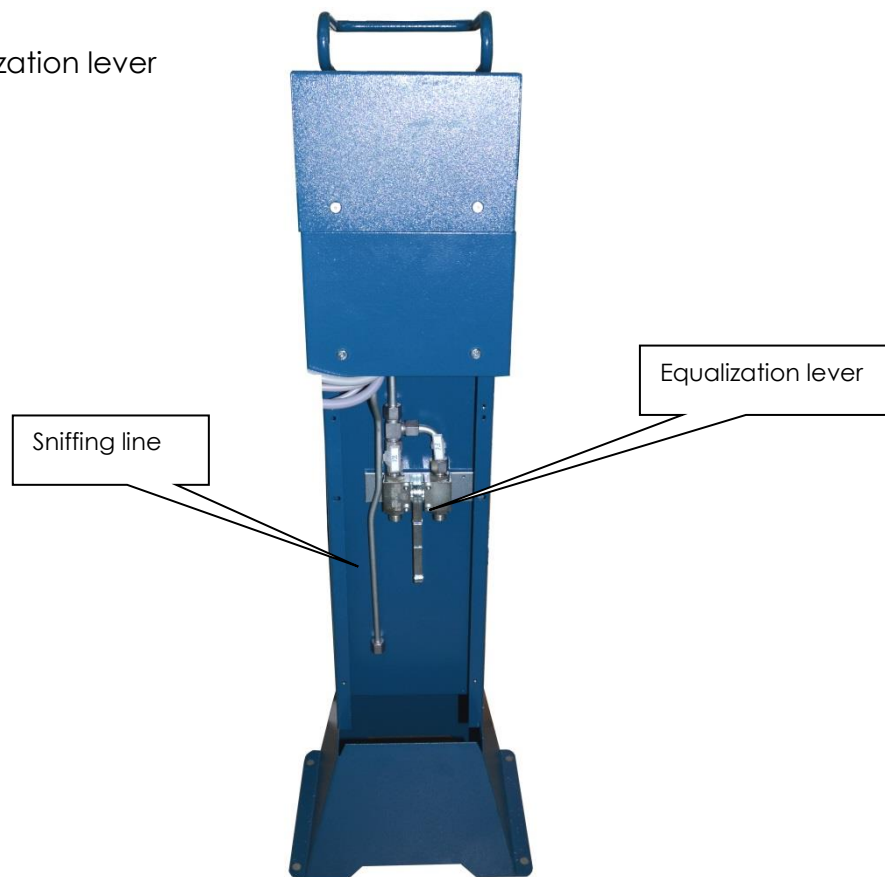
- Push the bridging button on the side of the power unit.



**The bridging switch may only be pressed to restore the normal operating state of the lift! Do not use the bridging switch during normal operating mode.**

- Lower the lift in the lowest position.
- Drive the vehicle from the lift.
- Raise the lift to approx. 500 mm.
- Pull the equalization lever 90° upwards and hold it in this position. The equalization lever is located on the rear side of the aggregate behind the swiveling cover.
- Simultaneously press and hold the bridging button on the side.
- Equalize the rails using the „lifting“ and „lowering“ buttons.
- If the rails have reached the same height, release the buttons and pull the equalization lever in its normal position.
- Close the cover.

pic 2: Equalization lever



## 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.



**Repairs at the lift's security devices as well as repairs and examinations of the electrical fittings may only be performed by specialists.**

### **Problem: Motor does not start!**

#### **potential causes:**

*no power supply  
main switch is not engaged  
fuse defect  
the feed line is cut  
thermo switch in the motor is active*

#### **solution:**

*check the power supply  
put main switch on  
check fuse and replace it if necessary  
repair it  
let it cool down*

### **Problem: Motor starts, lift does not lift!**

#### **potential causes:**

*The vehicle is too heavy  
Level of the oil is too low  
leakage of the hydraulic system  
gear pump does not work*

#### **solution:**

*unload it  
fill oil in  
repair the system  
call your service partner*

### **Problem: The lift does not lower!**

#### **potential causes:**

*The lift is standing on a obstacle  
hydraulic valve defect  
fuse defect  
Button „lowering“ not pushed  
Seat valves cannot be unlocked*

#### **solution:**

*push button „lifting“  
call your service partner  
check fuse and replace it if necessary  
push the correct button!  
emergency lowering*

## 6.1 Lowering onto an obstacle

If the lift drives with the slave side on an obstacle, the photoelectric cell observes the equalization of the lift. If the lift is unequal, the lift stops automatically. In this case push the override switch in the operation unit and the button "up" simultaneously until the obstacle can be removed. Now the lift is in normal function again and can be used as described in this manual.

## 6.2 Emergency lowering of the main lift



***An emergency lowering is an intervention into the control of the lift and can be done only by experienced personnel.***

***The emergency lowering must be performed 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 especially necessary before an emergency lowering.***

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

## 6.3 Emergency lowering in case of power failure or defective valves

In case of power failure or defective valves the hydraulic valve for lowering of the lift, the stop valves at lower side of the hydraulic cylinders and the pneumatic valve to unlock the ratchet can not be opened. Therefore the lift cannot be lowered. In this case there is the possibility to lower the lift by opening the hydraulic valve manually, so the car can be driven off.



***If the vehicle is lifted with an axle-lift, the axle-lift must be lowered first, because the emergency lowering screw of the axle-lift cannot be activated if the lift has been lowered.***



***The emergency lowering can only be performed when the ratchets are not engaged (they can be lifted manually).***



***The emergency lowering must only be performed by persons instructed to use the lift. Please refer to the regulation „lowering“. If the hydraulic hoses are damaged, restore them and go on as described in the operating instructions.***

## 6.4 Emergency lowering

Loosen security nut (marked with red colour) at the valve located at the bottom of each cylinder. This nut secures the set screw. Turn in the set screw for about one turn. This has to be done at both cylinders.



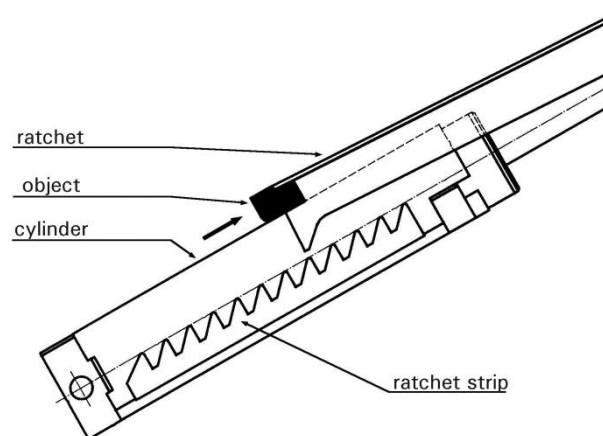
**The emergency lowering must be carried out in the following order, otherwise there can be a risk for damages or for life and limb.**



**If the hydraulic hoses are broken, the lift lowers into the ratchets. The ratchet engages and the lift can not be lowered anymore. The defective hydraulic hoses must be replaced before using the lift again.**

If the hydraulic hoses are not defect, lift ratchets at hydraulic cylinders manually and support them with a suitable object (i.e. wedge between cylinder and upper part) so they cannot engage (see picture 3). This procedure must be performed at both hydraulic cylinders.

- Remove motor-covering from operation unit
- Loosen security nut of emergency lowering screw at operation unit (marked with red colour, see picture 4)
- Loosen emergency lowering screw (thread pin) for about one turn (unscrew it) to start with lowering.
- Fasten set screw when the upper parts of the ratchets have passed the last ratchet cog and the ratchets cannot engage anymore (see picture 5)
- Remove supports from ratchets at both cylinders

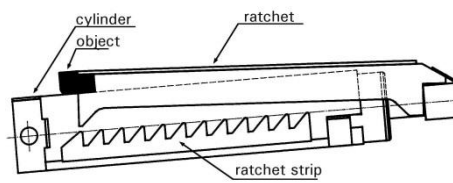


picture 3



Valve with central

picture 4



picture 5.



**The supports must be removed before lowering the lift to the ground. Otherwise the lift can be seriously damaged.**

- Continue lowering the lift (loosen set screw again) until the lift has reached its lowest position.
- Fasten set screw and secure it by fastening the security screw.
- Turn out thread pins at both stop valves at cylinder bottom of hydraulic cylinders. Secure them with the red security nuts.



**After finishing the emergency lowering, all of the set screws must be brought into the position they have had before. Otherwise a malfunction of the lift can occur.**

- Reinstall covering plates of both stop valves in the drive-on areas of the drive-on rails.
- Drive off vehicle from the lift
- Shut down the lift until the defective pieces or valves have been replaced

## 7. Inspection and Maintenance of Nussbaum lifts



**Before conducting maintenance work, preparations must be made to ensure that during maintenance and repairwork there is no risk to the safety of people working on or around the lift and also that there is no risk of damage to equipment being used on or around the lift.**

To guarantee best availability and operability of the lift, maintenance work contracts are organised between our clients and their local retailers.

A service must be performed at regular intervals of 3 months by the operator in accordance with the following service manual. If the lift is in continuous operation or in a dirty environment, the maintenance rate must be increased.

During daily operation the lift must be closely observed to ensure that it is functioning correctly. In the case of malfunction or leakage the technical service must be informed.

### 7.1 Maintenance plan of the lift

- Before beginning any maintenance work, isolate the power supply. Secure the main switch (lock it). Secure the danger area around the automotive lift and secure the lift against unintentional lowering.
- Clean cylinder wipers and check for damages.
- Clean the plunger from sand and dirt using compressed air.
- Check electric parts for damages.
- Clean and lubricate the moving parts of the lift (hinge bolts, sliding pieces, sliding surfaces) grease with a multipurpose lipid (i.e. Auto Top 2000 LTD. Agip).
- Grease the lubricate nipples with a multipurpose lipid.
- Check all welded joints on the automotive-lift for cracks. If any cracks are found on the lift, shut down the lift and call the service partner.
- Damage to external surfaces, must be immediately repaired. If these repairs are not made immediately, permanent damage to the powder-coated surface may result.  
Repair and clean damaged areas with an abrasive paper (grain 120). After this is complete, use a suitable paint (observe the RAL Number).
- Check all zinc surfaces and repair them with abrasive paper (grain 280).  
White rust can result from humid storage and poor aerating.  
Rust may result from mechanical damage, wear, aggressive sediments (de-icing salt, liquids) or insufficient cleaning.  
Repair and clean these areas with abrasive paper (grain 280).  
After cleaning use a suitable paint (observe the RAL Number).
- Check the tank level of the hydraulic oil. Refill with a clean, high quality oil (32 cst) (i.e. HLP 32 LTD. OEST Company)
- The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into its lowest position. Empty all tanks and refill with clean oil, approx. 17 litres per hydraulic unit are needed.
- Use an ATF-Suffix hydraulic-oil (OEST Company) if the ambient temperature is under 5 degrees centigrade. After filling, the hydraulic oil must be between the upper and lower markings of the oil level gauge.



- Recycle the old oil according to the appropriate regulations.
- Check hydraulic system for leakage.
- Check hydraulic tubes for leakage. Hydraulic tubes need to be exchanged at least every 6 years.
- Retighten all screws and bolts (see the list below for torque).

Anzugsdrehmoment (Nm) für Schachtschrauben  
Festigkeitsklasse 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

Festigkeitsklasse 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 D

- \* Gleitreibungszahl 0,10 für sehr gute Oberfläche, geschmiert
- \*\* Gleitreibungszahl 0,15 für gute Oberfläche, geschmiert oder trocken
- \*\*\* Gleitreibungszahl 0,20 Oberfläche schwarz oder phosphatiert, trocken

## 7.2 Cleaning of the automotive lift



**Always switch off the main switch of the system and secure it against switching on before cleaning or maintenance work.**

A regular professional maintenance serves the preservation of the lift. Besides it is necessary to keep your warranty claim in case of corrosion damages. The best protection for the lift is regular cleaning from any kind of dirt, especially:

- 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 because of insufficient ventilation
- lentic liquids in the pits

How often the lift needs to be cleaned, depends on the frequency of usage, the place of installation, the cleanness in the working area and the aeration. Under bad conditions it might be 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 and lukewarm water to clean the parts. Avoid contact of any electric parts with the water.

Remove all dirt carefully with a sponge, if necessary with a brush. Use steam jet cleaning only for heavy dirt. Do not touch electric parts or damaged varnishing. Pay attention there are no remains of the detergent on the lift after cleaning.



### 7.3 Cleaning and care of galvanised surfaces

Excerpt from DIN EN ISO 1461: "Zinc coatings on steel using hot-dip galvanising"  
"The main purpose of the zinc coating is to protect the iron and steel material lying underneath from corrosion. Considerations of aesthetics and decorative properties should take second priority.... It should be observed that "roughness" and "smooth" are relative terms and the roughness of piece galvanised coatings can differ from continuous hot-dipped galvanised products, as for example continuous hot-dipped galvanised sheet metal, pipe and wire.

In practice it is not possible to specify a definition for the uniformity and the surface qualities of zinc coatings. The occurrence of dark or light areas (e.g. lattice pattern or dark-grey areas) or a slight surface unevenness is no reason for rejection. The formation of (white or dark) corrosion products, mainly consisting of zinc oxide (occurring from storage in damp conditions after the hot-dip galvanising), is no reason for rejection as long as the required minimum thickness value of the zinc coating is still present.

For touch-up work: "The sum of the areas without coating that must be touched-up must not exceed 0.5% of the total surface of a single part. A single area without coating must not exceed an area of 10 cm<sup>2</sup>...

The touch-up work should be done through thermal spraying with zinc (e.g. ISO 2063) or through a suitable zinc powder coating, where the zinc dust pigment must comply with ISO 3549 within the practical limits of such systems, or using suitable zinc-flake coating or zinc paste. .. A sufficient corrosion protection must be ensured on the touched-up areas." The touch-up work must always be at least 100 µm thick.

#### **Excerpt from GSB ST 663: Visual assessment of the surface:**

*Source: Quality and inspection regulations for industrial hot-dip galvanising, part 663:  
"International quality guidelines for part coating on steel and hot-dipped galvanised steel"*

"The assessment of the decorative appearance of the surface in regards to uniformity of colour and structure must be done without auxiliary aids; for external parts at a distance of at least 5 m, for interior parts at a distance such as at least 3 m vertical with diffused lighting. All parts must basically match in gloss, colour and structure. Foundation unevenness, for example scratches, grinding marks, corrosion scars and welding seams have no significance in the assessment of the coating quality."

#### **Influence factors for discolourations of the surface**

*Source: Hot-dipped galvanised: Newsletter for users no. 5*

The protective effect of the durable hot-dipped galvanising is based on the formation of cover layers which, due to weathering influences in the course of weeks or months, occur on the galvanised surface. The cover layers mainly occur from basic zinc carbonate. If the zinc surface is sprayed with water over an

extended period or if the air access and thus the presence of CO<sub>2</sub> insufficient, then the occurrence of protective cover layers is prevented. Instead, so-called "white rust" forms on the surface of galvanised parts.

White rust consists mainly of zinc hydroxide and slight proportions of zinc oxide and zinc carbonate. In practice white rust can only become a problem with freshly hot-dipped galvanised parts. The formation of white rust has no connection with the galvanising process and is not a measure for the quality of the galvanisation. The probability for possible white rust formation fluctuates depending on the weather in the course of a year. White rust occurs more frequently in autumn and winter. Frequent precipitation in the form of rain and snow, fog and dropping below the dew point due to low temperatures promotes possible white rust formation.

Aggressive liquids, for example salts, brake fluids, chemical additives or acids have a negative effect on the zinc layer. If they come in contact with the zinc galvanised surface they must be removed immediately and the area cleaned (see the chapter Cleaning and Care)

#### **Touch-up after incidence of white rust:**

- With only a slight incidence, the removal of white rust is not absolutely necessary.
- With a strong incidence, smaller areas can be removed with a special brush (e.g. made of soft bronze wire, brass or a plastic brush). Be careful, if brushed too intensively the surface can become dark.
- If necessary, zinc and stainless steel cleaner (e.g. Leraclen ZNR) can be used.

#### **Traces of usage due to tyre wear**

Traces of usage due to tyre wear result in an unattractive surface on the drive rail. These have nothing to do with the quality of the galvanising. (see point Cleaning and Care)

#### **Spotting due to spilling liquids**

See chapter Cleaning and Care

#### **Cleaning and care**

- Regularly clean the galvanised parts (and immediately after contact with aggressive substances) with plenty of clean water.
- If necessary the surface must be brushed off with a special brush and with slight pressure
- Let the surface dry well!  
The drive rail must be free during this, there must be no vehicle on the lift.
- Seal the surface with a temporary corrosion protection against recurrence of the white rust. For this use acid-free oils, greases or waxes.

## 8. Security check

The security check is necessary to guarantee the reliability of the automotive lift. It needs to be performed:

Before the initial operation after installation

**Use the form “First security check before initiation”**

In regular intervals after the initial operation, at least annually.

**Use the form “Regular security check at least annually”**

Every time the construction of the lift has been changed.

**Use the form “Extraordinary security check”**



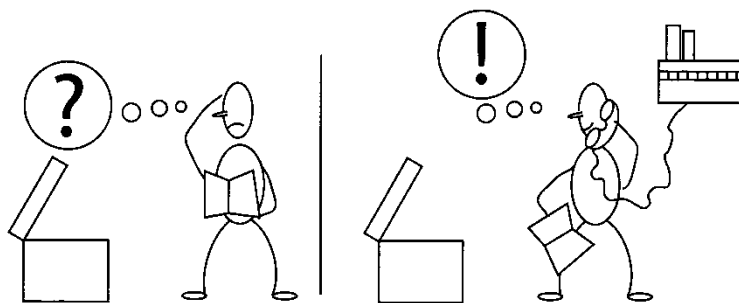
**The first and the regular security check must be performed by a competent person. It is recommended to perform a maintenance work at the same time.**



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

This manual contains forms with a schedule for the security checks. Please fill out the adequate form for the different security checks. The form should remain in this manual after they have been filled out.

## 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.

- A standard electrical supply 3~/N+PE, 400 V, 50 Hz must be provided. The supply line must be protected with T16A (VDE0100 German regulation). The minimum diameter amounts to 2.5 mm<sup>2</sup>. (Pay attention to the tension of your state)
- The air plug requires an air hose with diameter 0.24 inch, the operation pressure needs to be 6 to 10 bar.
- All cable ducts have to be equipped with protective coverings to prevent accidents.

## 9.2 Erection and doweling of the lift

- Erect power unit, plug air – and electricity connections
- Fill oil tank with oil: viscosity 32 cst, hold-up: approx. 10 litre
- connect hydraulic and pneumatic hoses and electrical cable between power unit and automotive lift
- Push button "lift" at automotive lift until command side is lifted up high enough to touch the ventilation screw. If this does not work, press override switch additionally until the lift reaches the appropriate height.
- Open ventilation screw at command cylinder until oil leaks (Do not unscrew!)
- Close ventilation screw immediately and tighten.
- If the automotive lift needs to snap into ratchet before oil leaks from the ventilation screw, the ventilation screw needs to be closed and the lift needs to be lifted once more marginally by pushing the button "lift". After that repeat procedure described earlier, until oil leaks.
- Perform balancing of rails as described in chapter 5.3.
- Lift up automotive lift to 60 inch.
- re-check placement of the first and second base plate
- Dowel power unit in floor.
- Setting of the lift, first each rail separately, then both rails together.  
Asynchronism needs to be fixed by laying boards underneath the bearing.
- tighten Liebig-dowels with torque wrench (observe the regulation of the dowel manufacturer)
- Lift up and lower automotive lift, loaded with vehicle, several times, retighten dowels and check hydraulic hoses for closeness.
- Bore holes to fix the dowels through the borings of the base plates. Clean holes with pressure air. Put in safety dowels with washers in borings. The manufacturer recommends LIEBIG safety dowels type or equal dowels of another manufacturer but pay attention to their regulation.

- Before doweling check concrete floor with quality C20/25 if the concrete floor goes to the top edge of the floor. In this case the dowels have to be chosen according to the picture on page 18. If the ground is covered with floor tiles, the dowels have to be chosen according to the pictures.

### 9.3 Initiation



**Before the initiation the first security check needs to be performed. 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 person confirms the faultless function of the lift in the installation record and the form for the first security check and allows the operation of the lift.



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

### 9.4 Changing the installation place

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

- Loosen the dowels at the base plate and operation panel.
- Lift up automotive lift 20 inch without vehicle.
- Underlay scantlings underneath the centre axis of the shears.
- Lower automotive lift until centre axis bears on scantling and loose bearing and fixed bearing lift up from floor. Fix lift to prevent it from oscillating or tilting.
- Brace loose bearing and fixed bearing with rail.
- Loosen pneumatic and hydraulic pipes and electric cables.
- Transport the automotive-lift to its new location.
- Install the lift in accordance with chapter 9 "Installation and Initiation".

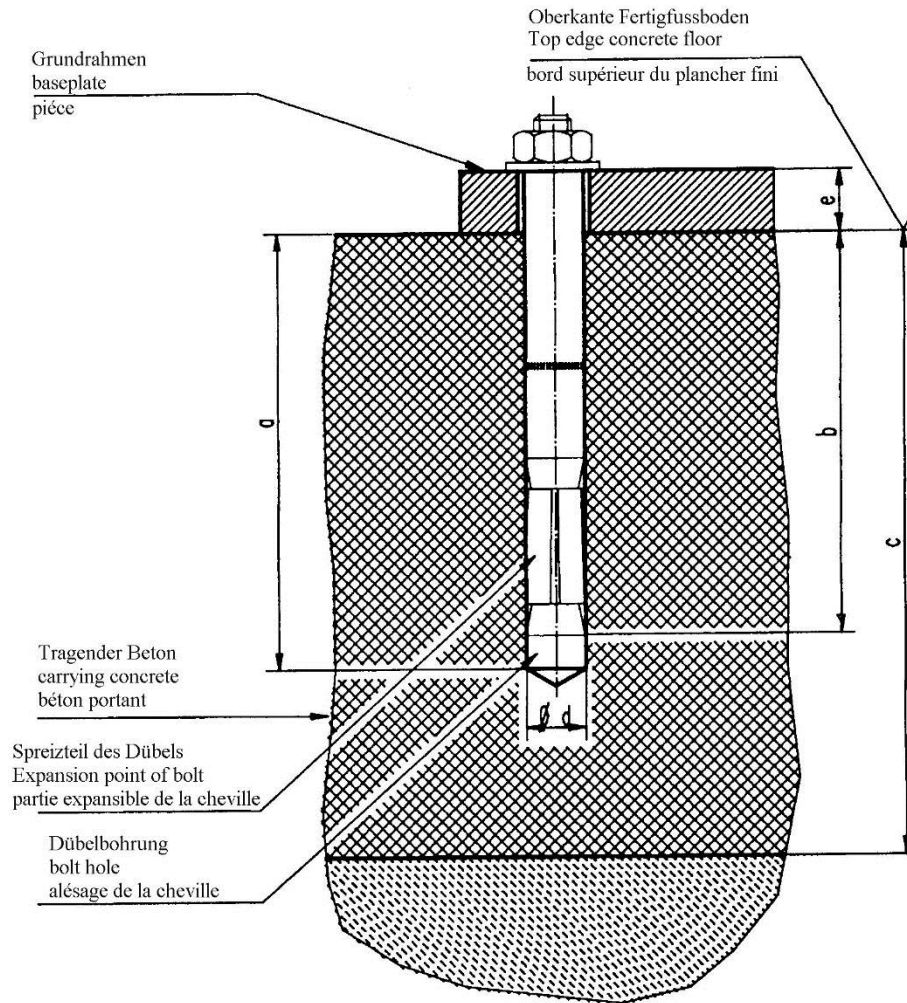


**Use new dowels, the old ones are not usable anymore.**



**A security check must be performed before re-initiation by a competent person. Use form "Regular security check".**

**Picture 6: choice of the dowel length w/o floor pavement**



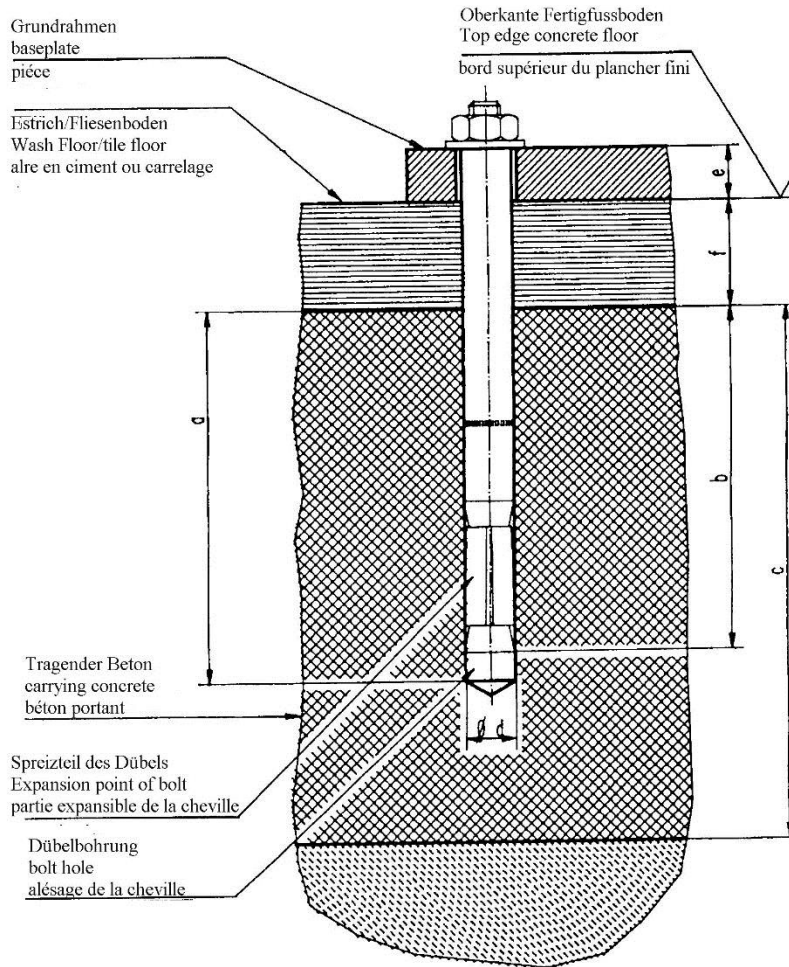
Liebig-dowels			
Dowel type			BM12-20/80/40
Drilling depth	a		100
Min. anchorage depth	b		80
Thickness of concrete	c		min. 160 (*)
Diameter of bore	d		20
Thickness of the lift-pieces	e	0-40	
Number of dowels			12
Starting torque			70

**(\*) minimum thickness of concrete by using the mentioned dowels. Otherwise, observe the regulation of the foundation plan.**

**You can use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.**



**Picture 7: choice of the dowel lengths with floor pavement**



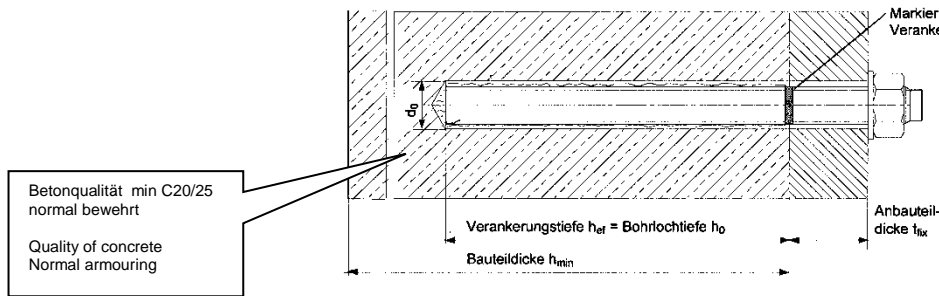
**Liebig-Dowel**

Dowel type		BM12-20/80/65	BM12-20/80/100	BM12-20/80/140
Drilling depth (mm)	a	100	100	100
Min. anchorage depth (mm)	b	80	80	80
Thickness of concrete (mm)	c	min.160(*)	min.160(*)	min.160 (*)
Diameter of bore (mm)	d	20	20	20
Thickness of the lift-pieces (mm)	e	40-65	65-100	100-140
Betonqualität		min.C20/25		
Number of dowels (St.)		12	12	12
Starting torque		70 Nm	70Nm	70Nm

**(\*) minimum thickness of concrete by using the mentioned dowels. Otherwise, observe the regulation of the foundation plan.**

**You can use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.**





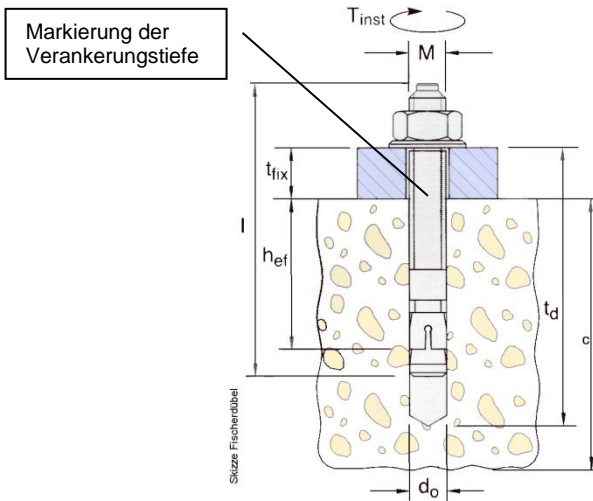
Änderungen vorbehalten!  
subject to alterations!  
sous réserve des modifications!

<b>Hilti-Injektionsdübel</b>		<b>UNI-LIFT 8000<sup>b</sup></b>		
Betonboden / concrete floor		ohne Bodenbelag / without floor pavement (tiles)		
Dübel type of dowel type de cheville		HIT-V-5.8 M10x130	HIT-V-5.8 M12x150 Art.Nr.387061	HIT-V-5.8 M16x200 Art.Nr.956437
Bohrtiefe (mm) drilling depth Profondeur de l'alésage	<b>ho</b>	90	108	144
Mindestverankerungstiefe (mm) min.anchorage depth Profondeur minimale d'ancrage	<b>hef</b>	90	108	144
Betonstärke (mm) thickness of concrete Epaisseur du béton	<b>H<sub>min</sub></b>	min.120	min.138	min.180
Bohrerdurchmesser (mm) diameter of bore Diamètre de l'alésage	<b>do</b>	12	14	18
Bauteildicke (mm) thickness of the lift-piece Epaisseur de la pièce	<b>tfix</b>	max.17	max.19	23
Anzugsdrehmoment (Nm) turning moment moment d'une force	<b>T<sub>inst</sub></b>	20	40	80
Gesamtlänge (mm) Total length Longueur totale	<b>l</b>	130	150	200
Gewinde Thread fil	<b>M</b>	10	12	16
Stückzahl piece number nombre des pièces	a	4		
	b	8		
	c	10		
	d	12		
	e	14		
	f	16		
	g	28		

Die Montageanweisung des Dübelherstellers ist Folge zu leisten.  
Bei Bodenbelag (Estrich/Fliesen) sind längere Dübel zu verwenden.

Observe necessarily the installation description of the dowel manufacturer.  
Use longer dowels with version with floor pavement and tiles

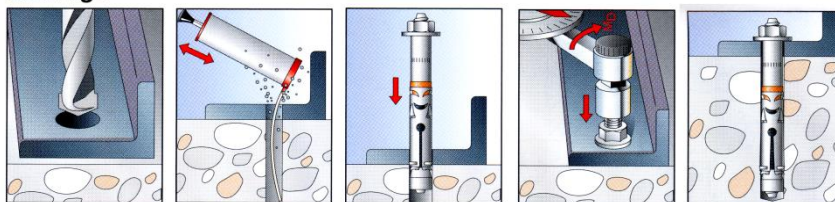
Es können auch gleichwertige Injektionsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden.  
It is possible to use equivalent injections dowels (with license) of other manufacturer but observe their regulations.  
Des chevilles des autres marques (autorisées) peuvent aussi être choisies en respectant les directives du fabricant.



Änderungen vorbehalten!  
subject to alterations!  
sous réserve des modifications!

fischer-Dübel		UNI-LIFT 6500 <sup>b</sup>		
Dübel typ of dowel type de cheville		FH 15/50 B <b>Bestellnr. 970265</b>	FH 18 x 100/100 B <b>Bestellnr. 972230</b>	FH 24/100 B <b>Bestellnr. 970267</b>
Bohrtiefe drilling depth Profondeur de l'alésage	t <sub>d</sub>	145	230	255
Mindestverankerungstiefe min.anchorage depth Profondeur minimale d'ancrage	h <sub>ef</sub>	70	100	125
Betonstärke thickness of concrete Épaisseur du béton	c	siehe den aktuellen Fundamentplan see current foundation-diagram drawing vois le plan de fondation actuel		
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	d <sub>o</sub>	15	18	24
Bauteildicke thickness of the lift-piece Épaisseur de la pièce	t <sub>fix</sub>	0-50	0-100	0-100
Anzugsdrehmoment Nm turning moment moment d'une force	MD	40	80	120
Gesamtlänge Total length Longueur totale	l	155	230	272
Gewinde Thread fil	M	M10	M12	M16
Stückzahl piece number nombre des pièces	a	4		
	b	8		
	c	10		
	d	12		
	e	16		
	f	20		
	g	14		

**Montage**



Es können auch gleichwertige Sicherheitsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden.

It is possible to use equivalent safety-dowels (with license) of other manufacturer but observe their regulations.  
Des chevilles des autres marques (autorisées) peuvent aussi être choisies en respectant les directives du fabricant.

### First security check before installation



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting" and "lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

### Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity" .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and “lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity" .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and „lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting" and "lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet" .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and “lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“ .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)



## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and „lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting" and "lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet" .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity" .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and “lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

## Regular security check and Maintenance



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and “lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“ .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

### Extraordinary security check



Complete and leave in this manual

Serial number: .....

kind of check	al- right	defect missing	/ veri- fication	remark
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Short operating instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker "max. capacity".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Warning marking.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Buttons „lifting“ and “lowering“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Lockable main switch.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Button „unlocking the ratchet“.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function, easily moving of limit switch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop and warning signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welded joints.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition and securing of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Roll-off protection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the dowels (bolts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Coupling at power unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition surface plungers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of hydraulic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of pneumatic hoses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of electrical cables.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function of photocell.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the varnishing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function Test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**(mark applicable, if verification necessary mark additionally!)**

Date of security check: .....

Carried out by the company: .....

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

Result of the Check:

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

.....  
signature of the competent person

.....  
signature of the operator

If failures must be repaired:

Date of repair: .....

.....  
signature of the operator

(Use another form for verification!)

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