# Operating Manual and Inspection Book Including Spare Parts List

SMART LIFT 2.30 SL □
HYMAX S 3000
SMART LIFT 2.35 SL □
HYMAX S 3500
SMART LIFT 2.40 SL □
HYMAX S 4000

# SMART LIFT 2.30 SL □
# HYMAX S 3000
# SMART LIFT 2.35 SL □
# HYMAX S 3500
# SMART LIFT 2.40 SL □
# HYMAX S 4000

Original Operating Manual

## Operating Manual and Inspection Book including spare parts list

**Serial number:.....**

Dealer address / phone

Otto Nußbaum GmbH & Co.KG | Korker Straße 24 | D-77694 Kehl-Bodersweier
Tel: +49(0)7853/8990 | Fax: +49(0)7853/8787
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# Contents

# Introduction

Nussbaum products are a result of many years of experience. A high quality standard and superior concept guarantees you reliability, long lifetimes and economical operation. To prevent unnecessary damage and hazards, read this operating manual carefully and always comply with its contents.
Any other use, or use beyond purpose is considered improper.

***Otto Nußbaum GmbH & Co.KG is not liable for any resulting damage. The operating company alone carries the risk.***

***Proper use also includes:***

- Adherence to all instructions in this operating manual and
- Compliance with inspection and maintenance work and the inspections stipulated.
- The operating manual is to be followed by all personnel working on the lift. This is notably with regards to Section 4 "Safety conditions".
- In addition to safety information from the operating manual, comply with rules and regulations at the location of use.
- Proper system handling.

***Operating company obligations:***

The operating company is obliged to only permit personnel to work on the system who

- Understand the principle regulations about work safety and accident prevention and who have been trained in working with the lift.
- Have read the safety section and warning information in this operating manual, have understood it and confirmed learning with a signature.

***Hazards in working with the system:***

Nussbaum products have been designed and built to state-of-the-art and to recognized safety standards. However, improper use may lead to hazards to life and limb of the user or result in property damage.
The system may only be operated:

- For proper intended use.
- If it is technically in perfect condition.

***Organizational measures***

- The operating manual is always to be kept ready at the location of use of the system.
- Supplemental to the operating manual, refer to and comply with generally valid legal and other binding regulations for accident prevention and for environmental protection.
- Check occasionally that personnel have an awareness of hazards and safe work in compliance with the operating manual!
- Use personal protective equipment as needed or required by regulations.
- All safety and hazard information on the system is to be kept in a legible condition!
- Replacement parts must meet technical specifications of the manufacturer. This is only guaranteed for original parts.
- Deadlines pre-set or given in the operating manual for repeating tests / inspections must be followed.

***Maintenance work, error removal***

- Comply with pre-determined setting, maintenance and inspection work and intervals in the operating manual, including details for exchanging parts / part fittings! These activities may only be done by specialists who have participated in a special factory training.

***Guarantee and liability***

- In principle, our "General sales and supply conditions" apply.
- Guarantee and liability claims for personal and property damage are excluded if due to one or more of the following causes:
- Improper use of the system.
- Improper assembly, commissioning, operation and maintenance of the system.
- Operating the system with defective safety devices or improperly attached or non-functional safety and protection devices.
- Non-compliance with information in the operating manual in terms of transport, storage, assembly, commissioning, operation, maintenance and fitting of the system.
- Independent construction changes to the system.
- Independent changes to ..... (e.g. drive ratios: power, rotation speed, etc.)
- Improperly done repairs.
- Catastrophic cases due to foreign influences or force majeure.

***After successful set up, complete this form fully, sign it, make a copy and send the original to the manufacturer within a week. The copy remains in the inspection book.***

**Otto Nußbaum GmbH & Co. KG**

**Korker Straße 24**

**D-77694 Kehl-Bodersweier**

## Assembly protocol

The lift.....

With serial number ..... was set up on (date) .....

At (company name) ..... in (town, city) .....

Checked for function and safety and put into operation.

The set up was done by the operating company / specialist (score out the one that does not apply)

After successful inspection of function and safety by a trained assembler, the lift is transferred without electrical connection (e.g. plug) to on-site power supply An on-site electrical connection between the lift and the power supply is to be done by a qualified electrician. (See details in the electrical plan)

The operating company confirms proper lift set up, has read and will comply with all information contained in this operating manual and inspection book, and will keep this document accessible to trained operators at all times.

The specialist confirms proper lift set up, has read all information in this operating manual and inspection book, and has transferred the documents to the operating company.

Anchor used (*): _____ (type/brand)

Minimum anchoring depth (*) complied with: _____mm ☐ ok

Tightening torque (*) complied with: _____NM ☐ ok

| ..... | ..... | ..... |
|---|---|---|
| Date | Name, operating company & company stamp | Operating company signature |
| ..... | ..... | ..... |
| Date | Name, specialist | Signature of specialist |

Service partner:.....(Stamp)

(*) See enclosed anchor manufacturer sheet

Lift update 07/2015 // Operating Manual update 01.07.2015

# Transfer protocol

The lift .....

With serial number ..... was set up on (date) .....

At (company name) ..... in (town, city) .....

Checked for function and safety and put into operation.

The following listed people (operators) were trained to handle and care the lift after it was set up by a trained assembler of the manufacturer or a contract partner (specialist).
As part of the transfer and training, Nussbaum care instructions have been affixed to the lift.
(Date, name, signature, empty lines must have a scored out)

| | | |
|---|---|---|
| ..... | ..... | ..... |
| Date | Name | Signature |
| ..... | ..... | ..... |
| Date | Name | Signature |
| ..... | ..... | ..... |
| Date | Name | Signature |
| ..... | ..... | ..... |
| Date | Name | Signature |
| ..... | ..... | ..... |
| Date | Name | Signature |
| ..... | ..... | ..... |
| Date | Name, specialist | Signature of specialist |

Service partner:.....

# 1 General information

Technical documentation contains important information for safe operation and for retaining functional safety of the lift.

- To verify lift set up, the assembly protocol form is to be completed, signed and sent to the manufacturer.
- Forms are available in this inspection book for use in verifying single, regular and extraordinary safety checks. Use the forms to document inspections and leave the completed forms in the inspection book.
- The lift master forms must record changes to the construction or changes to set up location.

## 1.1 Set up and test the lift

Safety relevant work on the lift and safety inspections may only be done by personnel specifically trained to carry it out. They are designated in general and in this documentation as technical experts and specialists (competent people).

- Technical experts are people (freelance expert engineers, TÜV specialists) that may inspect and assess due to their education and experience with lifts. They are knowledgeable in the appropriate work safety and accident prevention regulations.

- Specialists (competent people) are people who have sufficient knowledge and experience with lifts and have participated in a special factory training by the lifts manufacturer.

## 1.2 Hazard information

To become aware of the hazardous points and important information, the following three symbols are used with the descriptive meaning. Pay particular attention to text positions that are labelled by these symbols.

***Danger! Identifies a danger to life and limb, if the highlighted process is not done properly there is a mortal danger!***

***Caution! Identifies a warning of possible lift damage or other operating company property damage if the highlighted process is not done properly!***

***Note! Labels information about a key function or points to an important remark!***

# 2 Lift master forms

## 2.1 Manufacturer

Otto Nußbaum GmbH & Co.KG
Korker Strasse 24
D-77694 Kehl-Bodersweier

## 2.2 Purpose

The lift is a lifting tool for raising vehicles with a total weight of (* see list) in normal workshop operation at a maximum load distribution of (2:3**) (1:3***) in or against the drive-in direction A single load from only one or two lifting arms may not happen.

Set up of the standard lift in explosion and fire endangered workshops and humid spaces (e.g. washing halls) is prohibited.

Lift operation is done directly on the operating column (see Data sheet).

After construction and maintenance changes on load carrying parts the lift must be inspected afterwards by a specialist who approves the changes. If the set up location is changed, the lift must be checked again by a specialist and changed approved.

(*) System load of the SL series (SL = SMART LIFT):

SMART LIFT 2.30 SL / HYMAX S 3000** = 3000 kg
SMART LIFT 2.35 SL / HYMAX S 3500** = 3500 kg
SMART LIFT 2.40 SL / HYMAX S 4000*** = 4000 kg
SMART LIFT 2.50 SL / HYMAX S 5000*** = 5000 kg

| Lifting arm variants | Standard arm | MINI-MAX arms (MM) | DT Lifting arm | Sport Cars Lifting arm (SC) |
|---|---|---|---|---|
| SMART LIFT 2.30 SL<br>HYMAX S 3000 | 590-900 mm<br>940-1495 mm | 600-980 mm<br>1000-1480 mm<br>232SL28000TG | 480-870 mm<br>940-1495 mm | _ |
| SMART LIFT 2.35 SL<br>HYMAX S 3500 | 505-823 mm<br>940-1495 mm | _ | 570-1160 mm<br>940-1495 mm | 590-865 mm<br>840-1380mm |
| SMART LIFT 2.40 SL<br>HYMAX S 4000 | 570-1160 mm<br>1130-1840 mm | 635-1065 mm<br>1130-1840 mm | _ | _ |

## 2.3 Changes to the design / construction

Inspections by a technical expert are required before recommissioning
(Date, type of change, technical expert signature)

.....

.....

.....
Name, address of technical expert

..... .....
Location, date Technical expert signature

## 2.4 Changing the assembly location

Inspections by a technical expert are required before recommissioning (date, type of change, specialist signature)

.....

.....

.....
Name, address of technical expert

..... .....
Location, date Technical expert signature

## 2.5 Declarations 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: — 2.30 SL
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:

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 | 2004/108/EG |

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 vigueurs.
producido de acuerdo a las siguientes normas armonizadas.
è stato fabbricato in conformità con le norme armonizzate

| | |
|---|---|
| Fahrzeug- Hebebühnen / Vehicle lifts | EN 1493: 2010 |
| Beauftragter für die Technische Dokumentation<br>Authorised to compile the technical file | Otto Nußbaum GmbH & Co. KG |
| Seriennummer<br>Serial number | _____<br>Seriennummer |
| EG Baumusterprüfung nach Anhang IX durch:<br>EC Type examination according Annex IX approved by notified body | TÜV NORD CERT GmbH<br>Langemarckstr. 20, D-45141 Essen (0044) |
| Nummer der EG Baumusterprüfbescheinigung:<br>Number of the EC type-examination certificate | 44 205 11 400528 |

Kehl- Bodersweier, 18.11.2016

Steffen Nußbaum
Geschäftsführer

DoC-NUS_SL-230-EC_2016-11.docx

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CE

# EG- Konformitätserklärung

gemäß Maschinenrichtlinie Anhang II 1A

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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: | 2.30 SL MM | |
| Hereby we declare that the lift model: | 2.35 SL | 2.35 SL DT |
| Par la présente nous déclarons que le pont élévateur modèle: | 2.40 SL | 2.40 SL MM |
| Por la presente declara, que el elevador modelo: | 2.50 SL | 2.50 SL DG |
| Con la presente si dichiara che il sollevatore: | | |

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 | 2004/108/EG |

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 vigueurs.
producido de acuerdo a las siguientes normas armonizadas.
è stato fabbricato in conformità con le norme armonizzate

| | |
|---|---|
| Fahrzeug- Hebebühnen / Vehicle lifts | EN 1493: 2010 |

| | |
|---|---|
| Beauftragter für die Technische Dokumentation<br>Authorised to compile the technical file | Otto Nußbaum GmbH & Co. KG |

Seriennummer
Serial number

Seriennummer

Kehl- Bodersweier, 18.11.2016

Steffen Nußbaum
Geschäftsführer

DoC-NUS_SL-230MM-250_2016-11.docx

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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:

| | |
|---|---|
| HYMAX S 2000 | HYMAX S 3200 MM |
| HYMAX S 3000 | HYMAX S 3500 |
| HYMAX S 3000 DT | HYMAX S 4000 |
| HYMAX S 3000 MM | HYMAX S 4000 MM |
| HYMAX S 3200 | HYMAX S 5000-1 |
| HYMAX S 3200 T | HYMAX S 5000-DG |
| HYMAX S 3200 DT | |

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 | 2004/108/EG |

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 vigueurs.
producido de acuerdo a las siguientes normas armonizadas.
é stato fabbricato in conformità con le norme armonizzate

| | |
|---|---|
| Fahrzeug- Hebebühnen / Vehicle lifts | EN 1493: 2010 |
| Elektromagnetische Verträglichkeit / Electromagnetic compatibility (EMC) | EN 61000-6-2 ,-6-4 |

| | |
|---|---|
| Beauftragter für die Technische Dokumentation<br>Authorised to compile the technical file | Otto Nußbaum GmbH & Co. KG |

Seriennummer
Serial number

Seriennummer

Kehl- Bodersweier, 15.05.2014

Steffen Nußbaum
Geschäftsführer

DoC-ATT_25-EL_2014-05.docx

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# 3 Technical information

## 3.1 Technical data

| | |
|---|---|
| Total weight: | SMART LIFT 2.30 SL / HYMAX S 3000 = 600 kg<br>SMART LIFT 2.35 SL / HYMAX S 3500 = 650 kg<br>SMART LIFT 2.40 SL / HYMAX S 4000 = 650 kg |
| Load carrying capacity: | SMART LIFT 2.30 SL / HYMAX S 3000 = 3000 kg<br>SMART LIFT 2.35 SL / HYMAX S 3500 = 3500 kg<br>SMART LIFT 2.40 SL / HYMAX S 4000 = 4000 kg |
| Loading a lifting arm: | A single load from only one lifting arm may not happen. |
| Load distribution: | SMART LIFT 2.30 SL / HYMAX S 3000<br>SMART LIFT 2.35 SL / HYMAX S 3500<br>Max. 2:3 or 3:2 mm or against the drive- in direction |
| Load distribution: | SMART LIFT 2.40 SL / HYMAX S 4000<br><br>Max. 3:1 or 1:3 mm or against the drive- in direction |
| Lift time: | Approx. 40 s (3 t) / approx. 46 s (3.5 t) / Approx. 48 s (4 t) |
| Lowering time: | Approx. 40 s |
| Standard operating voltage: | 3 ~/N+PE,400 V ,50 Hz |
| Motor capacity: | 2 x 1.5 kW |
| Motor speed: | 1420 rpm |
| Noise level LpA: | ≤ 70 dB |
| On-site connection: | 3~/N+PE, 400 V, 50 Hz<br>With fuse 16 Amp slow blow<br>According to VDE regulation |
| Optional energy set: | Pneumatic connection> for compressed air 6-10 bars<br>Socket: 220 V/50 Hz |

☞ ***Important information!***
***The lift is transferred without electrical connection ready to the provided power supply, after a check of function and safety. A plug connection must be provided on-site. This on-site located connection plug must be located in the immediate vicinity of the lift and may only be set at a height that can be reached without any assistance (e.g. ladders). Otherwise a separate, lockable main switch must be located in the immediate vicinity of the lift that can be reached without assistance.***

## 3.2 Safety devices

1 Safety mechanism for lift nut break
Check the lift nut with the integrated wear display.

2 End switch by the electronic controls
Secure the lift against further extension of the lift rail upwards or downwards.

3 Electronic synchronisation monitoring
Secure against asynchronous running of the lift rails to each other

4 Lifting arm block
Secures the lifting arm against horizontal movement in a lifted condition

5 Capture hook
Secure against re-lifting after a lift nut break

6 Reversing switch with curtain lock device
Fuse to prevent unauthorized use

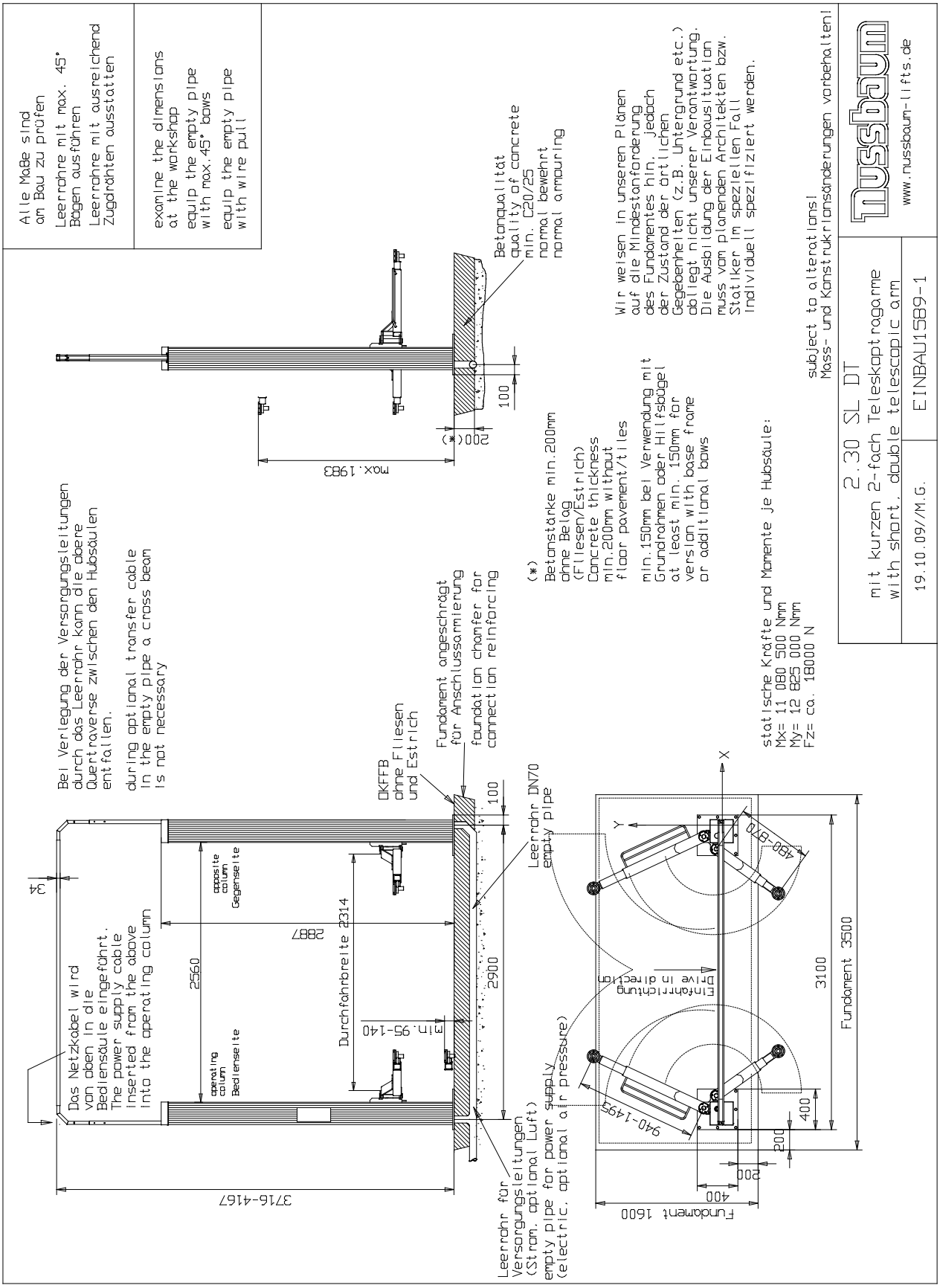
Optional:

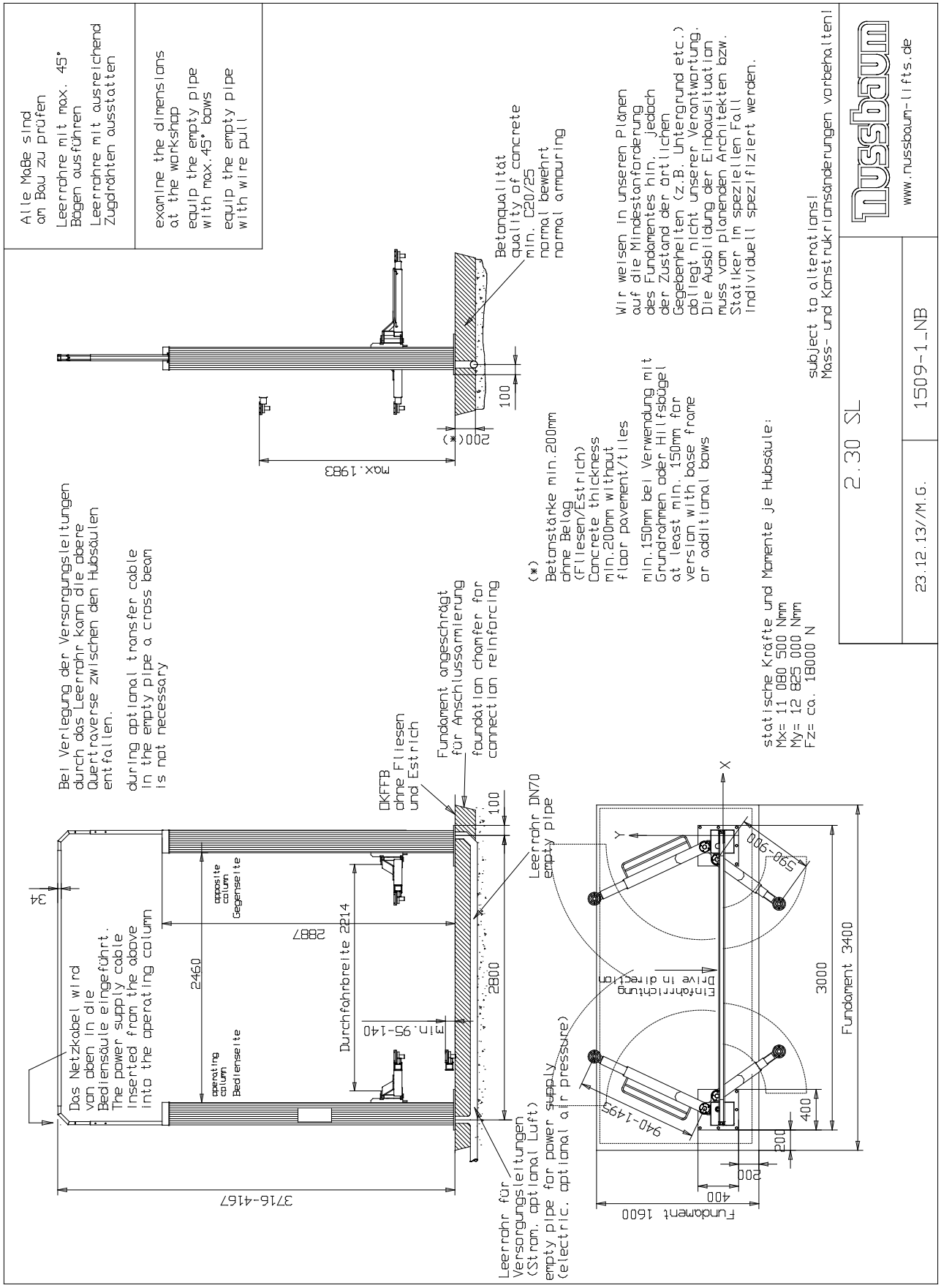
7 Foot bumpers on the lifting arms
Secure against shear and crushing points in the foot area

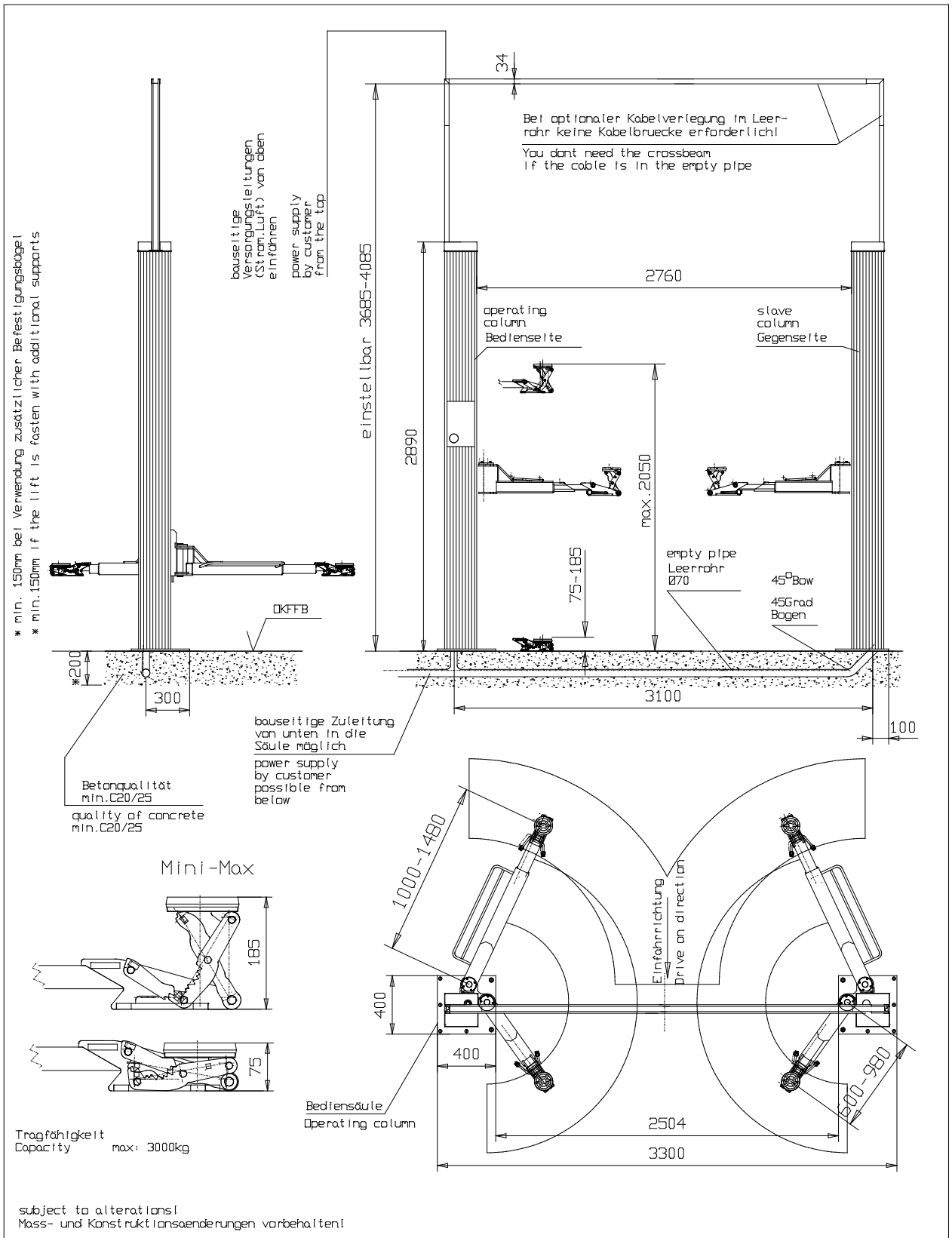
8 CE-STOP + acoustic warning signal
Secure against shear and crushing points in the foot area

## 3.3 Data sheets

### 3.3.1 Data sheets 2.30 SL



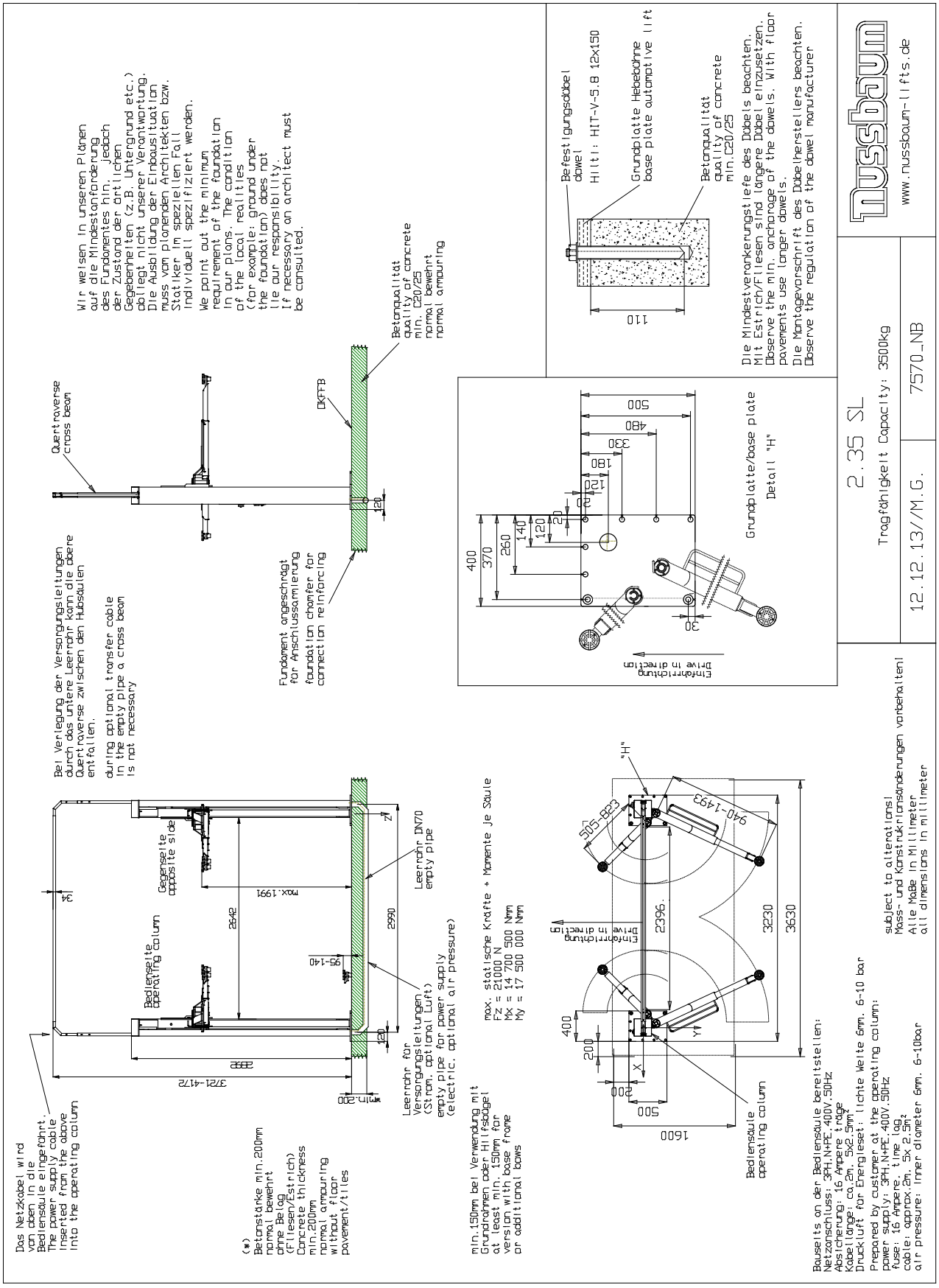

Alle Maße sind am Bau zu prüfen
Leerrohre mit max. 45° Bögen ausführen
Leerrohre mit ausreichend Zugdrähten ausstatten
examine the dimensions at the workshop
equip the empty pipe with max.45° bows
equip the empty pipe with wire pull
Bei Verlegung der Versorgungsleitungen durch das Leerrohr kann die obere Querraverse zwischen den Hubsäulen entfallen.
during optional transfer cable in the empty pipe a cross beam is not necessary
Betonqualität quality of concrete min. C20/25 normal bewehrt normal armouring
(*) Betonstärke min.200mm ohne Belag (Fliesen/Estrich) Concrete thickness min.200mm without floor pavement/tiles
min.150mm bei Verwendung mit Grundrahmen oder Hilfsbügel at least min. 150mm for version with base frame or additional baws
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.
subject to alterations!
Mass- und Konstruktionsänderungen vorbehalten!
statische Kräfte und Momente je Hubsäule:
Mx= 11 080 500 Nmm
My= 12 825 000 Nmm
Fz= ca. 18000 N
Fundament angeschrägt für Anschlussarmierung
foundation chamfer for connection reinforcing
DKFFB ohne Fliesen und Estrich
Leerrohr DN70 empty pipe
Leerrohr für Versorgungsleitungen (Strom, optional Luft) empty pipe for power supply (electric, optional air pressure)
Das Netzkabel wird von oben in die Bediensäule eingeführt. The power supply cable inserted from the above into the operating column
opposite column Gegensäule
operating column Bediensäule
Durchfahrbreite 2214
Durchfahrrichtung drive direction
Fundament 1600
Fundament 3400
2.30 SL
23.12.13/M.G.
1509-1_NB
www.nussbaum-lifts.de

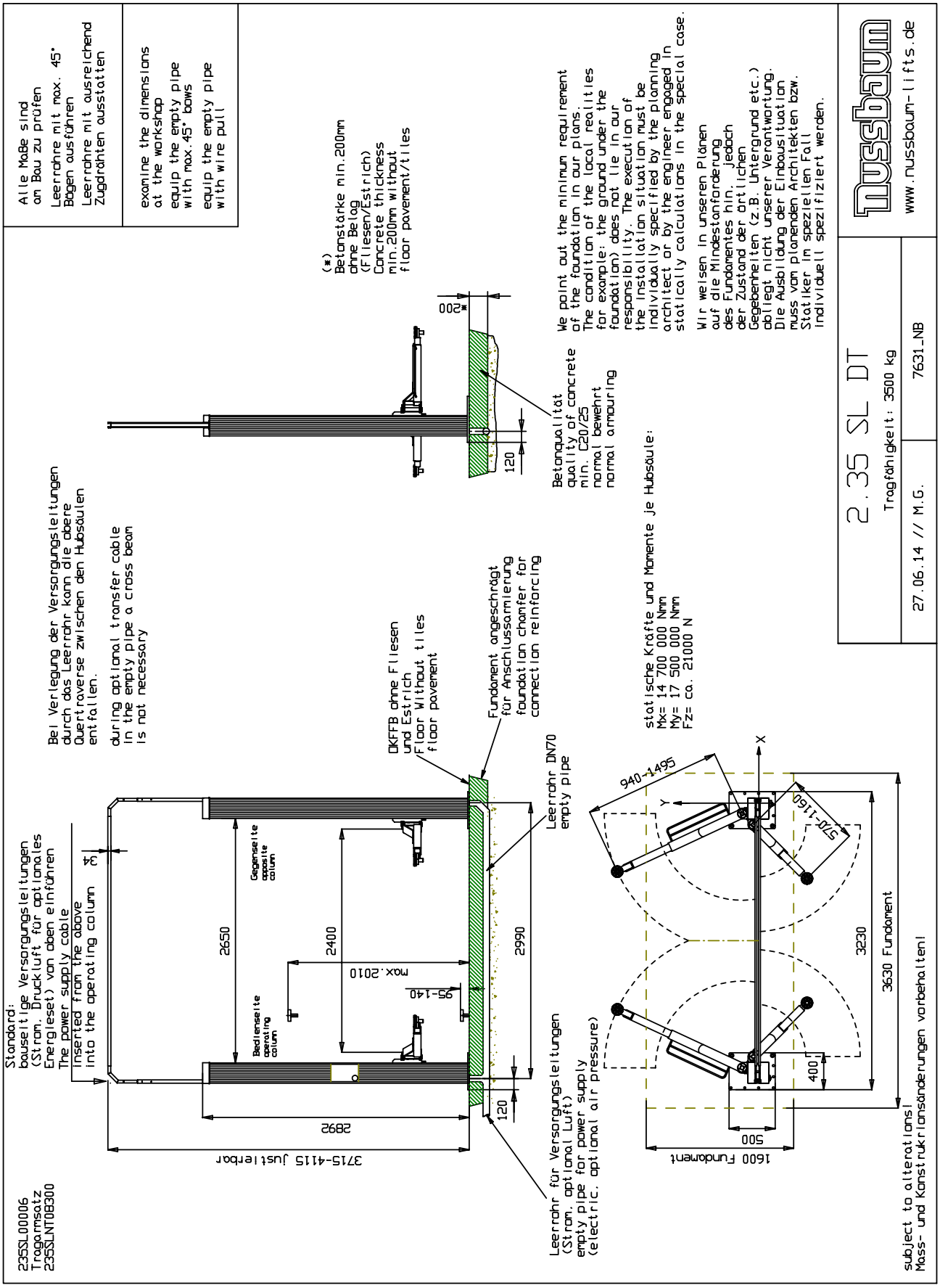


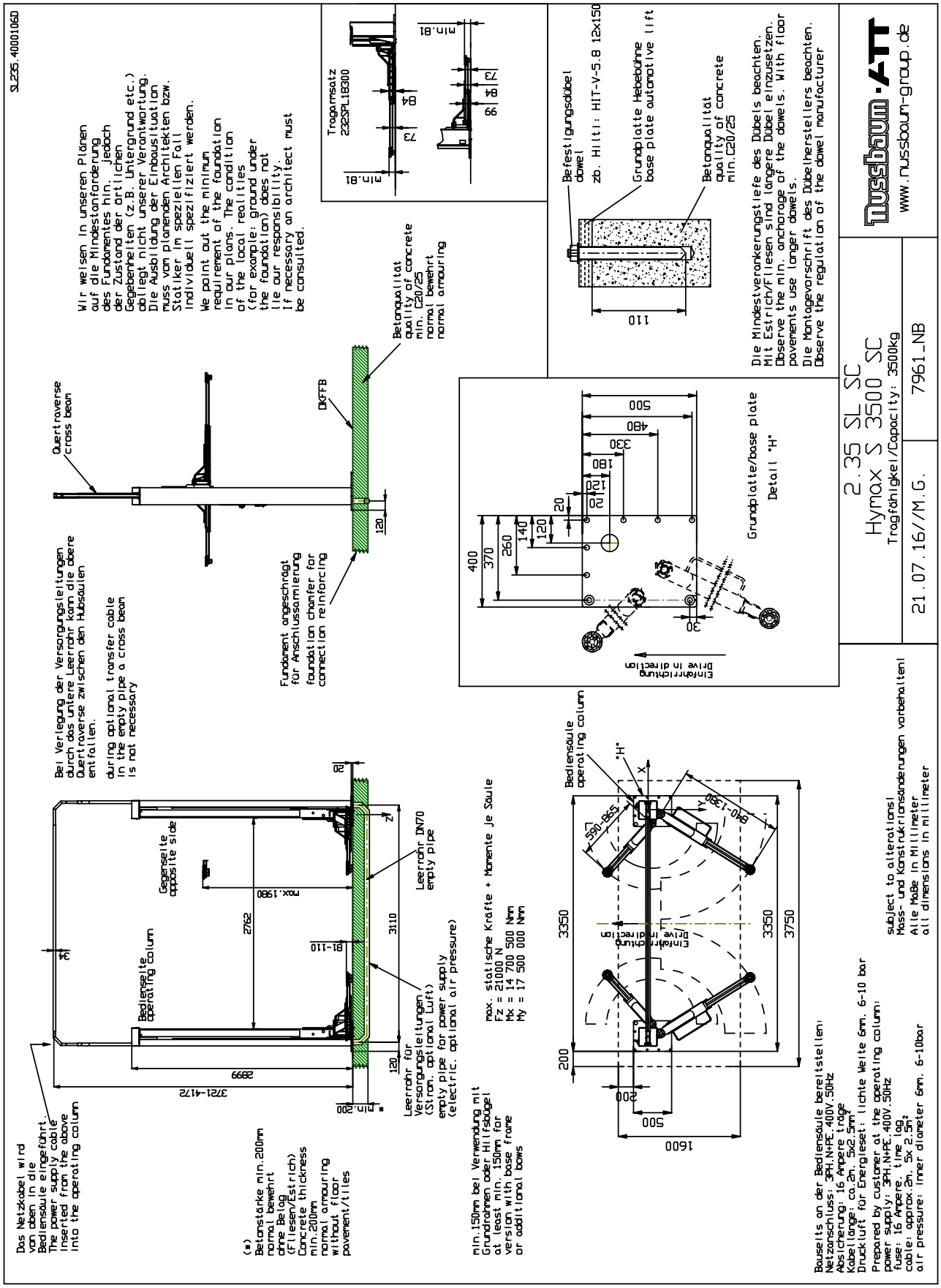

| | |
|---|---|
| 2.30 SL Mini-Max | |
| 08.08.12 // M.G. | 6190-3_NB |

www.nussbaum-lifts.de

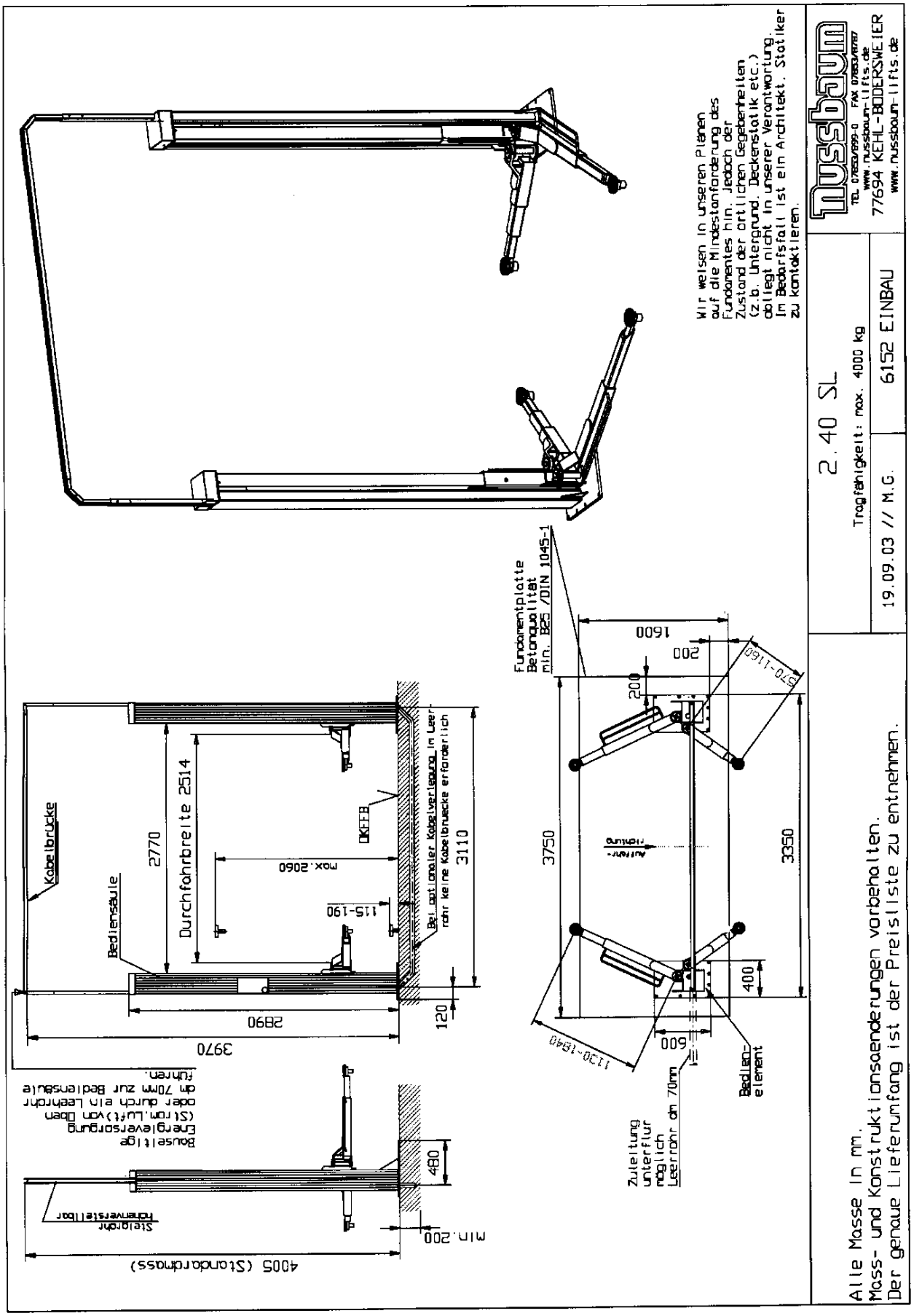
### 3.3.2 Data sheets 2.35 SL

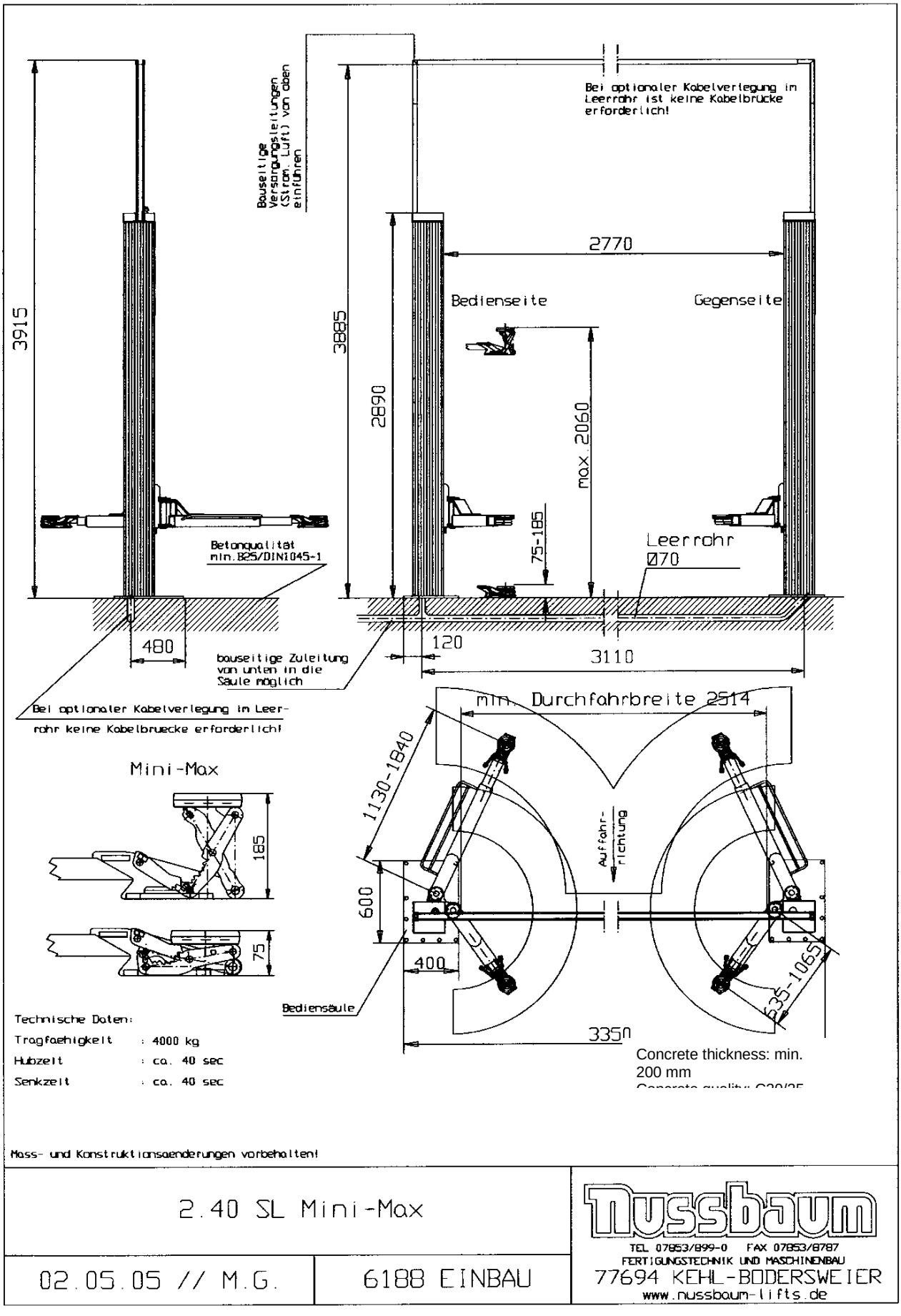



Alle Maße sind an Bau zu prüfen
Leerrohre mit max. 45° Bögen ausführen
Leerrohre mit ausreichend Zugdrähten ausstatten
examine the dimensions at the workshop
equip the empty pipe with max.45° bows
equip the empty pipe with wire pull
(*) Betonstärke min.200mm ohne Belag (Fliesen/Estrich) Concrete thickness min.200mm without floor pavement/tiles
Betonqualität quality of concrete min. C20/25 normal bewehrt normal armouring
We point out the minimum requirement of the foundation in our plans. The condition of the local realities for example: the ground under the foundation) does not lie in our responsibility. The execution of the installation situation must be individually specified by the planning architect or by the engineer engaged in statically calculations in the special case.
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.
2.35 SL DT
Tragfähigkeit: 3500 kg
27.06.14 // M.G.
7631_NB
Nussbaum
www.nussbaum-lifts.de
Bei Verlegung der Versorgungsleitungen durch das Leerrohr kann die obere Quertraverse zwischen den Hubsäulen entfallen.
during optional transfer cable in the empty pipe a cross beam is not necessary
DKFFB ohne Fliesen und Estrich
Floor Without tiles floor pavement
Fundament angeschrägt für Anschlussarmierung
foundation chamfer for connection reinforcing
statische Kräfte und Momente je Hubsäule:
Mx= 14 700 000 Nmm
My= 17 500 000 Nmm
Fz= ca. 21000 N
Leerrohr DN70 empty pipe
Standard: beiseitige Versorgungsleitungen (Strom, Druckluft für optionales Energieset) von oben einführen
The power supply cable inserted from the above into the operating column
Gegenseite opposite column
Bedienseite operating column
2650
2400
max.2010
95-140
2990
120
2682
3715-4115 Justierbar
940-1495
570-1160
3230
3630 Fundament
400
500
1600 Fundament
Leerrohr für Versorgungsleitungen (Strom, optional Luft) empty pipe for power supply (electric, optional air pressure)
2355L00006
Tragarmsatz
2355LNT08300
subject to alterations!
Moss- und Konstruktionsänderungen vorbehalten!


SL235.40001060
2.35 SL SC
Hymax S 3500 SC
Tragfähigkeit/Capacity: 3500kg
21.07.16//M.G.
7961_NB
www.nussbaum-group.de
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.
We point out the minimum requirement of the foundation in our plans. The condition of the local realities (for example: ground under the foundation) does not lie our responsibility. If necessary an architect must be consulted.
Betonqualität quality of concrete min. C20/25 normal bewehrt normal armouring
Querträgersatz 232SPL18300
Befestigungsdübel dübel zb. Hilti: HIT-V-5.8 12x150
Grundplatte Hebebühne base plate automotive lift
Betonqualität quality of concrete min.C20/25
Die Mindestverankerungstiefe des Dübels beachten. Mit Estrich/Fliesen sind längere Dübel einzusetzen.
Observe the min. anchorage of the dowels. With floor pavements use longer dowels.
Die Montagevorschrift des Dübelherstellers beachten.
Observe the regulation of the dowel manufacturer
Querträger cross beam
DKFFB
Fundament angeschrägt für Anschlussarmierung foundation chamfer for connection reinforcing
Bei Verlegung der Versorgungsleitungen durch das untere Leerrohr kann die obere Quertraverse zwischen den Hubsäulen entfallen.
during optional transfer cable in the empty pipe a cross beam is not necessary
Grundplatte/base plate
Detail "H"
Einfahrrichtung drive in direction
Das Netzkabel wird von oben in die Bediensäule eingeführt.
The power supply cable inserted from the above into the operating column
Betonstärke min.200mm normal bewehrt ohne Belag (Fliesen/Estrich)
Concrete thickness min.200mm normal armouring without floor pavement/tiles
Bedienseite operating column
Gegenseite opposite side
Leerrohr DN70 empty pipe
Leerrohr für Versorgungsleitungen (Strom, optional Luft) empty pipe for power supply (electric, optional air pressure)
min.150mm bei Verwendung mit Grundrahmen oder Hilfsbügel at least min. 150mm for version with base frame or additional bows
max. statische Kräfte + Momente je Säule
Fz = 21000 N
Mx = 14 700 500 Nmm
My = 17 500 000 Nmm
Bedienseite operating column
Bauseits an der Bediensäule bereitstellen:
Netzanschluss: 3PH.N+PE.400V.50Hz
Absicherung: 16 Ampere träge
Kabellänge: ca.2m, 5x2.5m²
Druckluft für Energieset: lichte Weite 6mm, 6-10 bar
Prepared by customer at the operating column:
power supply: 3PH.N+PE.400V.50Hz
fuse: 16 Ampere, time lag
cable: approx.2m, 5x 2.5m²
air pressure: inner diameter 6mm, 6-10bar
subject to alterations!
Mass- und Konstruktionsänderungen vorbehalten!
Alle Maße in Millimeter
all dimensions in millimeter

### 3.3.3 Data sheets 2.40 SL




Bei optionaler Kabelverlegung in Leerrohr ist keine Kabelbrücke erforderlich!
Bauseitige Versorgungsleitungen (Strom, Luft) von oben einführen
3915
3885
2890
2770
Bedienseite
Gegenseite
max. 2060
75-185
Leerrohr Ø70
Betonqualität min. B25/DIN1045-1
480
120
3110
bauseitige Zuleitung von unten in die Säule möglich
Bei optionaler Kabelverlegung in Leerrohr keine Kabelbruecke erforderlich!
Mini-Max
185
75
min. Durchfahrbreite 2514
1130-1840
Auffahrrichtung
600
400
635-1065
Bediensäule
3350
Technische Daten:
Tragfaehigkeit : 4000 kg
Hubzeit : ca. 40 sec
Senkzeit : ca. 40 sec
Concrete thickness: min. 200 mm
Mass- und Konstruktionsaenderungen vorbehalten!
2.40 SL Mini-Max
02.05.05 // M.G.
6188 EINBAU
nussbaum
TEL 07853/899-0 FAX 07853/8787
FERTIGUNGSTECHNIK UND MASCHINENBAU
77694 KEHL-BODERSWEIER
www.nussbaum-lifts.de

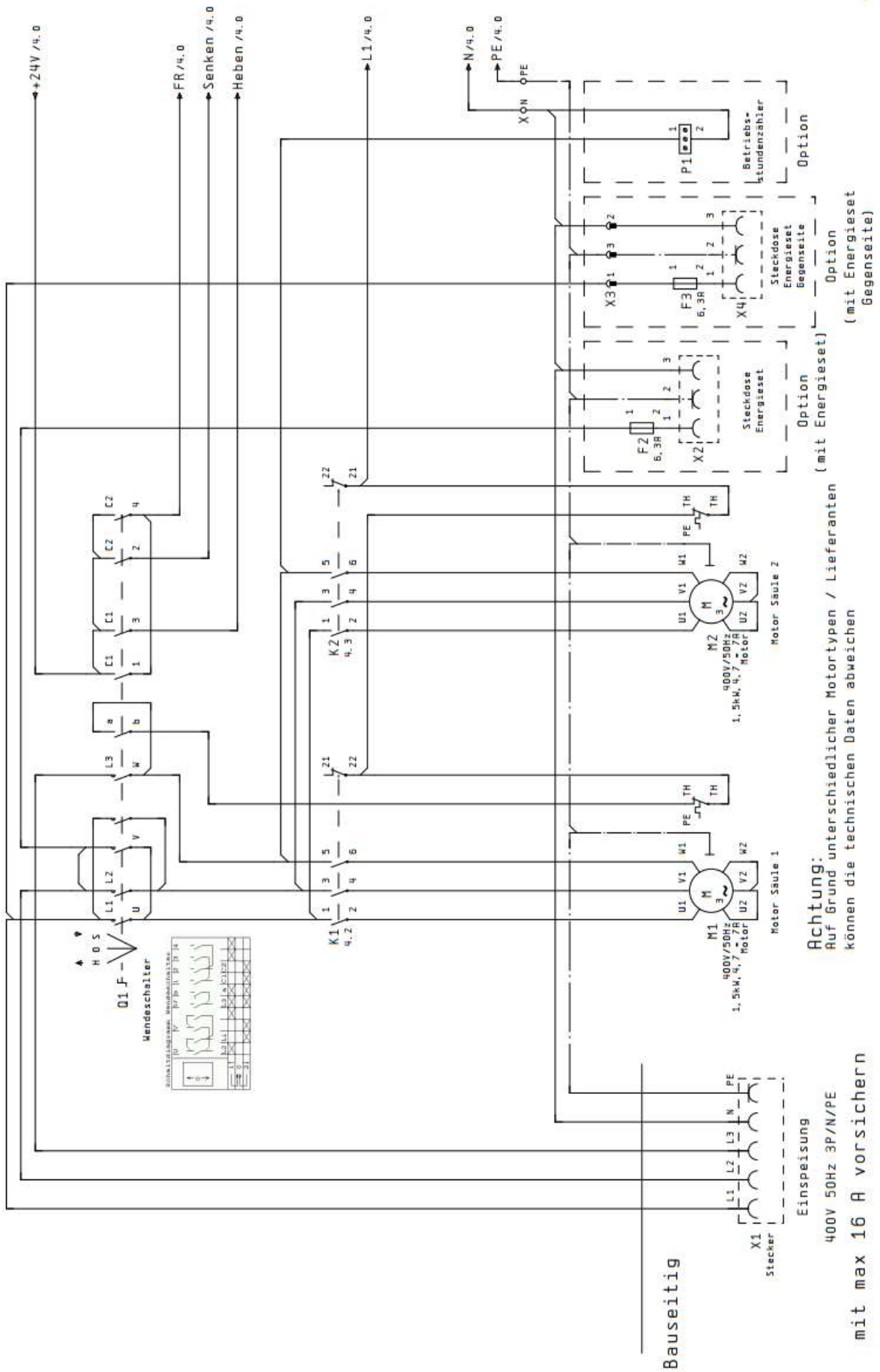
## 3.4 Electrical plans

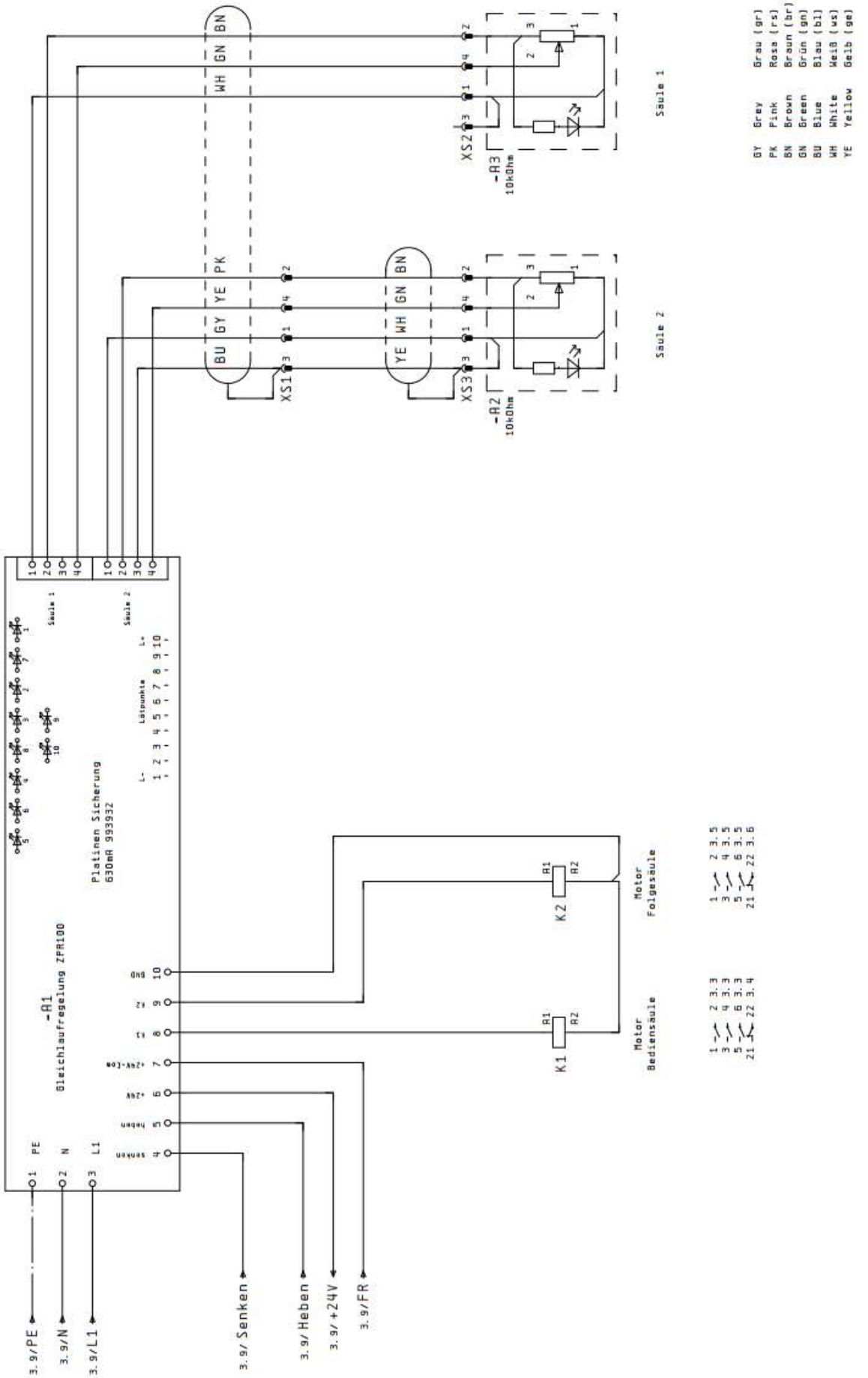
# Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

WGPJ0050 24.02.1994

| Seite | Seitenbenennung | Seitenzusatzfeld | Datum | Bearbeiter | X |
|---|---|---|---|---|---|
| 1 | Deckblatt | | 21.12.2005 | BOE | |
| 2 | Inhaltsverzeichnis | | 15.03.2010 | BOE | |
| 3 | Hauptstrom | | 12.03.2010 | BOE | |
| 4 | Steuerplatine | | 12.03.2010 | BOE | |
| 5 | Stückliste | | 15.03.2010 | BOE | x |
| | | | | | |
| | | | | | |


+24V /4.0
FR /4.0
Senken /4.0
Heben /4.0
L1 /4.0
N /4.0
PE /4.0
Q1
Wendeschalter
K1
4.2
K2
4.3
M1
400V/50Hz
1.5kW, 4.7A
Motor
Motor Säule 1
M2
400V/50Hz
1.5kW, 4.7A
Motor
Motor Säule 2
F2
6.3A
F3
6.3A
P1
Betriebs-
stundenzähler
X1
Stecker
X2
Steckdose
Energieset
X3
X4
Steckdose
Energieset
Gegenseite
Option
(mit Energieset)
Option
(mit Energieset
Gegenseite)
Einspeisung
400V 50Hz 3P/N/PE
mit max 16 A vorsichern
Bauseitig
Achtung:
Auf Grund unterschiedlicher Motortypen / Lieferanten
können die technischen Daten abweichen


-A1
Gleichlaufregelung ZFR100
Platinen Sicherung
630mA 993932
Säule 1
Säule 2
Lötpunkte
L-
L+
PE
N
L1
Senken
Heben
+24V
+24V-Com
GND
-A3
10kOhm
-A2
10kOhm
XS1
XS2
XS3
WH GN BN
BU GY YE PK
YE WH GN BN
K1
K2
A1
A2
Motor
Bedienssäule
Motor
Folgesäule
3.9/PE
3.9/N
3.9/L1
3.9/Senken
3.9/Heben
3.9/+24V
3.9/FR
GY Grey Grau (gr)
PK Pink Rosa (rs)
BN Brown Braun (br)
GN Green Grün (gn)
BU Blue Blau (bl)
WH White Weiß (ws)
YE Yellow Gelb (ge)

# Stückliste

NUSTÜCK2 16.11.2004

| Bauteilbenennung | Menge | Bezeichnung | Typen nummer | Lieferant | Artikelnummer |
|---|---|---|---|---|---|
| Q1 | 1 | Lasttrennwendeschalter Z Säulenbühne | W111/93.1000-50 | Merz GmbH | 990018 |
| M1 | 1 | Drehstrommotor PZ = 1,5KW/7A 50Hz SL | W7HIV40S-370 | Hanning GmbH altern. ATB | 992598 |
| M2 | 1 | Drehstrommotor PZ = 1,5KW/7A 50Hz SL | W7HIV40S-370 | Hanning GmbH altern. ATB | 992598 |
| F2 | 1 | Einschraubsicherungshalter 5*20 mm | 2918810 | GIF | 990125 |
| F2 | 1 | Feinsicherung | FEINSICHERUNG | GIF | 990286 |
| X2 | 1 | bestehend aus 1 = Steckdose,1= Luftanschluss | ENERGIESET SL GEGENSEITE | Nussbaum | 2255L05092 |
| F3 | 1 | Einschraubsicherungshalter 5*20 mm | 2918810 | GIF | 990125 |
| F3 | 1 | Feinsicherung | FEINSICHERUNG | GIF | 990286 |
| X4 | 1 | bestehend aus 1 = Steckdose,1= Luftanschluss | ENERGIESET SL GEGENSEITE | Nussbaum | 2255L05092 |
| P1 | 1 | Betriebsstundenzähler BZ 142 | BETRIEBSSTUNDENZÄHLER | Theben | 990231 |
| X | 1 | Reihenklemme D 1,5/6,N,ROO bl schn-schn | D 1,5/6,N,ROO | Entrelec | 990577 |
| X | 1 | Schutzleiterkl D 2,5/6,P,ROO schn-schn | D 2,5/8,P,ROO | Entrelec | 990185 |
| -A1 | 1 | Steuerplatine Z.30 SL | STEUERPLATINE ZPR 100 S | Nussbaum | 940253 |
| K1 | 1 | Leistungsschütz 5,7 kW 24 V DC | 118G12.01 D 24V DC | Lovato electric | 990842 |
| K2 | 1 | Leistungsschütz 5,7 kW 24 V DC | 118G12.01 D 24V DC | Lovato electric | 990842 |
| -A2 | 1 | Gleichlauf-Potentiometer SL Komplett | GLEICHLAUF-POTENTIOMETER SL | Nussbaum | 2325L03003 |
| -A3 | 1 | Gleichlauf-Potentiometer SL Komplett | GLEICHLAUF-POTENTIOMETER SL | Nussbaum | 2325L03003 |

# 4 Safety regulations

When working with lifts comply with legal accident prevention regulations according to BGG 945: Comply with inspection of lifts; BGR500, operation of lifts; (VBG14)

**Particular attention is drawn to compliance with the following regulations:**

- The max. load carrying capacity for lifts may not be exceeded. For this, see details on the model plate.
- Always follow the operating manual when using the lift.
- The lift must be completely lowered before the vehicle is driven on, and it may only be done in the intended direction.
- Vehicles with low floor clearance or fitted with custom devices are to be checked to see whether damage could occur before positioning the lifting arm and raising the vehicle.
- Only personnel aged 18 or over may operate the lift independently, they must be trained in lift operation and have their work verified by the company. You must be explicitly tasked with the operation of the lift. (Excerpt from BGR500) (See transfer protocol).
- The proper positioning of the carrier plate below the vehicle is to be checked again after the vehicle has been raised slightly.
- After each set down of the vehicle, check the lifting arm positions below the fixture points again and adjust as required.
- When disassembling heavy, consider any possible centre of mass shifts. The vehicle is to be appropriately secured using suitable materials (e.g. tensioning belts, beams, etc.) against falling.
- During lifting or lowering, the work area of the lift should be clear or people.
- It is prohibited from moving people with the lift.
- Climbing onto the lift and onto a lifted vehicle is prohibited.
- After design and maintenance on load bearing parts the lift must be inspected by a technical expert.
- Vehicles may only be attached at fixture points approved by the vehicle manufacturer.
- The entire lifting and lowering process is to be continuously observed.
- It is prohibited to set up a standard lift in explosion endangered workshops and humid spaces (E.g. washing halls).
- Initial access into the lift may only be done after the main switch is off and locked.

***Do not use magnets on the operating column or hang near the operating elements as it could lead to errors in the electronics and to asynchronous running of the lift.***

# 5 Operating manual

***When handling the lift, it must absolutely comply with safety regulations. Carefully read the safety regulations in Section 4 before first operation!***

## 5.1 Positioning the vehicle

- Drive the vehicle onto the lift according to the following images, until the lifting arm receives it (figure A and B).

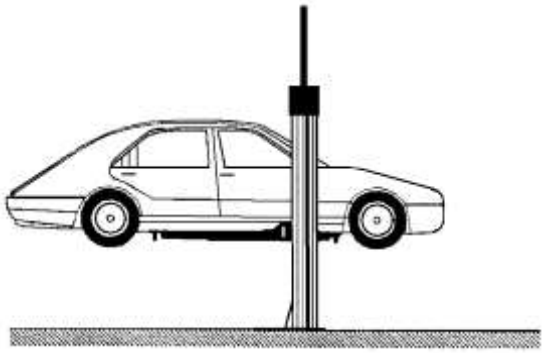


Figure. A) The lift column must be located between the steering wheel and the car door hinges.

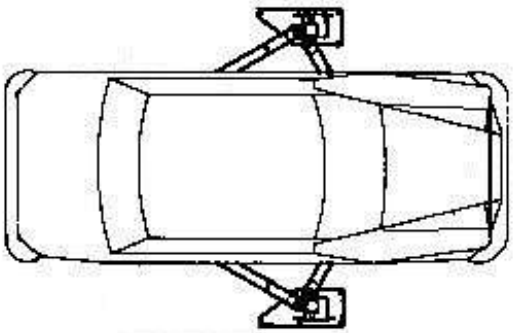


Figure. B) Drive in the middle of the lift.

- Swivel in the carrier arm and pull out properly to the desired length.
  The adjustable receiving plates must be placed at the points specified by the vehicle manufacturer.

Version with MINI-MAX lifting arms

*Figure 1: Position carrier plate below the fixture points approved by the vehicle manufacturer.*

*Figure 2: If required, place the carrier plate by pushing the lever at the fixture points.*

***Ensure that the ratchet is securely locked into the intended position.***
***Otherwise the "MINI-MAX" can sink to its lowest position.***

*Figure 3: To release the fixture plate, the rear lever must be pushed.*

- The lifting arm block must be ratcheted in after the fixture point has been reached.
- After each set down of the vehicle, check the lifting arm positions below the fixture points again and adjust as required.
- Check that there are no people or objects in the hazardous area of the lift.

## 5.2 Lifting the vehicle

- Lift the vehicle until the wheels are off the ground. Actuate operating element => "Lift" (see image 4)
- If the wheels are not blocked, interrupt the lifting process and check for proper seating of the carrier plate.
- Afterwards, lift the vehicle to the desired working height.

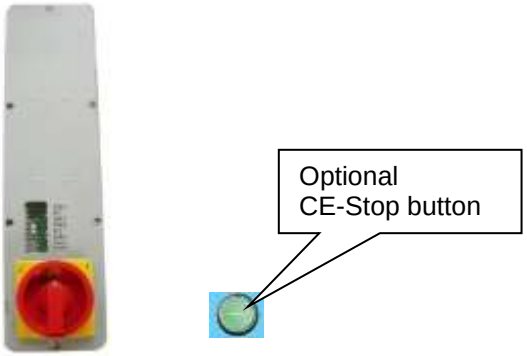
***Ensure secure vehicle placement on the carrier plate, otherwise there is a danger of the vehicle dropping.***

***The lift can be controlled several times depending on the load distribution during "lifting".***

***See to it that the lifting arm blocks are ratcheted in after the vehicle has been accepted.***

*Figure 4 Operating unit with reversing switch (2.30 SL to 2.40 SL)*


*Operating element of the 2.50 SL*




***On-site a separate lockable main switch must be placed at a reachable height if the electrical connection of the lift and electrical interface is higher than 1.90 m and can only be reached with assistance (e.g. a ladder)!***

***Once the "top" or "low - off" positions are reached two red LEDs will illuminate on the LED display. To prevent damage to the lift platform, it is not permitted, while the red LEDs are illuminated, to alternate between briefly lower and lift.***

## 5.3 Lift synchronization

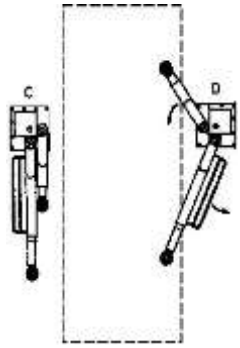
- The lift is equipped with an electronic synchronous control.
- In the upper area of the lift spindle there is an electronic potentiometer which acquires the actual position of the spindles and thereby the lift height of the platform.
- Depending on whether there is a height difference between both sides (lift rails) to each other, a computer calculation will stop the more advanced lift rail (independently of the lift being raised or lowered), until both lift rails are at the same height again. The permitted control range of the lift is approx. 18 mm.

## 5.4 Lowering the vehicle

- Check that there are no people or objects in the hazardous area of the lift.
- Place the vehicle at the desired working height or lower to the lowest position, to do this actuate the "Lower" operating element.

***The lift can be controlled several times depending on the load distribution during "Lowering".***

- Once the lift is in the lowest position, push the lifting arms to the start position. (Figure 5, valid for 2.30 SL to 2.40 SL)




C
Lifting arm start position

D

Once the lift is in the lowest position, swing out the lifting arms to the start position.

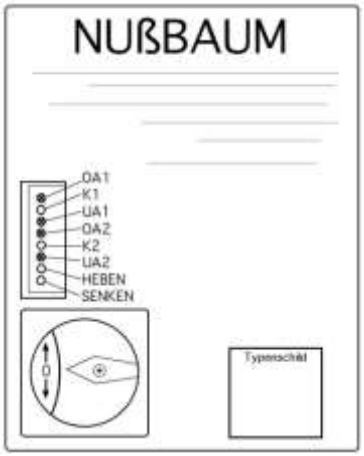
- Always lower the lift (lifting arms) into the lowest position to allow easy swivel in and out of the lifting arms. At the same time, lowering to the lowest position is required so safety equipment becomes active in case of malfunction.

^ (Put the capture hook into the latch).

- Move the vehicle out of the lift.

## 5.5 LED display on the operating unit

***The raising and lowering of the lift is monitored by a position measuring system. The individual functions are displayed additionally on the operating unit visually with an LED display. In the following you will find individual descriptions:***




**Operating unit on the control column**

If the following LEDs illuminate, this means:

| | | | |
|---|---|---|---|
| OA1- | red LED | - | "Up off" operator side active |
| K1- | green LED | - | Motor contactor operator side active |
| UA1- | red LED | - | "Down off" operator side active |
| OA2- | red LED | - | "Up off" opposite side active |
| K2- | green LED | - | Motor contactor opposite side active |
| UA2- | red LED | - | "Down off" opposite side active |
| Lift- | green LED | - | Lift moves upwards |
| Lower- | green LED | - | Lift moves downwards |

*Figure 6:*

**Display in normal function**

- Move upwards:
  The following LED illuminates: Lift, K1, K2 and lower illuminates.
- Move downwards:
  The following LED illuminates: Lower, K1, K2 and raise illuminates
- Upper end position reached (Up Off actuated):
  The following LED illuminates: OAI, OA2, lift and lower illuminate
- Upper end position reached (Down Off actuated):
  The following LED illuminates: UAI, UA2, lower and raise illuminate

# LED-Anzeigen bei fehlerhafter Funktion der Hebebühne

| Mögliche Fehlerursache | Untere Endstellung der Hubschlitten | | | Beliebige Stellung der Hubschlitten zwischen den Endlagen | | | Obere Endstellung der Hubschlitten | | |
|---|---|---|---|---|---|---|---|---|---|
| | Bedienseite nicht eingesteckt. (P1 NOK) | Gegenseite nicht eingesteckt. (P2 NOK) | Bedien und Gegenseite nicht eingesteckt. (P1 u. P2 NOK) | Bedienseite nicht eingesteckt. (P1 NOK) | Gegenseite nicht eingesteckt. (P2 NOK) | Bedien und Gegenseite nicht eingesteckt. (P1 u. P2 NOK) | Bedienseite nicht eingesteckt. (P1 NOK) | Gegenseite nicht eingesteckt. (P2 NOK) | Bedien und Gegenseite nicht eingesteckt. (P1 u. P2 NOK) |
| Wendeschalter auf "Heben" gedreht | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | [**]<br>K1 leuchtet<br>K2 leuchtet<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" leuchtet<br>"Senken" glimmt | !Halt!<br>"Heben" glimmt.<br>"Senken" glimmt.<br>UA1 leuchtet. | !Halt!<br>"Heben" glimmt.<br>"Senken" glimmt.<br>UA2 leuchtet. | [**]<br>K1 leuchtet<br>K2 leuchtet<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" leuchtet<br>"Senken" glimmt | !Halt!<br>UA1 leuchtet<br>OA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>OA1 leuchtet dauerhaft<br>UA2 leuchtet dauerhaft<br>"Heben" glimmt<br>"Senken" glimmt | [**]<br>K1 leuchtet<br>K2 leuchtet<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" leuchtet<br>"Senken" glimmt |
| Wendeschalter auf "Senken" gedreht | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>"Heben" glimmt.<br>"Senken" glimmt.<br>UA1 leuchtet. | !Halt!<br>Heben glimmt.<br>"Senken" glimmt.<br>UA2 leuchtet. | !Halt!<br>UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>UA1 leuchtet<br>OA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt | !Halt!<br>OA1 leuchtet dauerhaft<br>UA2 leuchtet dauerhaft<br>"Heben" glimmt<br>"Senken" glimmt | UA1 leuchtet<br>UA2 leuchtet<br>"Heben" glimmt<br>"Senken" glimmt |

**Anmerkung:** **Wenn ausschließlich die beiden LED "Heben" und "Senken" glimmen und die Hebebühne sich nicht mehr verfahren läßt, dann ist die Hebebühne aus dem Überwachungsbereich**

Legende:
z.B. "UA1 leuchtet" Leuchtdiode (LED) für "Unten Aus" leuchtet.
z.B. "Heben glimmt" Leuchtdiode (LED) für "Heben" glimmt.
P1 NOK Potentiometer 1 an der Bedienseite ist nicht eingesteckt oder Zuleitung unterbrochen
P2 NOK Potentiometer 2 an der Gegenseite ist nicht eingesteckt oder Zuleitung unterbrochen
P1 o. P2 NOK Potentiometer 1 an der Bedienseite **oder** Potentiometer 2 an der Gegenseite ist nicht eingesteckt oder Zuleitung unterbrochen.
P1 u. P2 NOK Potentiometer 1 an der Bedienseite **und** Potentiometer 2 an der Gegenseite sind nicht eingesteckt oder Zuleitung unterbrochen.
[**] Achtung: Hebebühne Fährt nur aufwärts, senken ist nicht möglich: Es besteht die Gefahr, daß die Hebebühne Block fährt.
!Halt! Hebebühne fährt nicht in die gewünschte Richtung entsprechend der Betätigung des Wendeschalters, sondern bleibt stehen

# 6 Behaviour in cases of error

Defective operational readiness of the lift may be due to a simple error. Check the system for the listed sources of error.
If the error cannot be removed after an inspection to the named causes, then inform customer service or your dealer

***Independent repairs to the lift, especially on the safety devices, as well as inspections and repairs to electrical systems are prohibited.***
***Work on electrical systems may only be done by electricians.***

| **Problem: Lift can neither be raised nor lowered!** | |
|---|---|
| **possible causes:** | **Repair:** |
| *No power supply present* | *Check power supply* |
| *The main switch is not switched on, or is defective* | *Check main switch* |
| *Defective reverse switch* | *Have the reversing switch checked* |
| *Defective fuse* | *Check fuses* |
| *Power line interrupted* | *Check power lines* |
| *Motor has overheated* | *Let motor cool (cooling time dependent on ambient temperature)* |
| *Plug connections not plugged in or are loose on the motors* | *Check the plug connections on the motors* |
| *The platform is not in the control window* | *Do a manual equalization (see Section 6.4)* |
| *Polyflex belt is loose or defective* | *Stop the lift and secure against unauthorised use. Exchange the polyflex belt and align it. (see Section 7.3)* |
| *Motor defective* | *Do an emergency discharge (see Section 6.1)* |
| *The lift is located in the lowest position Safety devices (capture hooks) are activated*<br>*The lift is no longer in the control range and has switched off* | *Lift nut defective*<br>*Contact customer service* |

| **Problem: The lift cannot be raised!** | |
|---|---|
| **possible causes:** | **Repair:** |
| *Only 2 phases active* | *Do an on-site check with a qualified electrician* |
| *Polyflex belt is loose / torn* | *Check / exchange and align (see Section 7.3)* |
| *Lift nut broken, safety equipment (capture hook) active, lifting rails are no longer in their control range and the lift has switched off* | *Stop the lift and secure against unauthorised use, contact customer service* |
| *Up Off is active* | *The lift can only be lowered* |

| **Problem: The lift cannot be lowered!** | |
|---|---|
| **possible causes:** | **Repair:** |
| *Down Off is active* | *The lift can only be raised* |
| *The lifting arm has moved onto an obstacle and is out of the control window* | *Do a manual equalization* |

## 6.1 Emergency discharge

If there is a power outage or a defective motor the lift can no longer be lowered. There is the option of placing the lift into the lowest position.

***An emergency discharge can only be done by personnel who are trained to operate the lift. Follow the conditions to "Lower".***

**Emergency discharge procedure**

- Disconnect from power or switch off the main switch and secure against switch on.
- Remove both v-belt covers.
- Carefully turn the hexagonal nut at the upper end of the lift spindle anti-clockwise using a suitable tool. This procedure is to be done alternately (5 cm) on both lift spindles, until the vehicle is placed on the wheels and the lifting arm can be positioned in the starting position. If there is a defect stop the lift and secure against unauthorised use. Inform customer services.

## 6.2 Moving onto an obstacle

If the lifting rails or a lifting arm have been moved onto an obstacle due to inattention of the operator, only the motor is blocked for the lifting rail or lifting arm sitting on the obstacle. The lift switches off as soon as the other lifting rail has moved out of the control range of 64 mm. As an additional safety measure, there is a temperature monitor integrated into the motor winding which interrupts power if the motor is overloaded. Any further operation of the lift is only possible after some minutes have passed (cooling of the motor: depending of the external temperature). After a motor is blocked the v-belt must be checked for any possible damage and exchanged if required. Please contact your service partner (dealer).

## 6.3 Triggering the safety mechanism

The lift is provided with a safety mechanism that activates when the lift nut breaks. After a break of the lift nut, the safety nut moving with the spindle takes up the slack on the spindle and assumes the load. After a lift nut break the lift can be lowered once. After reaching the lowest position, the lift can no longer be lifted, this means the lift is mechanically interlocked on the defective side by a safety latch. If an attempt is made to raise the lift, the lifting rails move out of the control range and the lift switches off. The lift is then to be secured against unauthorised use (e.g. switch off and lock the main switch) until the lift has been properly repaired. (this also includes the exchange of the lift and safety nuts)

***As the triggering of the safety mechanism is a result of a lift defect, customer services must be informed.***



***The main switch must be switched off, or the lift power disconnected and secured against switch on for all errors and repairs.***

***The electrical controls may only be opened by a trained electrician.***

## 6.4 Manual equalization of the lifting rails

To ensure synchronous running of both lifting rails, both are connected to a position measuring system. If one lifting rail moves forwards approx. 18 mm, this is detected by the electronic controls. Following that, the more advanced lifting rail is stopped until both lifting rails are at the same height again, only then is the motor restarted.
However if the lift moves out of a switch off or control window more than 64 mm, this is detected by the electronic controls and the lift switches off.
To enter the normal control range of 18 mm again, the lift must be manually equalised. Remove the upper column of a cover, turn the nut on the upper end of the spindle until both sides are at the same height again.

## 6.5 Readjustment of the "Up and Down Off"

The potentiometers are to be set and checked in the factory for proper function. For safety reasons, settings on the potentiometers can only be done by factory trained specialists (competent personnel).

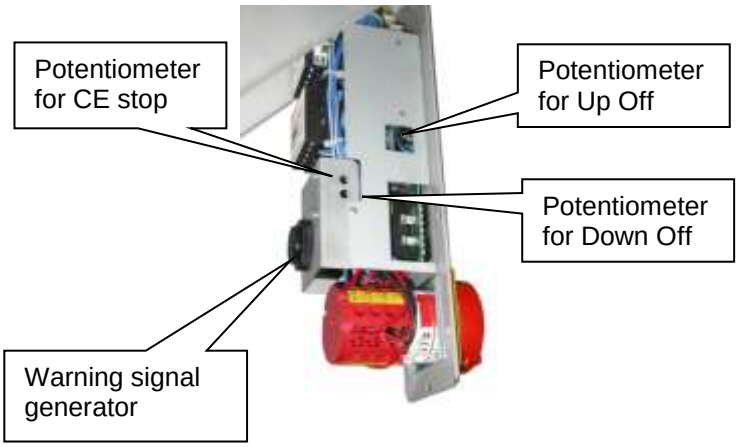
***A check of the settings must be done during assembly.***

- If maintenance of repair work is done on the operating element, it must be disconnected from power first. (e.g. pull out the power plug)


*Figure 7: Version <u>without</u> CE stop*

*Pos. 3 potentiometer for Up Off*
*Pos. 4 potentiometer for Down Off*

Figure 8: Version with CE stop




***If improper settings are done on the potentiometer, this can lead to malfunctioning of the lift and even to danger for life and limb and permanent damage to the lift and the vehicle on it.***

- Remove the operating unit on the operating column.
- If potentiometer 3 (for "Up Off") is turned anti-clockwise, the upper holding point is moved upwards and the lift stops later in the lifting process.
- If the potentiometer 3 (for "Up Off" is turned clockwise, the upper holding point is moved downwards and the lift stops earlier in the lifting process.
- If potentiometer 4 (for "Down Off") is turned anti-clockwise, the lower holding point is moved upwards and the lift stops earlier in the lowering process.
- If the potentiometer 4 (for "Down Off") is turned clockwise, the lower holding point is moved downwards and the lift stops later in the lowering process.

***In the following alignment work it must be absolutely ensured that a block movement of the lift is prevented. The potentiometer for the "Up or Down Off" may only be fine-adjusted, meaning the potentiometer is slightly adjusted, then the lift is actuated. Repeat the procedure until the desired end point of the lifting rails is reached.***

# 7 Maintenance and care of the lift

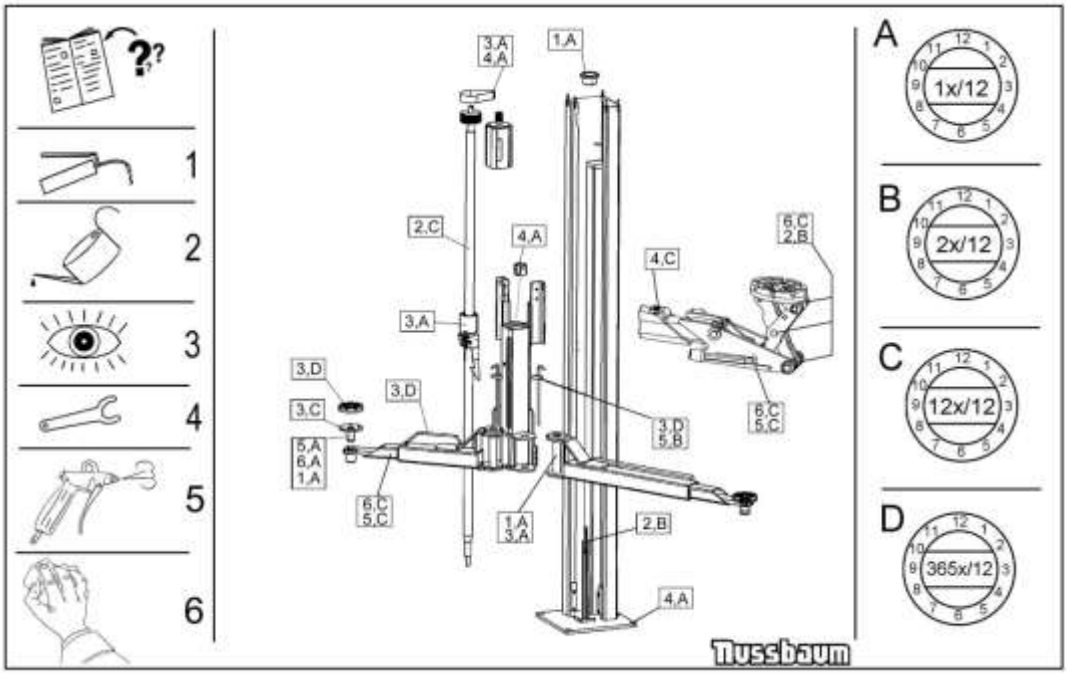
***Before maintenance, do all preparation work so there is no danger to life or limb or object damage during maintenance and repair work.***

***Legal principles: BSV (operating equipment regulation) + BGR500 (Operation of work equipment)***

Value is placed on long lifetimes and safety in the development and production of Nussbaum products. To guarantee the safety of the operator, product reliability, low running costs, keep the warranty and also the long-lifetime of the product, proper set up and operation is just as important as regular maintenance and sufficient care.
Our platforms fulfil or exceed all safety standards of the countries we supply to. For example, European regulations require a service by qualified experts every 12 months of work of the platform. To guarantee the largest possible availability and functional capacity of the lift system, ensure the list of any cleaning, care and maintenance work is done.

After first commissioning the lift is to be serviced at regular intervals of a maximum of one year by an authorized person according to the following plan. For intensive operation and higher degree of contamination shorten the service interval.
The complete function of the lift is to be observed during daily use. Customer service must be informed of any malfunctions.

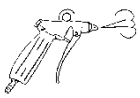
**Lubrication and maintenance sticker on the lift column**

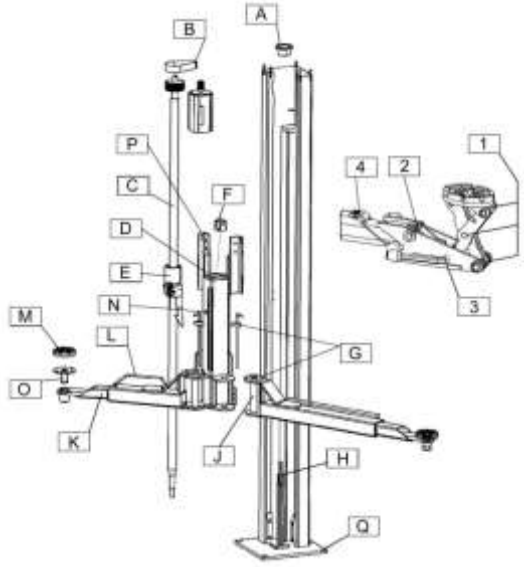



Lubrication and maintenance plan on the lift column
Description: e.g. 1B = Lubricate with a multi-purpose grease semi-annually.
5C = Clean monthly with compressed air

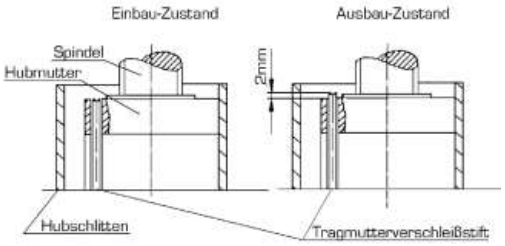
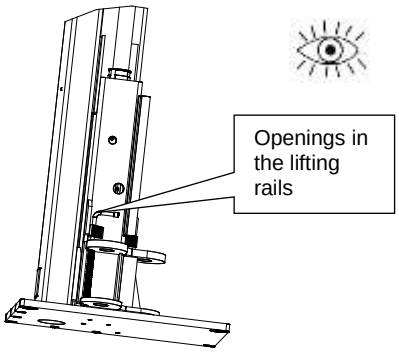
## 7.1 Maintenance plan

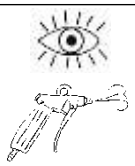
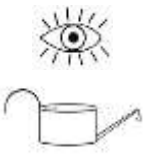
***Before beginning service, disconnect from power. The work area around the lift is to be secured against unauthorized use.***

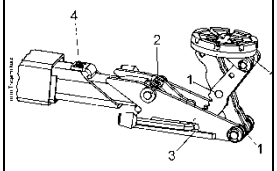
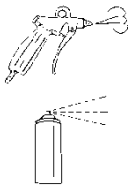
|  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| Visual inspection | Spray | Oil | Lubricate | Clean with compressed air | Clean | Inspect |




| ***Pos.*** | ***Type of maintenance*** | ***Maintenance plan*** | ***Time frame*** |
|---|---|---|---|
|  |  | Model and information signs, labels, brief operating instructions, safety stickers and warning information are to be cleaned and exchanged if damaged. | Daily |
| **A** |  | Lubricate the lubrication nipple at the upper end of the lift spindle bearing with a multi-purpose grease. For this, the spindle cover (g) must be removed in advance and pulled out upwards.<br>Do not over-lubricate. | At least 1 x per year |
| **B** |  | Check the poly v-belt for wear;<br>Tighten if required (see manual in the detailed documentation( | At least 1 x per year |

| | | | |
|---|---|---|---|
| **C** |  | Check the lift spindle for wear (damage). | At least 1 x per year |
| **D** |  | Lightly oil the lubrication felt between the spindle centring and lift nut. Use a runny oil similar to SAE 15 W 40. Nut lubrication is done with an oil can between the column and spindle cover panel (removed if needed).<br><br>*Do not use adhesive oil. Biologically degrading adhesive oil hardens and can lead to damage of the lift. Normal adhesive oil negatively impacts the running properties We recommend using a runny oil, similar to SAE 15W40.* | After assembly<br><br>and<br><br>At least 1 x per year |
| **E** |  |  <br>Optical wear measurement:<br>! **Catch bar fixation "Safety kit" must be integrated, see Section 9.1**<br>To check the carrier nut, the cover of the lift spindle must be removed. There is a carrier nut wear gauge pin integrated into the carrier plate. This must be flush with the upper edge of the carrier plate (in the lifting rail, top) - see Figure above. If the pin peaks out 2 mm from the top, the carrier nut and the follower nut must be exchanged. | At least 1 x per year |
|  |  | Check the position of the capture hook.<br>Lower the lift completely. Remove the cover panels and pull them out upwards. Now the position of the capture hook can be checked through the holes in the lifting rails. These must align with the latch.<br><br>For platforms above serial number: 379231, the catch can be additionally checked through the holes in the lifting rails. | At least 1 x per year |

| | | | |
|---|---|---|---|
| **F**<br>  <br><br>  <br>  <br><br>  <br>  <br> | | Spindle centring (run-on delay)<br>Torque: Approx. 4 Nm<br>Gap: Approx.1 mm<br>Rear side: The half shells are attached.<br><br>Check the condition and function of spindle centring (run-on delay) , tighten if required. Ensure that the interior side of the half shells contact the spindle. If required, rework the cut edges of the half shells with a file (do not saw!)<br>If spindle centring can no longer be adjusted, exchange the half shells.<br>The fastening screws of the hose clamps are located at the height of the gap.<br><br>Check spindle centring.<br>Manually set (without torque wrench)<br>Place one hand on the spindle and turn it slightly back and forth.<br>During this with a T-wrench, turn the hose clamp until the back and forth of the spindle is only possible with high force.<br>Once is the case, place the second hand on the spindle.<br>When the spindle can be moved well but is taut with both hands, then spindle centring is properly set.<br>Before starting other work, do the same procedure on the second column.<br>Once it has been determined that at no point in time is a higher effort required to turn the spindle by hand, then the cut surfaces of the spindle centring must be reworked or the half shells exchanged. | At least 1 x per year |
| **G** |  | Check the lifting arm block and gear for wear.<br>Exchange both components if there is visible damage. | At least 1 x per year |
| **H** |  | Check the DU bearing of the spindle guide for wear.<br>Slightly oil with a runny oil similar to SAE 15W40. | At least 1 x per year |
| **J,K,O** |  | Lifting arm booms, lifting arm bolts, carrier plate threaded bolts are to be checked for ease of running.<br>If required, lightly grease with a multi-purpose grease. Do not over-lubricate. | At least 1 x per year |
| **L** |  | Check the foot bumper for condition and function.<br>Exchange if damaged | daily |
| **M** |  | The rubber acceptance plate is to be checked for wear and replaced if necessary. | daily |

| | | | |
|---|---|---|---|
| **N** |  | Lubricate the safety nut lubrication nipple once per month with multi-purpose grease. This is done through the provided hole in the lifting rails. For this, the spindle cover (see g) must be removed and pulled upwards.<br><br>*Over-lubrication of the safety nut by intensive lubrication or lubrication with grease or molycote leads to a reduction of the effectiveness and the lifting performance of the lift. This must be avoided. If required, degrease the lift spindle and slightly oil as described.* | Monthly |
| **P** |  | Check the tracks and the lift rail equalization parts for wear. After cleaning, grease with a multi-purpose grease. | At least 1 x per year |
|  |  | **MINI-MAX lifting arm**<br><br>1. Blow out and spray bolts.<br>Check the rollers for wear.<br>2. Check the locking screws (this is only screwed in lightly and is then glued (Loctite). Screws may not be completely tightened otherwise the ease of running of the MINI-MAX mechanism is no longer guaranteed.<br>3. Clean and spray this frictional surface. *"Penetrating oil" similar to Top 2000 from Autol*<br>6 Check the safety panel for damage, exchange if required. | Monthly |

<table>
<tr>
<td>Q</td>
<td>  </td>
<td>Check all fastening screws and anchors with a torque wrench.<br><br>
Fastening class 8.8<br>
<table>
<tr><td></td><td>0.08*</td><td>0.12**</td><td>0.14***</td></tr>
<tr><td>M8</td><td>17.9</td><td>23.1</td><td>25.3</td></tr>
<tr><td>M10</td><td>36</td><td>46</td><td>51</td></tr>
<tr><td>M12</td><td>61</td><td>80</td><td>87</td></tr>
<tr><td>M16</td><td>147</td><td>194</td><td>214</td></tr>
<tr><td>M20</td><td>297</td><td>391</td><td>430</td></tr>
<tr><td>M24</td><td>512</td><td>675</td><td>743</td></tr>
</table>
<br>
Fastening class 10.9<br>
<table>
<tr><td></td><td>0.08*</td><td>0.12**</td><td>0.14***</td></tr>
<tr><td>M8</td><td>26.2</td><td>34</td><td>37.2</td></tr>
<tr><td>M10</td><td>53</td><td>68</td><td>75</td></tr>
<tr><td>M12</td><td>90</td><td>117</td><td>128</td></tr>
<tr><td>M16</td><td>216</td><td>285</td><td>314</td></tr>
<tr><td>M20</td><td>423</td><td>557</td><td>615</td></tr>
<tr><td>M24</td><td>730</td><td>960</td><td>1060</td></tr>
</table>
* Lubricated slide friction number 0.8 MoS2<br>
** Lightly oiled slide friction number 0.12<br>
*** Ensured slide friction number 0.14 screw with micro-encapsulated plastic</td>
<td>At least 1 x per year</td>
</tr>
<tr>
<td></td>
<td>  </td>
<td>All weld seams must have a visual inspection. Stop the system and contact the manufacturer if there are cracks or breaks in weld seams of the lift.</td>
<td>At least 1 x per year</td>
</tr>
<tr>
<td></td>
<td>  </td>
<td>Check the paint:<br>
- Check the powder coating and improve if required. Damage by external influences is to be treated immediately after detection. If these points are not treated, infiltration of deposits of all kinds can cause wide-ranging and permanent damage. These points are to be lightly sanded (120 grit), cleaned and degreased. Afterwards, rework with a suitable touch up paint (note the RAL No.).<br>
- Check galvanized surfaces, touch up as needed. White rust is fostered by permanent humidity, poor ventilation. The affected areas can be treated by using a sanding cloth (A 280 grit). If required, the parts are to be treated with a suitable, resistant material (paint etc.). Check the RAL colour selection.<br>
- Rust is brought out by mechanical damage, wear, aggressive deposits (de-icing salt, leaking operating fluids) cleaning that is not done or incomplete. The affected areas can be treated by using a sanding cloth (A 280 grit). If required, post-treat the areas with a resistant material (paint etc.).</td>
<td>At least 1 x per year</td>
</tr>
</table>

| | | | |
|---|---|---|---|
| |  | Check electrical components for damage.<br>- Plug<br>- Reversing switch and LED display<br>- During assembly and maintenance always check the condition of electrical lines. All cables and lines must be secured so they cannot be crushed, kinked or contact any rotating components (e.g. V-belt disc, etc.). | At least 1 x per year<br>daily |
| |  | Optional energy set:<br>- Electrical socket<br>- Pneumatic connection<br>Check for damage.<br>Check function. | At least 1 x per year |

## 7.2 Cleaning the lift

A regular and expert clean helps retain the value of the lift.
Additionally, it can also be a pre-requisite for the preservation of guarantee claims for any eventual corrosion damage.
The best protection for the lift is regular removal of contaminants of any kind.
- This includes above all:
  - De-icing salt
  - Sand, pebbles, earth
  - Industrial dust of all types
  - Water, also in connection with other environmental influences
  - Aggressive deposits of all types
  - Permanent humidity due to insufficient ventilation

The frequency of lift cleaning depends, among other things on the frequency of use, of lift handling, of workshop cleanliness, and the location of the lift. Furthermore, the degree of contamination depends on the time of year, the weather conditions and workshop ventilation. Under adverse circumstances, weekly lift cleaning might be required, however a monthly cleaning may be sufficient.

Do not use and aggressive and abrasive materials for cleaning, rather use mild cleaners, e.g. a commercially available detergent and lukewarm water.
- For cleaning, do not use high pressure washers (e.g. steam cleaners)
- Carefully remove all contamination with a sponge, or if required with a brush.
- Make sure that there is no residue of the cleaner on the lift.
- Dry the lift with a cloth and spray it with a spray wax or oil.
- Moving parts (bolts, bearing zones) are to be lubricated or oiled according to instructions.
- When cleaning the workshop floor ensure that no aggressive cleaning materials come into contact with lift surfaces. Permanent contact with any kind of liquid is prohibited.

## 7.3 Readjustment of the polyflex belt

When exchanging the drive belt, the belt tension must be readjusted. For this, remove the v-belt cover.

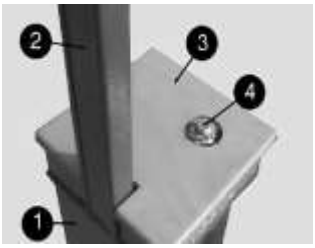



*Figure 12: V-belt cover (version with riser)*
1: Column
2: Riser
3: V-belt cover
4: Lift spindle

Subsequently the v-belt tension on the tensioning element is reset (figure 14). For this, the 3 fastening screws of the motor (Figure 14, no. 1) are slightly relaxed by one rotation. On the adjusting screws (Figure 14, no. 2) the v-belt can now be relaxed or tensioned accordingly.

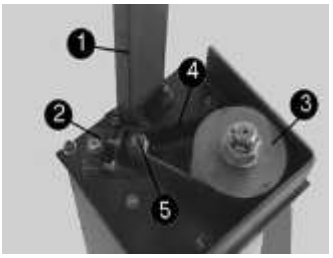



*Figure 13: Position of the drive belt*
1: Riser; (optional)
2: Tensioning elements to readjust the belt tension;
3: Grooved pulley;
4: Polyflex belt (drive v-belt)
5: Drive shaft motor

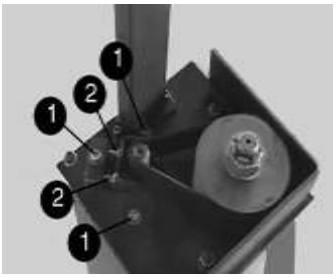



*Figure 14: Setting the v-belt tension*

1: Motor fastening screws
2: Alignment screws for v-belt tension

The polyflex belt is set to the corresponding belt deflection with the aid of accessory parts (Figure 15); to be purchased from Nußbaum Hebetechnik GmbH & CO.KG.

*Figure 15: Accessory part*

- Before setting the v-belt, the measurement device is to be placed on a flat solid surface and pushed downwards until the stylus is laying flat on the smooth surface.
- Afterwards null the dial gauge, meaning the outer ring of the dial gage is to be turned so the pointer is at zero.

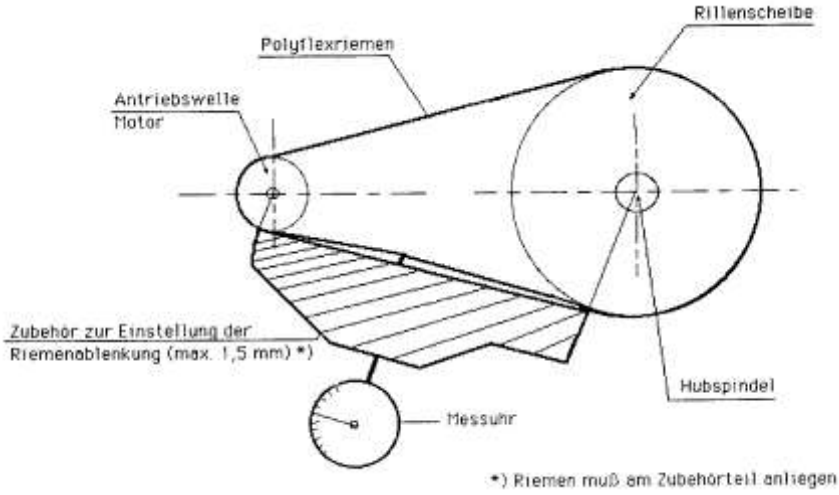



*Figure 16: Measurement instrument*

- The measurement device, as can be seen in Figures 16 and 17 on the polyflex belt.
- The dial gauge may only be turned a minimum of 1 rotation (1 mm) to a maximum of 1.5 rotations (1.5 mm) anti-clockwise.

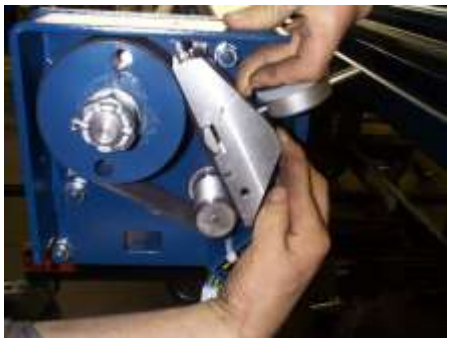


*Figure 17: Place the dial gauge on the belt*

- The fastening screws are to be placed into the starting position again.

## 7.4 Check / exchange the lift nut system

- Optical wear measurement:

**Catch bar fixation "Safety kit" must be integrated, see Section 9.1.**
To check the carrier nut, the cover of the lift spindle must be removed. A carrier nut wear gauge pin is integrated into the carrier plate. This must be flush with the upper edge of the carrier plate (in the lifting rail, top) - see Figure below. If the pin peaks out 2 mm from the top, the carrier nut and the follower nut must be exchanged.

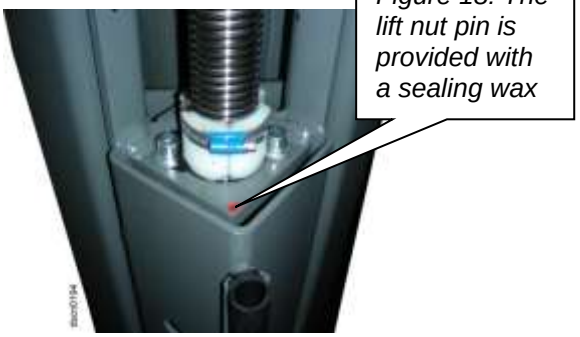
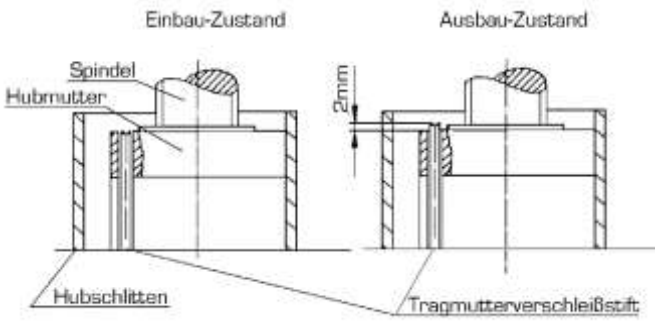


*Figure 18: The lift nut pin is provided with a sealing wax*



### 7.5 Checking the stability of the lift

- Retighten nuts of the approved fastening anchors to the torques specified by the manufacturer using a pre-set torque wrench. (Torque details are found on the data sheet of the corresponding anchor manufacturer)

# 8 Assembly and commissioning

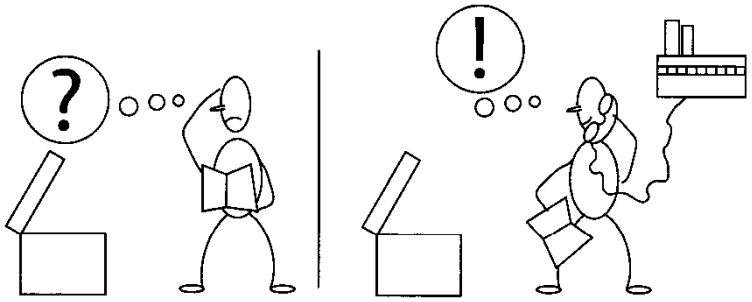


*Figure 20:*

## 8.1 Set up guidelines

- Lift set up is done by trained manufacturer personnel or a contract partner. Set up is to be done according to the assembly instructions.
- A standard lift may not be set up in explosion endangered spaces or wash halls.
- Before setting up, ensure or make a sufficient foundation.
- A level set up space is to be done in all cases, where open air and enclosed foundations where frost is expected, must have a frost-depth thickness.
- An on-site standard electrical connection of 3 ~/N + PE, 400 V, 50 Hz is to be provided. The supply is to be secured according to VDE0100 with 16 ampere fuses. The minimum wire cross-section is 2.5 qm².
- The cable guide is possible through the riser with cross-beam or through the hole in the baseplate. In all cases, prevent kinks or tensional loads on the cable.
- After successful lift installation and before first commissioning, the operating company must have the lift grounding conductors inspected on-site according to IEC regulation (60364-6-61). An insulation resistance test is also recommended.

### 8.1.1 Set up and anchoring the lift

☞ ***On-site provision of suitable auxiliary materials (e.g. forklifts, crane, etc.) are to be made available for unloading the lift and for assembly.***

Before setting up the lift, the operating company must ensure or make a sufficient foundation. For this, a normal reinforced concrete floor with a value of a min. C20/25 (B25) is required. The minimum foundation thickness (without screed and tiles) is to be taken from the general foundation plan in this document.

In our plans, we inform of the minimum specifications for the foundation, however local conditions (e.g. underground, floor quality, etc.) are outside of our responsibility. In special cases, the design of the installation location must be individually specified by planning architects and statics experts. Open air foundations must be made to frost depth.
The operating company of the lift is solely responsible for the set up location.

If the lift is to be assembled on an existing concrete floor, cement quality and strength are to be checked beforehand. In case of doubt, make a test bore and insert an anchor. Then, tighten the anchor to the manufacturer recommended torque.

After inspection within the anchor zone of influence (200 mm diameter) (see technical data sheet of the anchor manufacturer), if there is visible damage (hairline cracks, cracks or similar), or if the required torque cannot be applied then the set up location is unsuitable.

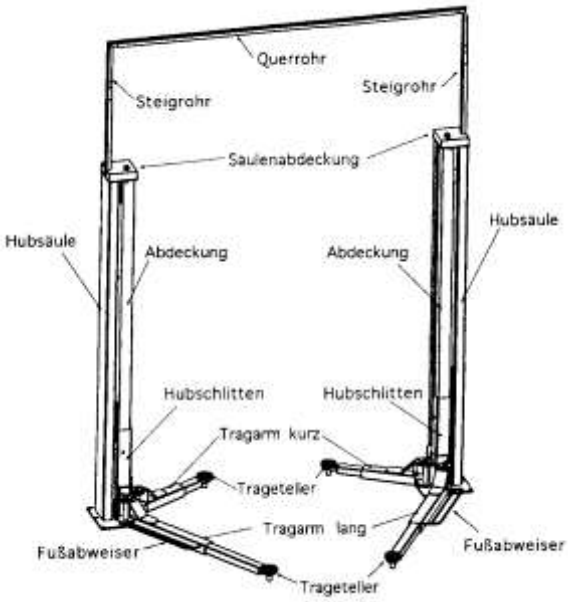



*Figure 21: Complete assembly with riser and cross-pipe*

A foundation must be made according to the "Foundation plan" sheet regulations. Also a level, set up surface must be ensured for the lift so there is continuous contact between the lift and the concrete floor.

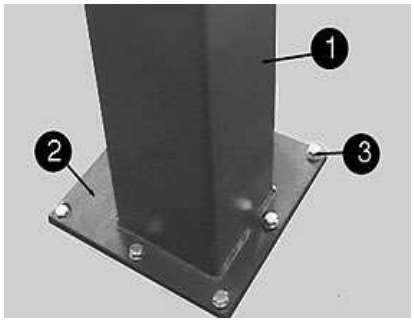



*Figure 22: Anchoring*

*1: Column*

*2: Base plate*

*3: Safety anchor*

- To reach a higher level of protection against humidity from the workshop floor, a thin PE foil should be put between the workshop floor and column base plate before anchors are placed. Also, the gap between the base plate and workshop floor should be silicone sprayed after anchoring.
- Holes for floor anchoring are to be placed through the holes in the base plates.
- Clean the bore holes by blowing them out with air. Insert safety anchors into the holes.
- The manufacturer recommends e.g. Liebig, Fischer or Hilti safety anchors or similar from other manufacturers, with approval and in compliance with their specifications.
- Before anchoring the lift, check whether the concrete is of quality C20/25 up to the finishing level of the completed floor. In this case, determine the anchor length from the "Selection of anchor length without floor covering (in appendix) data sheet. If there is a floor covering (tiles, screed) on the weight bearing concrete, the thickness of this covering must be determined. Afterwards, then determine the anchor length from the "Selection of anchor length without floor covering (in appendix) data sheet.
- Position and align the lift and lift columns using a bubble level.

- The base plates are also to be supported with suitable underlays (thin metal strips) to ensure precise vertical set up and contact between the base plate and the floor. These underlays must be positioned widely below the baseplate.

- If required, fill in cavity under the baseplate with an equalizing mass.
- Tighten anchors with a torque wrench.

***Each anchor must be able to be tightened to the torque specified by the manufacturer. Safe operation of the lift is not guaranteed with a lower torque.***

- If an anchor is tightened to the specified torque, then the domed washer lays flat on the base plate. Secure anchor connection is then guaranteed.

### 8.1.2 Electrical assembly and power connection

**A) with the use of riser and cross-pipes**

- Loosen and remove the upper column cover.
- Place the cable according to the drawing (Figure 23) into the riser and cross-pipe of the lift and feed together into the corresponding plug.
- Pay particular attention for safe contacting of the plug connections.
- When merging the cable connections at the head plate, ensure that the cable does not contact rotating parts.

- The 7-wire motor plug cable (with 2 plugs) is plugged into the head plate on the operating side, via the riser and cross-pipe and fed to the opposite side and connected to the head plate of the opposite side.

- The 3-wire potentiometer cable (with 2 plugs) is also fed via the riser and cross-pipe to the opposite side and connected with the plug to the head plate of the opposite side.

- The 5-wire power cable (with one plug) connects the power supply to the head plate of the operator side.
- Carefully push the cover panel into the riser pipe from above.

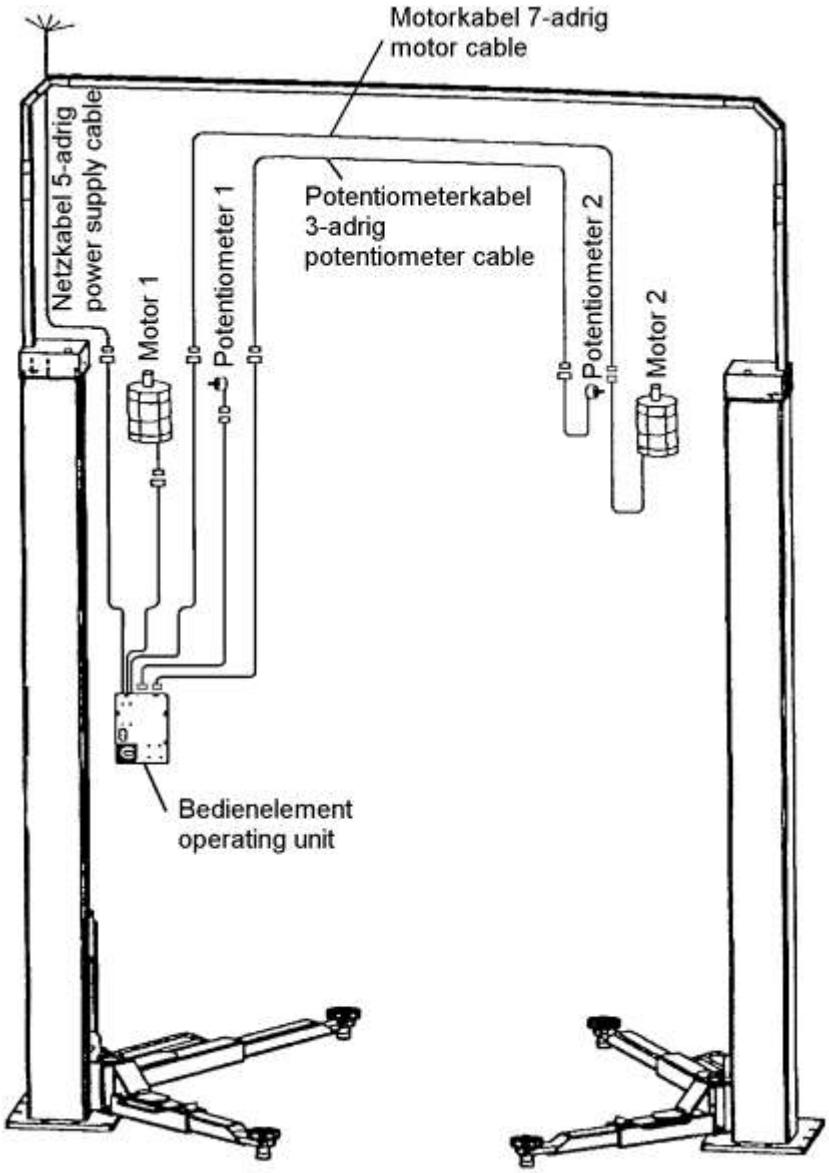



*Figure 23: Cable path when using risers and cross-pipes*

**B) without using risers and cross-pipes (sub-floor)**

- There is the option of running power and electrical cables below the floor. This prevents the need for risers and cross-pipes (cable bridges) between both columns.
- A foundation must be made according to plan 6348_EINBAU (integration) (page 32). The opening for the cables are each found in the baseplate
- The cables are laid in the shafts located in the columns.
- During assembly of the lift, it must be ensured that the cables are not damaged during column set up.
- Feed the cable through the empty pipes in the foundation before the columns are set up. Then move the columns to the installation location. Place the cables through the holes in the baseplate and guide them through the column to the column head. Carefully place the columns upright to prevent kinking or clamping.
- Connect the cables according to the drawing (Figure 24).
- When merging the cable connections at the head plate, ensure that the cable does not contact rotating parts.
- Pay particular attention to secure contact of the plug connections.

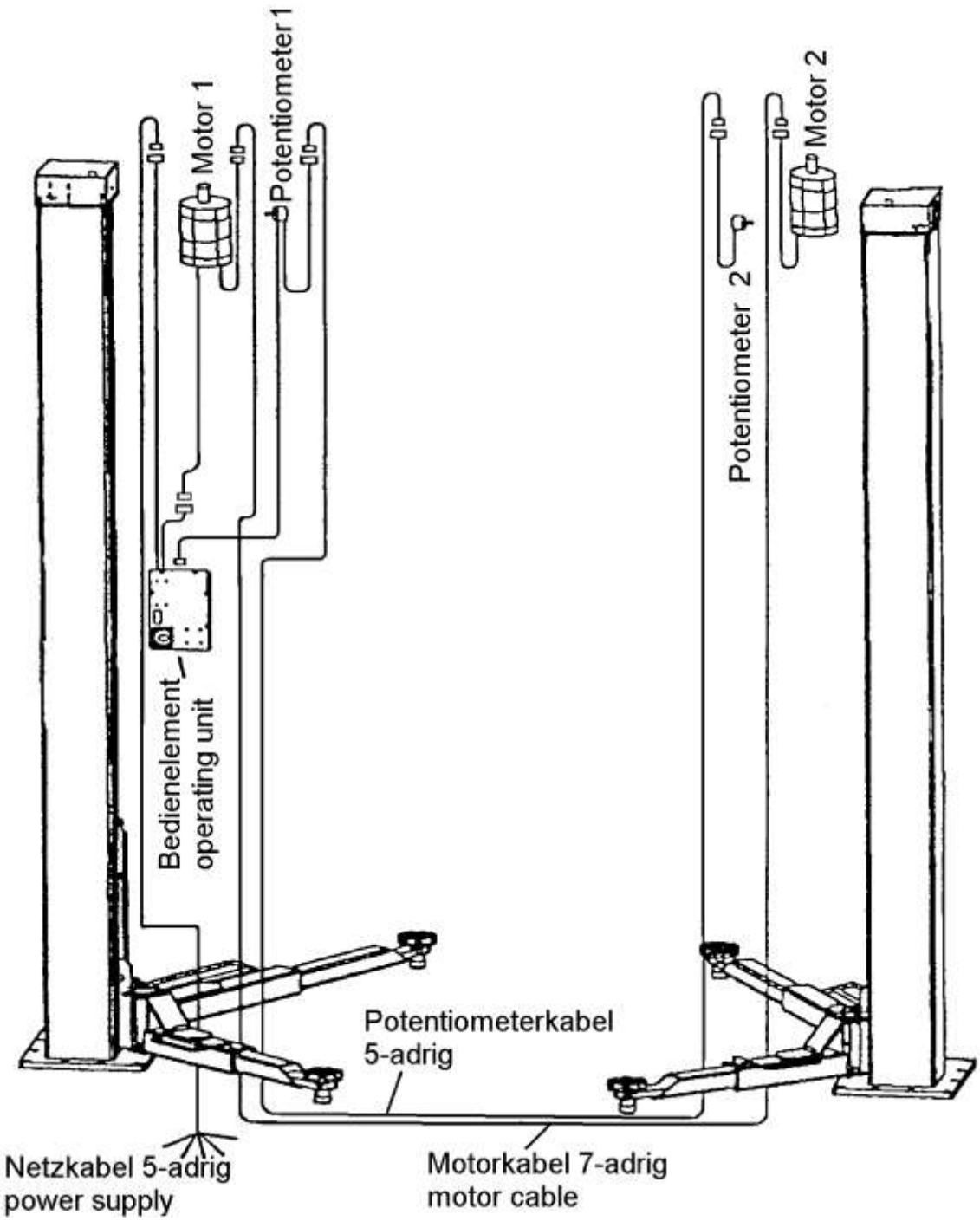



*Figure 24: Cable path without using riser and cross-pipe*

## 8.2 Lifting arm assembly

- Hang in the standard lifting arm and then place an acid-free multi-purpose grease into the joint bolts in each case from above into the hole and then insert the enclosed locking ring.

***The lifting arm bolts must be secured on both sides as otherwise a reliable connection is not given between the lift rails and lifting arm.***

## 8.3 Commissioning

***Before commissioning, a single safety inspection must be done (use the "single safety inspection" form)***

If the lift set up is done by a specialist (factory trained assembler) then he can also do the safety inspection. If the set up is done by the operating company then a specialist must be tasked with the safety inspection.
The specialist confirms seamless operation of the lift on the set up protocol for single safety inspection and releases the lift for use.

***After commissioning please complete the assembly protocol and send to the manufacturer immediately.***

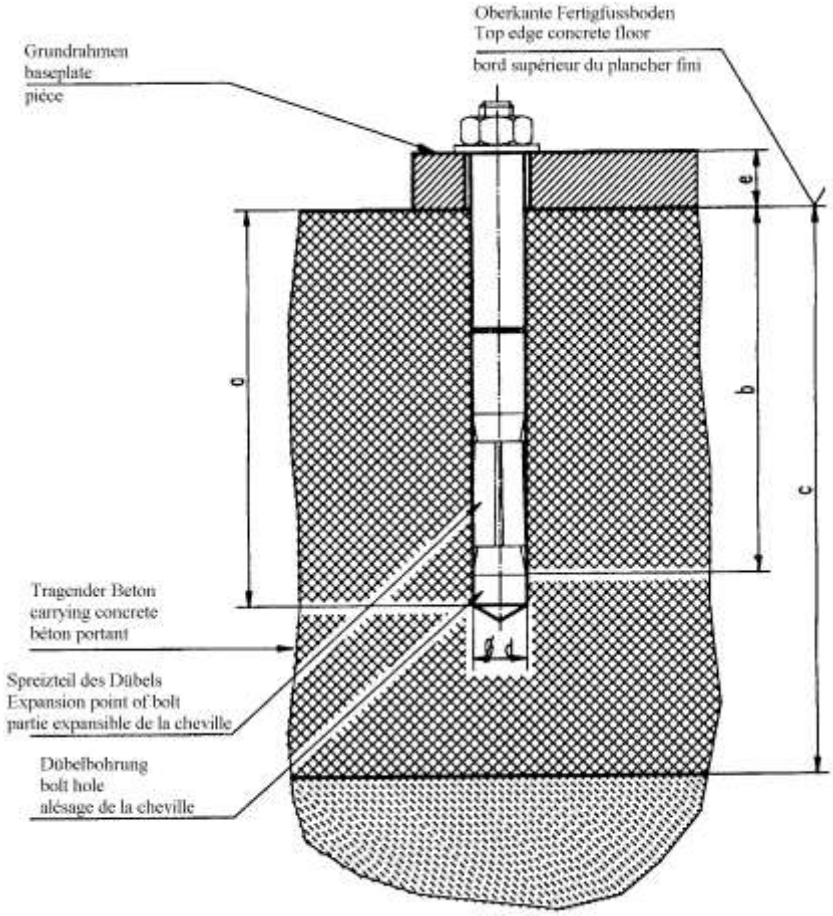
## 8.4 Changing the assembly location

To change the assembly location the pre-conditions must be met according to the assembly guidelines. The location change is to be done according to the following sequence:

- Move the lift rails to about half height.
- Disconnect electrical supply lines to the lift from mains power.
- Loosen cables between both columns.
- Remove the lifting arm (remove locking rings on the lifting arm bolts,
- Pull out the lifting arm bolts and remove the lifting arm).
- Loosen the anchor fastenings.
- Carefully transport the lift column using appropriate auxiliary means (e.g. crane, forklift, etc.) to the new assembly location.
- Assemble the lift according to the procedure during assembly and anchoring before first commissioning.

***Use new anchors. The old anchors are no longer fit for purpose.***

**Selection the Liebig anchor without floor cover (screed, tiles)**
(valid 2.30 SL, 2.35 SL, 2.40 SL)
Hole diameter 22 mm in the baseplate



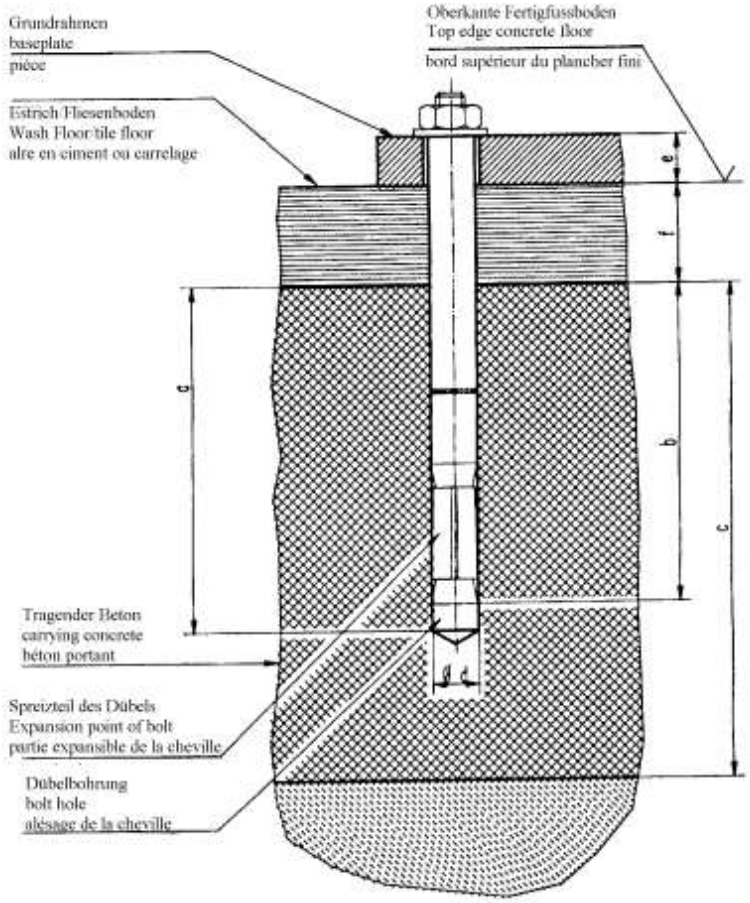

| | | |
|---|---|---|
| Liebig anchor | | |
| Anchor type | | BM12-20/80/40 |
| Hole depth | a | 100 |
| Min. anchoring depth | b | 80 |
| Concrete thickness | c | Min.160 (*) |
| Hole diameter | d | 20 |
| Component thickness | e | 0-40 |
| Concrete quality | | Min.C20/25 normal reinforcement (1) |
| Number of anchors | | Depending on the lift type |
| Torque of the anchors | | 70 Nm |

***(*) Min. concrete thickness when using the above-mentioned anchor, otherwise follow the details in the foundation plans.***

***Similar value anchors and other known brands of anchor manufacturers can be used when considering the conditions.***

***([1]) Declaration: normal reinforcement***
***A normal reinforcement is present if the axis separation in the area of the anchor with a rod diameter of ≥ 10 mm is 150 mm, or for a rod diameter of ≤ 10 mm is 100 mm.***

**Figure: Selection the Liebig anchor with floor cover (screed, tiles)**
(Valid 2.30 SL, 2.35 SL, 2.40 SL)
Hole diameter 22 mm in the baseplate



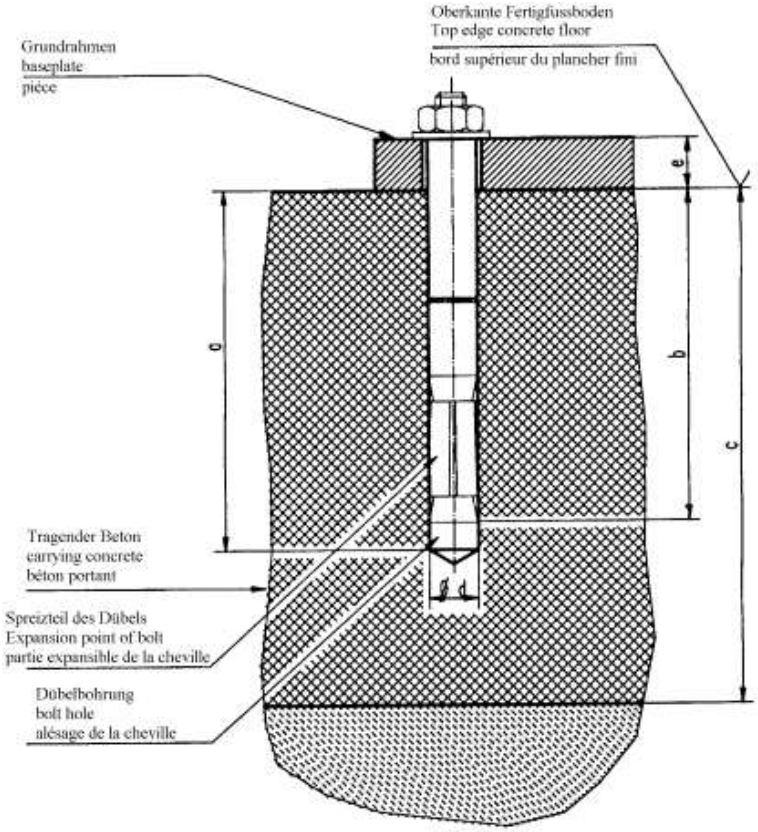

| Liebig anchor | | | | |
|---|---|---|---|---|
| Anchor type | | BM12-20/80/65 | BM12-20/80/100 | BM12-20/80/140 |
| Drill depth (mm) | a | 100 | 100 | 100 |
| Min. anchoring depth (mm) | b | 80 | 80 | 80 |
| Concrete thickness (mm) | c | Min.160 (*) | Min.160 (*) | Min.160 (*) |
| Drill diameter (mm) | d | 20 | 20 | 20 |
| Component thickness (mm) | e+f | 40-65 | 65-100 | 100-140 |
| Concrete quality | | Min.C20/25 normal reinforcement (1) | | |
| Number of anchors (pc.) | | Depending on the lift type | | |
| Torque of the anchors | | 70 Nm | 70 Nm | 70 Nm |

***(*) Min. concrete thickness when using the above-mentioned anchor, otherwise follow the details in the foundation plans.***

***Similar value anchors and other known brands of anchor manufacturers can be used when considering the conditions.***

***([1]) Description of normal reinforcement:***
***A normal reinforcement is present if the axis separation in the area of the anchor with a rod diameter of ≥ 10 mm is 150 mm, or for a rod diameter of ≤ 10 mm is 100 mm.***

**Figure: Selection the Liebig anchor without floor cover (screed, tiles)**
Valid for (2.50 SL II, 2.50 SL DG II)
Hole diameter 26 mm in the baseplate




| | | |
|---|---|---|
| Liebig anchor | | |
| Anchor type | | BM16-25/100/40 |
| Drill depth (mm) | a | 125 |
| Min. anchoring depth (mm) | b | 100 |
| Concrete thickness (mm) | c | Min.200 (*) |
| Drill diameter (mm) | d | 25 |
| Drilled part thickness (mm) | e | 0-40 |
| Concrete quality | | Min.C20/25 (B25) normal reinforcement (1) |
| Number of anchors (pc.) | | Depending on the lift type |
| Torque of the anchors | | 115 Nm |

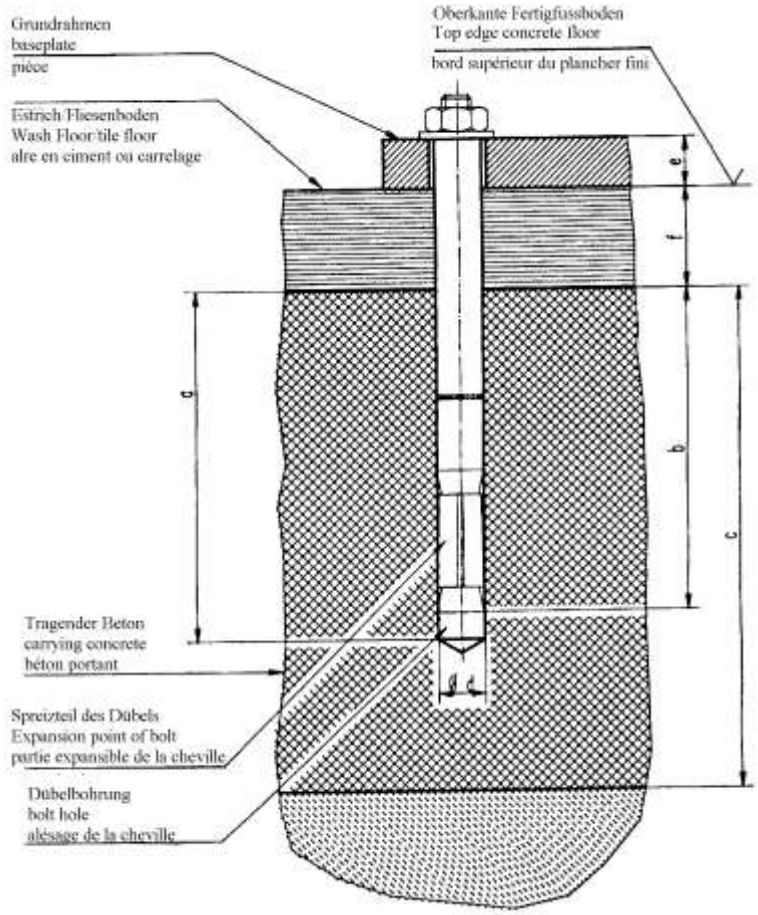
***(*) Min. concrete thickness when using the above-mentioned anchor, otherwise follow the details in the foundation plans.***

***Similar value anchors and other known brands of anchor manufacturers can be used when considering the conditions.***

***([1]) Description of normal reinforcement:***

***A normal reinforcement is present if the axis separation in the area of the anchor with a rod diameter of ≥ 10 mm is 150 mm, or for a rod diameter of ≤ 10 mm is 100 mm.***

**Figure: Selection the Liebig anchor with floor cover (screed, tiles)**
Hole diameter 26 mm in the baseplate



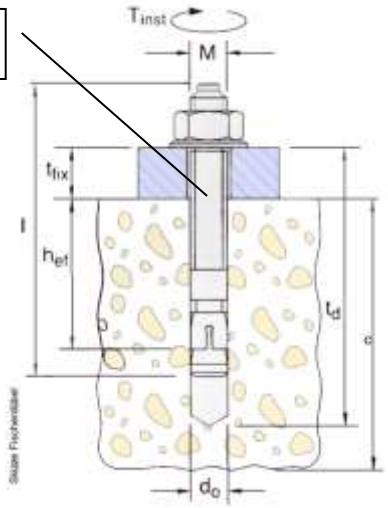

| Liebig anchor | | | |
|---|---|---|---|
| Anchor type | | BM16-25/100/65 | BM16-25/100/100 |
| Drill depth (mm) | a | 125 | 125 |
| Min. anchoring depth (mm) | b | 100 | 100 |
| Concrete thickness (mm) | c | Min.200 (*) | Min.200 (*) |
| Drill diameter (mm) | d | 25 | 25 |
| Component thickness (mm) | e+f | 40-65 | 65-100 |
| Concrete quality | | Min.C20/25 normal reinforcement | |
| Number of anchors (pc.) | | depending on the lift type | |
| Torque of the anchors | | 115 Nm | 115 Nm |

***(*) Min. concrete thickness when using the above-mentioned anchor, otherwise follow the details in the foundation plans.***

***Similar value anchors and other known brands of anchor manufacturers can be used when considering the conditions.***

***([1]) Description of normal reinforcement:***
***A normal reinforcement is present if the axis separation in the area of the anchor with a rod diameter of ≥ 10 mm is 150 mm, or for a rod diameter of ≤ 10 mm is 100 mm.***

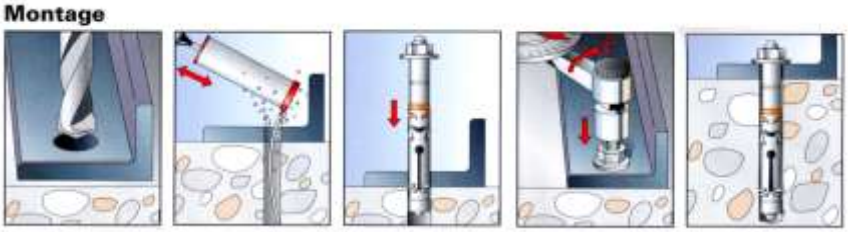
Marking the anchoring depth



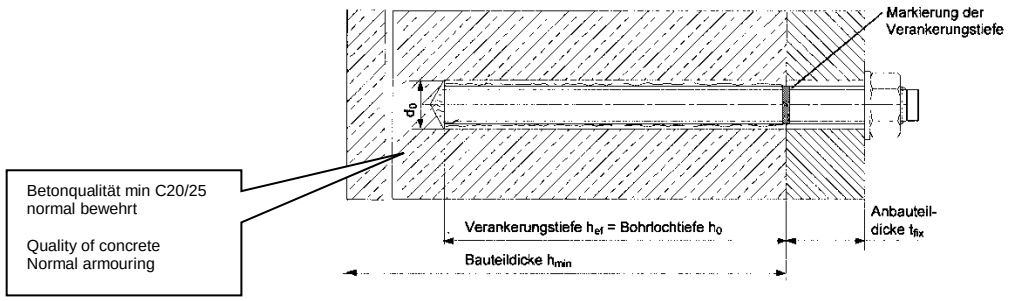

Änderungen vorbehalten!
subject to alterations!
sous réserve des modifications!

| **Fischer anchor** | | | **SMART LIFT / HYMAX S 2.30 SL / 3000[d], 2.35 SL / 3500[e], 2.40 SL / 4000[e]** | **SMART LIFT / HYMAX S 2.50 SL / 5000g[g]** |
|---|---|---|---|---|
| Dübel<br>typ of dowel<br>type de cheville | | FH 15/50 B<br>**Order No. 970265** | FH 18 x 100/100 B<br>**Order No.: 972230** | FH 24/100 B<br>**Order No. 970267** |
| Bohrteife<br>drilling depth<br>Profondeur de l'alésage | $t_d$ | 145 | 230 | 255 |
| Mindestverankerungstiefe<br>min.anchorage depth<br>Profondeur minimale dáncrage | $h_{ef}$ | 70 | 100 | 125 |
| Betonstärke<br>thickness of concrete<br>Epaisseur du béton | c | siehe den aktuellen Fundamentplan<br>see current foundation-diagram drawing<br>vois le plan de fondation actuel | | |
| Bohrerdurchmesser<br>diameter of bore<br>Diamètre de l'alésage | $d_o$ | 15 | 18 | 24 |
| Bauteildicke<br>thickness of the lift-piece<br>Epaisseur de la pièce | $t_{fix}$ | 0-50 | 0-100 | 0-100 |
| Anzugsdrehmoment Nm<br>turníng moment<br>moment d´une force | $M_D$ | 40 | 80 | 120 |
| Gesamtlänge<br>Total length<br>Longueur totale | l | 155 | 230 | 272 |
| Gewinde<br>Thread<br>fil | M | M10 | M12 | M16 |
| Stückzahl<br>piece number<br>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 respetant les directives du fabricant




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

| **Hilti injection anchor** | | | **SMART LIFT / HYMAX S 2.30 SL / 3000[d], 2.35 SL / 3500[e], 2.40 SL / 4000[e]** | **SMART LIFT / HYMAX S 2.50 SL / 5000g[g]** |
|---|---|---|---|---|
| Betonboden / concrete floor | | ohne Bodenbelag / without floor pavement (tiles) | | |
| Dübel<br>type of dowel<br>type de cheville | | HIT-V-5.8 M10x130 | HIT-V-5.8 M12x150<br>Item no. 387061 | HIT-V-5.8 M16x200<br>Item No. 956437 |
| Bohrtiefe (mm)<br>drilling depth<br>Profondeur de l'alésage | $h_0$ | 90 | 108 | 144 |
| Mindestverankerungstiefe (mm)<br>min.anchorage depth<br>Profondeur minimale dáncrage | $h_{ef}$ | 90 | 108 | 144 |
| Betonstärke (mm)<br>thickness of concrete<br>Epaisseur du béton | $H_{min}$ | min.120 | min.138 | min.180 |
| Bohrerdurchmesser (mm)<br>diameter of bore<br>Diamètre de l'alésage | $d_0$ | 12 | 14 | 18 |
| Bauteildicke (mm)<br>thickness of the lift-piece<br>Epaisseur de la pièce | $t_{fix}$ | max.17 | max.19 | 23 |
| Anzugsdrehmoment (Nm)<br>turníng moment<br>moment d´une force | $T_{inst}$ | 20 | 40 | 80 |
| Gesamtlänge (mm)<br>Total length<br>Longueur totale | l | 130 | 150 | 200 |
| Gewinde<br>Thread<br>fil | M | 10 | 12 | 16 |
| Stückzahl<br>piece number<br>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 respetant les directives du fabricant.

# 9 Safety inspection

The safety inspection is required to guarantee operational safety of the lift. It is to be done:

1. before first commissioning after setting up the lift
   **Use the "single safety inspection" form**

2. After first commissioning, check regularly at least once per year.
   **Use the "regular safety inspection" form**

3. After changes to the lift construction.
   **Use the "extraordinary safety inspection" form**

☞ ***Single and regular safety inspections must be done by a specialist. It is recommended to do maintenance at the same time.***

☞ ***After a change in construction (for example changing the load carrying capacity or changing the lifting height) and after significant maintenance on load carrying parts (e.g. welding work), inspection by a technical expert is required (extraordinary safety inspection).***

This inspection book contains forms for copying to be used for safety inspections.
Please use the appropriate form, record the condition of the inspected lift and leave the completed form in this inspection book.

## 9.1 Assembly instructions capture bar fixation

For SMART LIFT 2.30 SL / HYMAX S 3000
For SMART LIFT 2.35 SL / HYMAX S 3500
For SMART LIFT 2.40 SL / HYMAX S 4000

**Tools required:**

1 2 3

- Nail puller (1)
- Allen key 6 mm (2)
- Allen key 3 mm (3)

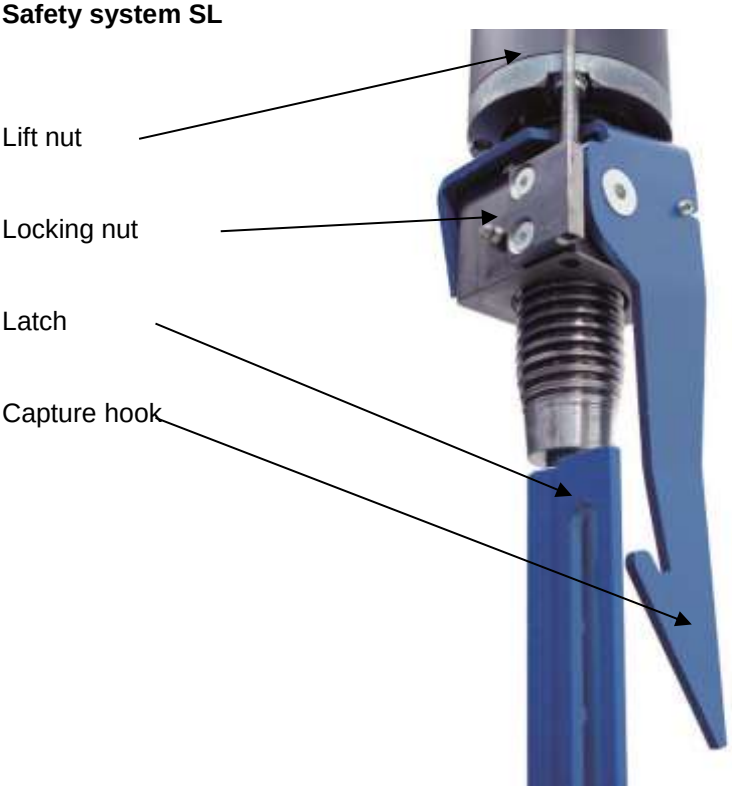
**Scope of delivery:**

Screw M8 2x
Nuts 2x
Base plate 2x

Guide bar 2x

Fixing bracket 2x

**Safety system SL**



### Preparation


Ensure there is no load on the lift.

Allen key wrench 3 mm

### Unscrew cover panels


**Move the carrier arm upwards, then disconnect the lift from mains power or lock the switch**

or

**Plug in the fixing bracket**

**If required, move the latch bar into position with a nail puller**



**Place the guide bar onto the spindle bearing and push from below into the fixing bracket.**



**Fasten the guide bar with M8 screws**
Ensure that the guide bar and slot hole are fastened flush, the guide bar reaches slightly over the edge.


**Visual inspection**

Then do another safety inspection to ensure that nothing shifted during screw tightening.
The guide bar and fixing bracket remain installed on the lift.

! **Capture bar fixation to be integrated into both columns!**

## Single safety inspection before commissioning

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Regular safety inspection and maintenance

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

## Exceptional safety inspection

☞ Copy, Complete and leave in the inspection book

Serial number:_____

| Test step | OK | Defect missing | Retest | Remarks |
|---|---|---|---|---|
| Model plate | ☐ | ☐ | ☐ | ..... |
| Brief operating instructions on the column | ☐ | ☐ | ☐ | ..... |
| Load capacity details on the lift | ☐ | ☐ | ☐ | ..... |
| Detailed operating manual | ☐ | ☐ | ☐ | ..... |
| Condition/ function reverse switch | ☐ | ☐ | ☐ | ..... |
| Label "Lift, Lower" | ☐ | ☐ | ☐ | ..... |
| Label "CE stop button" | ☐ | ☐ | ☐ | ..... |
| Condition, sight disc LED display | ☐ | ☐ | ☐ | ..... |
| Lockable on-site main switch | ☐ | ☐ | ☐ | ..... |
| Condition, rubber plate | ☐ | ☐ | ☐ | ..... |
| Securing the lifting arm bolts | ☐ | ☐ | ☐ | ..... |
| Securing the carrier plate (not unscrewable) | ☐ | ☐ | ☐ | ..... |
| Condition, function safety pin carrier plate | ☐ | ☐ | ☐ | ..... |
| Condition, function foot bumper (optional) | ☐ | ☐ | ☐ | ..... |
| Function CE stop + warning signal (optional) | ☐ | ☐ | ☐ | ..... |
| Condition sliding part lift rails | ☐ | ☐ | ☐ | ..... |
| Condition DU bearing spindle guide bottom | ☐ | ☐ | ☐ | ..... |
| Paint condition | ☐ | ☐ | ☐ | ..... |
| Load bearing construction (deformations, cracks) | ☐ | ☐ | ☐ | ..... |
| Fastening screw torque | ☐ | ☐ | ☐ | ..... |
| Fastening anchor torque | ☐ | ☐ | ☐ | ..... |
| Polyflex belt condition | ☐ | ☐ | ☐ | ..... |
| Condition, spindle centring function | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm block | ☐ | ☐ | ☐ | ..... |
| Condition, function lifting arm movement | ☐ | ☐ | ☐ | ..... |
| Condition, safety plate on MINI-MAX | ☐ | ☐ | ☐ | ..... |
| Condition, function of MINI-MAX lifting arm | ☐ | ☐ | ☐ | ..... |
| Condition, cross-beam & cable rider | ☐ | ☐ | ☐ | ..... |
| Condition of covers | ☐ | ☐ | ☐ | ..... |
| Condition lift spindle and lift nut | ☐ | ☐ | ☐ | ..... |
| Condition lift nut wear display | ☐ | ☐ | ☐ | ..... |
| Condition capture bar fixation | ☐ | ☐ | ☐ | ..... |
| Opt. check latch through guide rail hole | ☐ | ☐ | ☐ | ..... |
| Condition of concrete floor (cracks) | ☐ | ☐ | ☐ | ..... |
| Condition electrical lines | ☐ | ☐ | ☐ | ..... |
| Functional test lift with vehicle | ☐ | ☐ | ☐ | ..... |
| Functional test: "Up and Down Off" | ☐ | ☐ | ☐ | ..... |
| Function synchronous run monitoring | ☐ | ☐ | ☐ | ..... |
| Stability of lift | ☐ | ☐ | ☐ | ..... |
| General condition of lift | ☐ | ☐ | ☐ | ..... |

**(Place a checkmark in the relevant, if a retest is required then check it again!**

Safety inspection done on: .....

Performed by company: .....

Name, address of specialist:.....

Result of inspection:
- ☐ Continued operation questionable, reinspection required
- ☐ Continued operation possible, remove defects
- ☐ No deficiencies, continue to operate

..... .....
Signature of specialist — Operating company signature

If requested to take care of deficiencies

Deficiency removed on: ..... .....
Operating company signature

(Use a new form for reinspection!)

# 10 Spare parts list | Ersatzteilliste | Liste des pièces des rechange

## Ersatzteilliste

## Spare parts list

## Liste des piéces de rechange

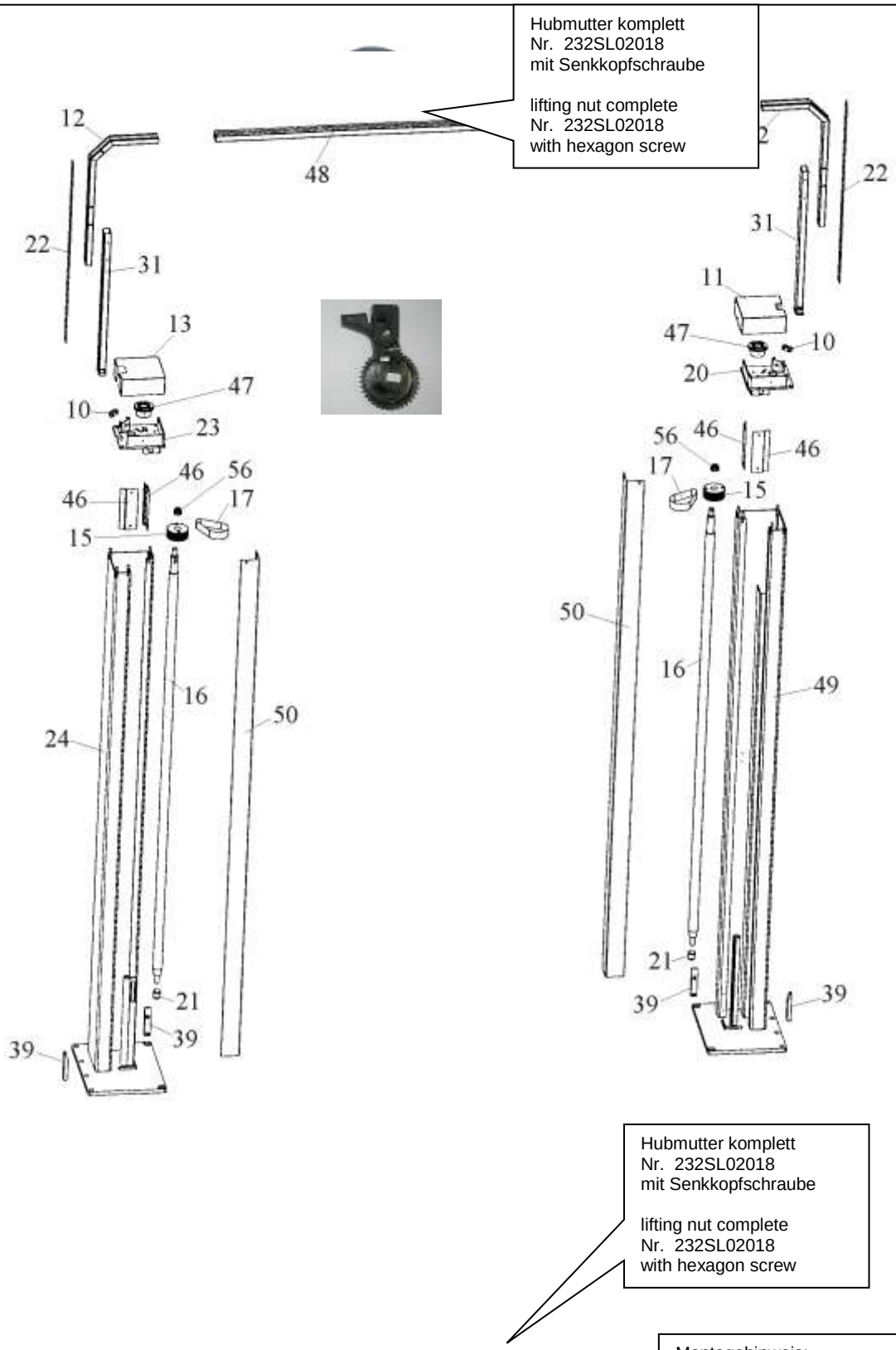
*Die Ersatzteile müssen den vom Hersteller festgelegten technischen Anforderungen entsprechen. Dies ist nur bei Originalteilen gewährleistet. Bei Nichtverwendung der Originalteile oder bei unsachgemäß durchgeführter Reparatur, durch den Betreiber, erlischt jeglicher Garantieanspruch auf die ausgetauschten Teile und auf daraus resultierenden Folgeschäden. Es besteht für uns keine Pflicht zur Benachrichtigung über erfolgte Änderungen.*

---

*Spare parts must correspond to the technical standards set by the manufacturer. Only original parts fall under our warranty conditions. We deny every claim to non-original parts or damages caused by their use. Unqualified repairs to the lift nullifies any claim to the replaced parts and resulting damages. It passes no duty for us to the notification over taken place alterations.*

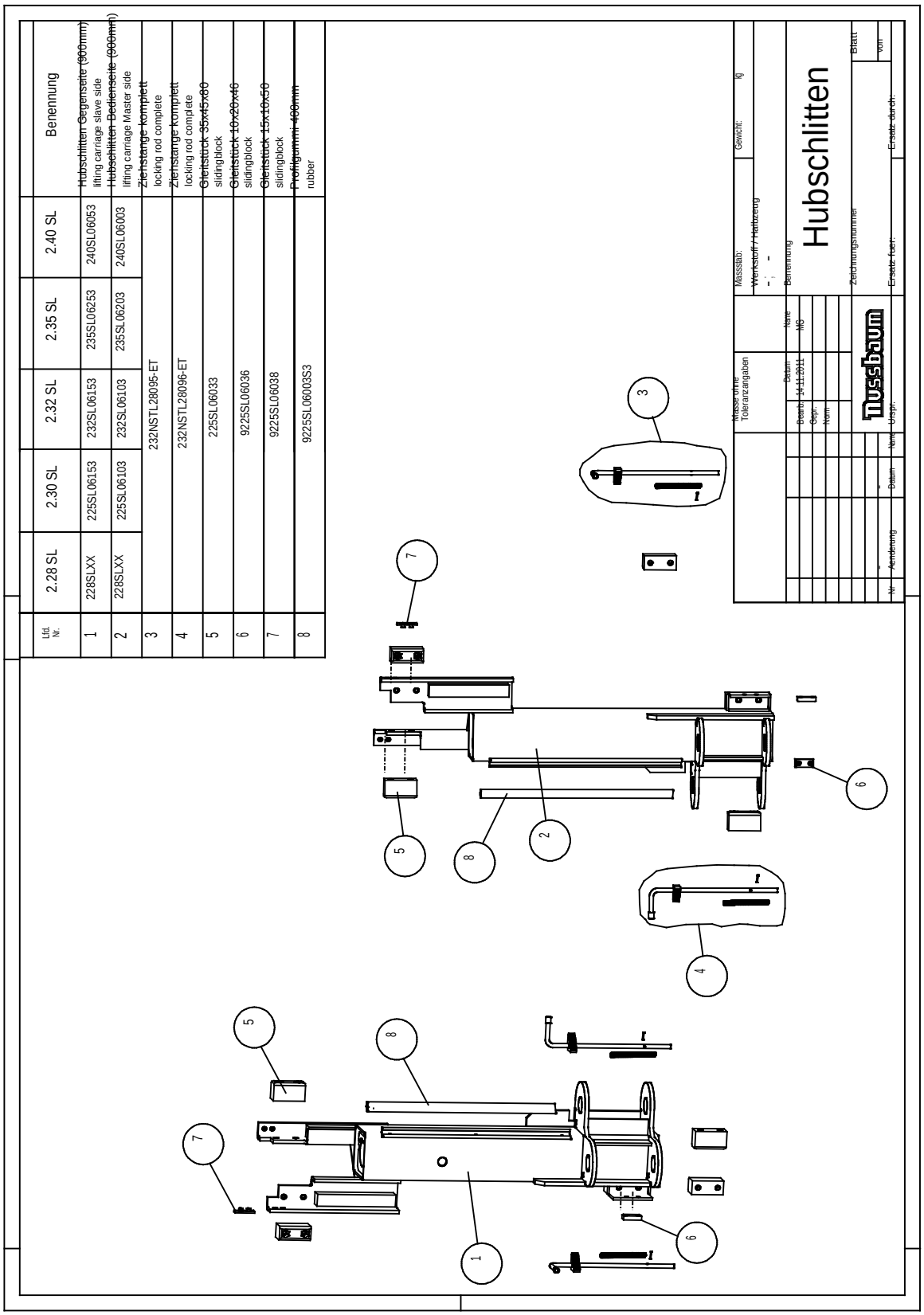
---

*Les pièces détachées doivent répondre aux critères technique du constructeur. Uniquement les pièces d´origines constructeur seront reconnues dans le cadre de la garantie, si des pièces adaptables sont utilisées le constructeur ne pourra être pour responsable pour les de'teriorations occasionnées.*
*Le fabricant se réserve le droit d'apporter à tout instant, sans préavis, toute modification, tant en ce qui concerne les caractéristiques techniques et les prix des modèles qui figurent sur ce document.*



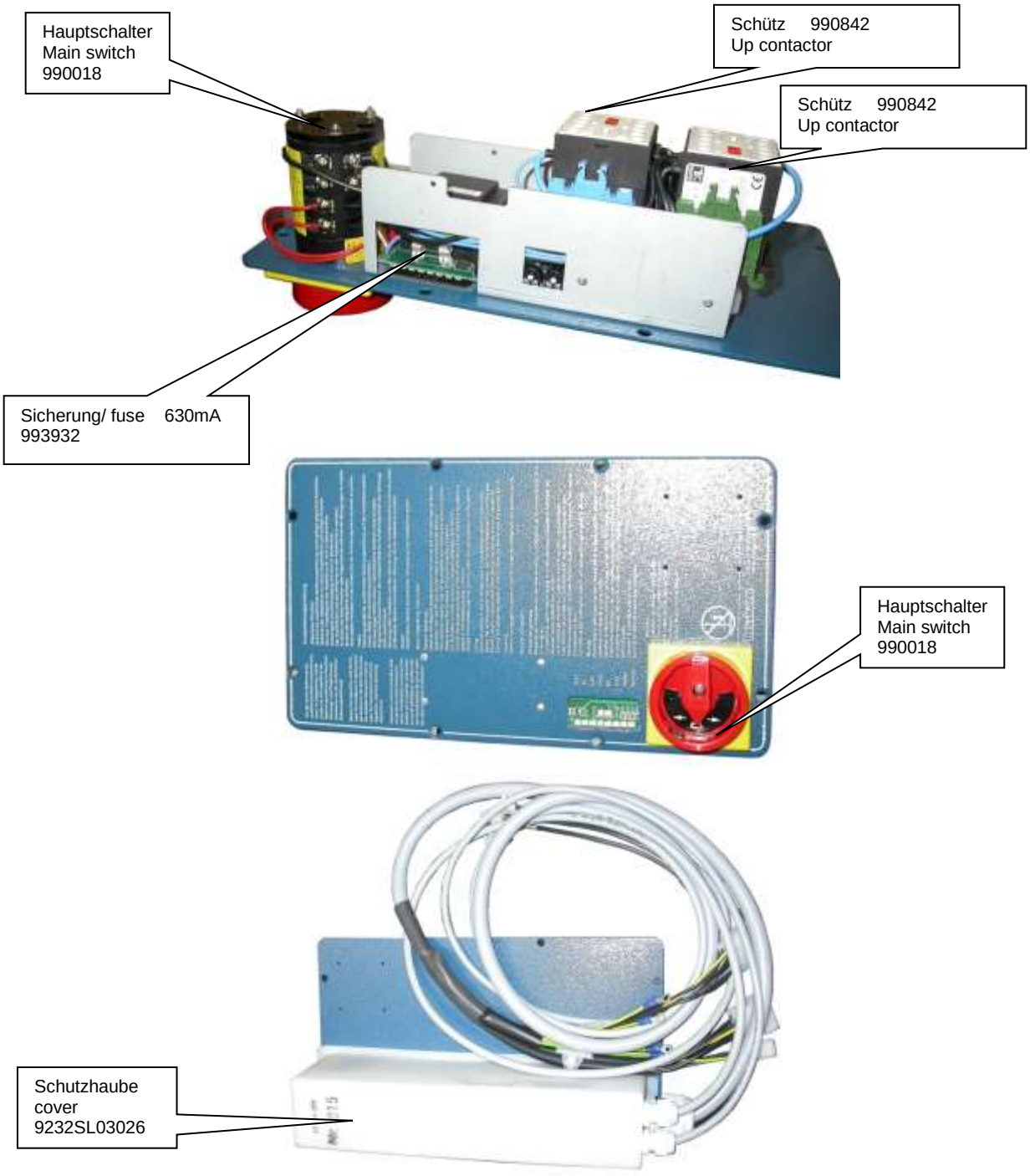

| Nr | Bezeichnung | 2.30SL | 2.32 SL | 2.35SL | 2.40SL |
|---|---|---|---|---|---|
| 10 | Spannelement<br>Spanner<br>Cadre de tension | 225SL25026 | 225SL25026 | 225SL25026 | 225SL25026 |

| | | | | | |
|---|---|---|---|---|---|
| 11 | Abdeckhaube<br>Cover<br>Couverture | 225SL09012 | 225SL09012 | 225SL09012 | 225SL09012 |
| 12 | Steigrohr<br>Pipe<br>Tuyau de montée | 225SL45073 | 225SL45073 | 225SL45073 | 225SL45073 |
| 13 | Abdeckhaube<br>Cover<br>Couverture | 225SL09015 | 225SL09015 | 225SL09015<br>ab SN: 289432<br>450SL09015 | 225SL09015<br>ab SN: 289432<br>450SL09015 |
| 15 | Rillenscheibe<br>V-belt pulley<br>Poulie | 225SL02010 | 225SL02010 | 225SL02010<br>ab SN: 289432<br>250SL02010 | 225SL02010<br>ab SN: 289432<br>250SL02010 |
| 16 | Spindel (standard)<br>Spindle (standard)<br>Arbre (standard) | 225SL22001 | 225SL22001 | 225SL22001 | 225SL22001 |
| | Paßfeder<br>Feather key<br>clavette parallélebfixée<br>Par vis | 9PF688510X12X25 | 9PF688510X12X25 | 9PF688510X12X25 | 9PF688510X12X25 |
| 17 | Polyflexriemen<br>V-belt<br>Courroie trapézoidale | 970699 | 970699 | 970699<br>ab SN: 289432<br>972357 | 970699<br>ab SN: 289432<br>972357 |
| 20 | Kopfplatte Bedienseite<br>Head plate master side<br>Semelle de | 232SL25015 | 232SL25015 | 232SL25015<br>ab SN:289432<br>450SL05015 | 232SL25015<br>ab SN:289432<br>450SL05015 |
| 21 | DU-Lager<br>Sliding bearing<br>Palier lisse | 970065 | 970065 | 970065 | 970065 |
| 22 | Abdeckblech<br>Cover<br>Couverture | 9225SL05078 | 9225SL05078 | 9225SL05078 | 9225SL05078 |
| 23 | Kopfplatte Gegenseite<br>Head plate slave side<br>Semelle<br>derecouverrement | 232SL25016 | 232SL25016 | 232SL25016<br>ab SN:289432<br>450SL05016 | 232SL25016<br>ab SN:289432<br>450SL05016 |
| 24 | Säule Gegenseite<br>Column slave side<br>Colonne côte sequence | 225SL85053 | 225SL85053 | 235SL05153 | 232SL05456 |
| 31 | Steigrohr<br>Pipe<br>Tuyau de montée | 232SL05070 (800mm)<br>250SL05070 (1000mm) | 232SL05070 (800mm)<br>250SL05070 (1000mm) | 232SL05070 (800mm)<br>250SL05070 (1000mm) | 250SL05070 (1000mm) |
| 39 | Hubschlittenführung<br>Guiding device<br>Guidage | 9225SL05008 | 9225SL05008 | 9225SL05008 | 9225SL05008 |
| 46 | Sichtschutz<br>Protection<br>Protection | 225SL09010 | 225SL09010 | 225SL09010 | 225SL09010 |
| 47 | Lagergehäuse<br>Bearing case<br>Caisse | 225SL25031M | 225SL25031M | 225SL25031M | 225SL25031M |
| 48 | Querrohr<br>Crossbeam<br>Traverse | 225SL05083<br>240SL05083 bei M.M.<br>Version | 225SL05083<br>240SL05083 bei M.M.<br>Version | 240SL05083 | 240SL05083 |
| 49 | Bediensäule<br>Operating column<br>Colonne côte<br>commande | 225SL85003 | 232SL25001 | 235SL05103 | 235SL05103 |
| 50 | Abdeckung<br>Cover<br>Couverture | 225SL09008 (2840mm)<br>240SL09008 (2760mm) | 225SL09008 (2840mm)<br>240SL09008 (2760mm) | 225SL09008 (2840mm)<br>240SL09008 (2760mm) | 225SL09008 (2840mm)<br>240SL09008 (2760mm) |
| 54 | Abdeckung<br>Cover<br>Couverture | 225ATL51033 | 232SL11009 | 232SL11009 | 240SL11033 |
| 56 | Kronenmutter<br>Hexagon castle nut<br>Écrou crénélé | 9935M24X1,5 | 9935M24X1,5 | 9935M24X1,5 | 9935M24X1,5 |


Hubschlitten
Nussbaum
Benennung
Zeichnungsnummer
Maßstab:
Gewicht:
Blatt
Ersatz für:
Ersatz durch:
Masse ohne Toleranzangaben
Werkstoff / Halbzeug
Name
Datum
MS
14.12.2011
Bearb.
Gep.
Norm
Urspr.
Änderung
Ltd. Nr.
2.28 SL
2.30 SL
2.32 SL
2.35 SL
2.40 SL
Hubschlitten Gegenseite (900mm)
lifting carriage slave side
Hubschlitten Bedienseite (900mm)
lifting carriage Master side
Ziehstange komplett
locking rod complete
Ziehstange komplett
locking rod complete
Gleitstück 35x45x80
slidingblock
Gleitstück 10x20x46
slidingblock
Gleitstück 15x10x50
slidingblock
Profilgummi 480mm
rubber
228SLXX
225SL06153
232SL06153
235SL06253
240SL06053
228SLXX
225SL06103
232SL06103
235SL06203
240SL06003
232NSTL28095-ET
232NSTL28096-ET
225SL06033
9225SL06036
9225SL06038
9225SL06003S3


| Motor Komplett complete | 2.30 SL | 2.32 SL | 2.35 SL | 2.40 SL | 2.50 SL | 2.50 SL II |
|---|---|---|---|---|---|---|
| 1 (blau/blue) | 232SL01003EL | | | | - | - |
| 2 (schwarz/black) | 232SL01003LS | | | | - | - |
| 3 (grau/grey) | 232SL01003 | | | | 232SL01003 | |
| 4 (Japan) | 990651 | | | | - | - |
| 5 (Korea) | 990657 | | | | - | - |

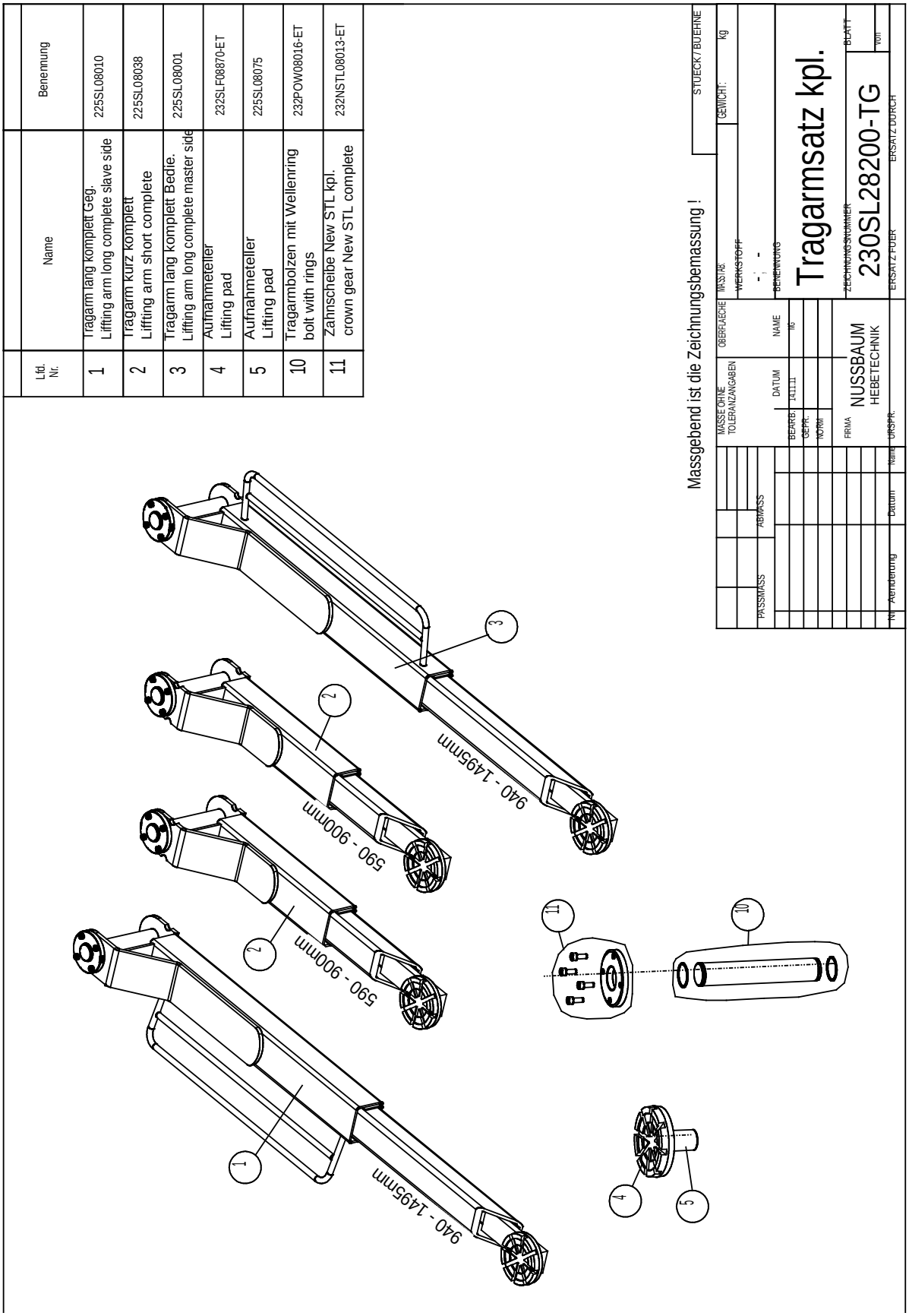
## Steuerung komplett / control unit complete 232SL03009
## Steuerung 2.30 SL, 2.32 SL, 2.35 SL, 2.40 SL




| | |
|---|---|
| **Bedienung an beiden Säulen** | **2.30SL, 2.32SL, 2.35SL, 2.40 SL** |
| **beidseitige Bedienung komplett** | **232SL03200TG** |
| **Bedienseite komplett** | **232SL03200BE** |
| **Gegenseite komplett** | **232SL03200GS** |

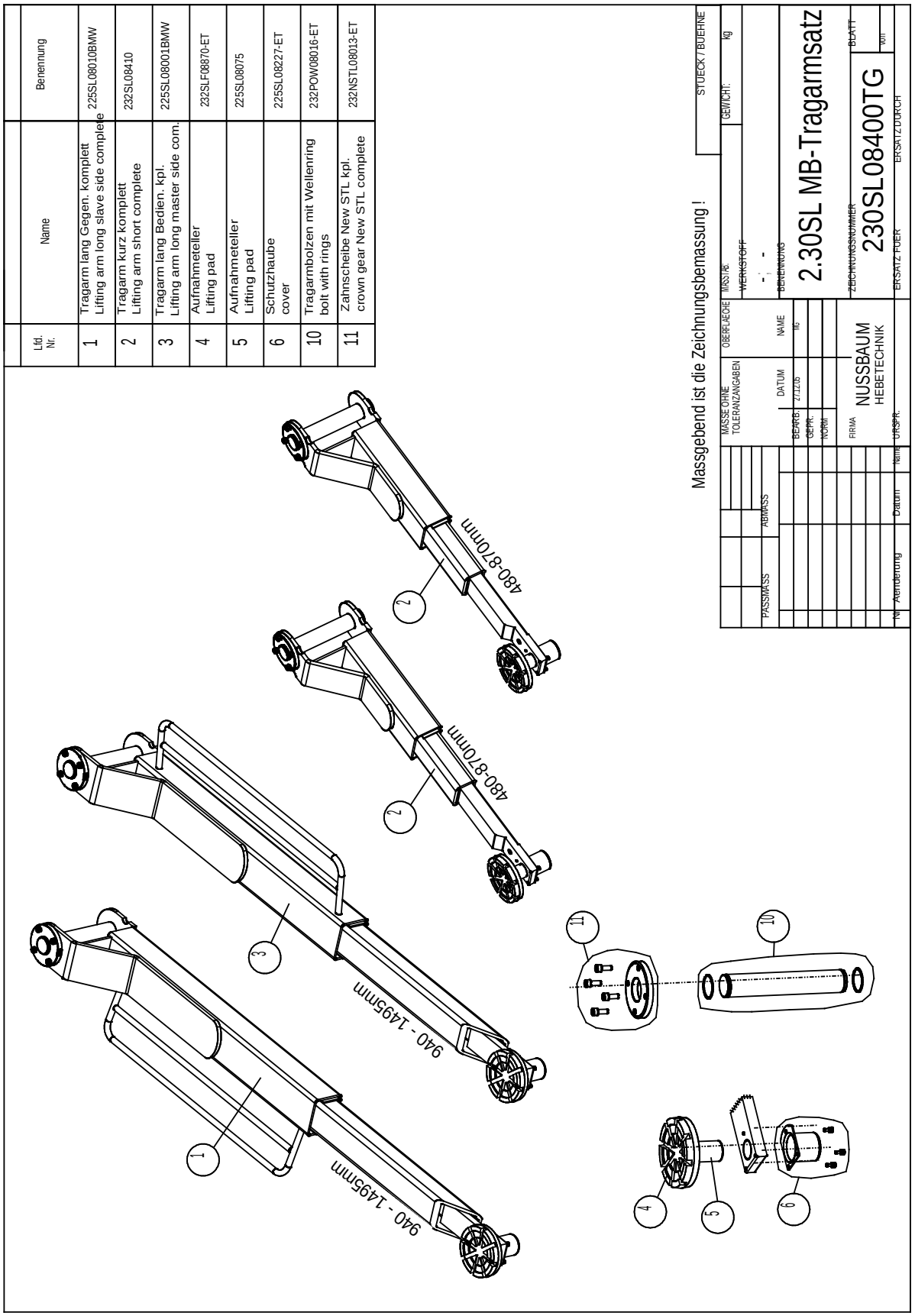
## 2.30 SL Standard Tragarmsatz / standard arms

| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm lang komplett Geg.<br>Lifting arm long complete slave side | 225SL08010 |
| 2 | Tragarm kurz Komplett<br>Lifting arm short complete | 225SL08038 |
| 3 | Tragarm lang komplett Bedie.<br>Lifting arm long complete master side | 225SL08001 |
| 4 | Aufnahmeteller<br>Lifting pad | 232SLF08870-ET |
| 5 | Aufnahmeteller<br>Lifting pad | 225SL08075 |
| 10 | Tragarmbolzen mit Wellenring<br>bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL kpl.<br>crown gear New STL complete | 232NSTL08013-ET |



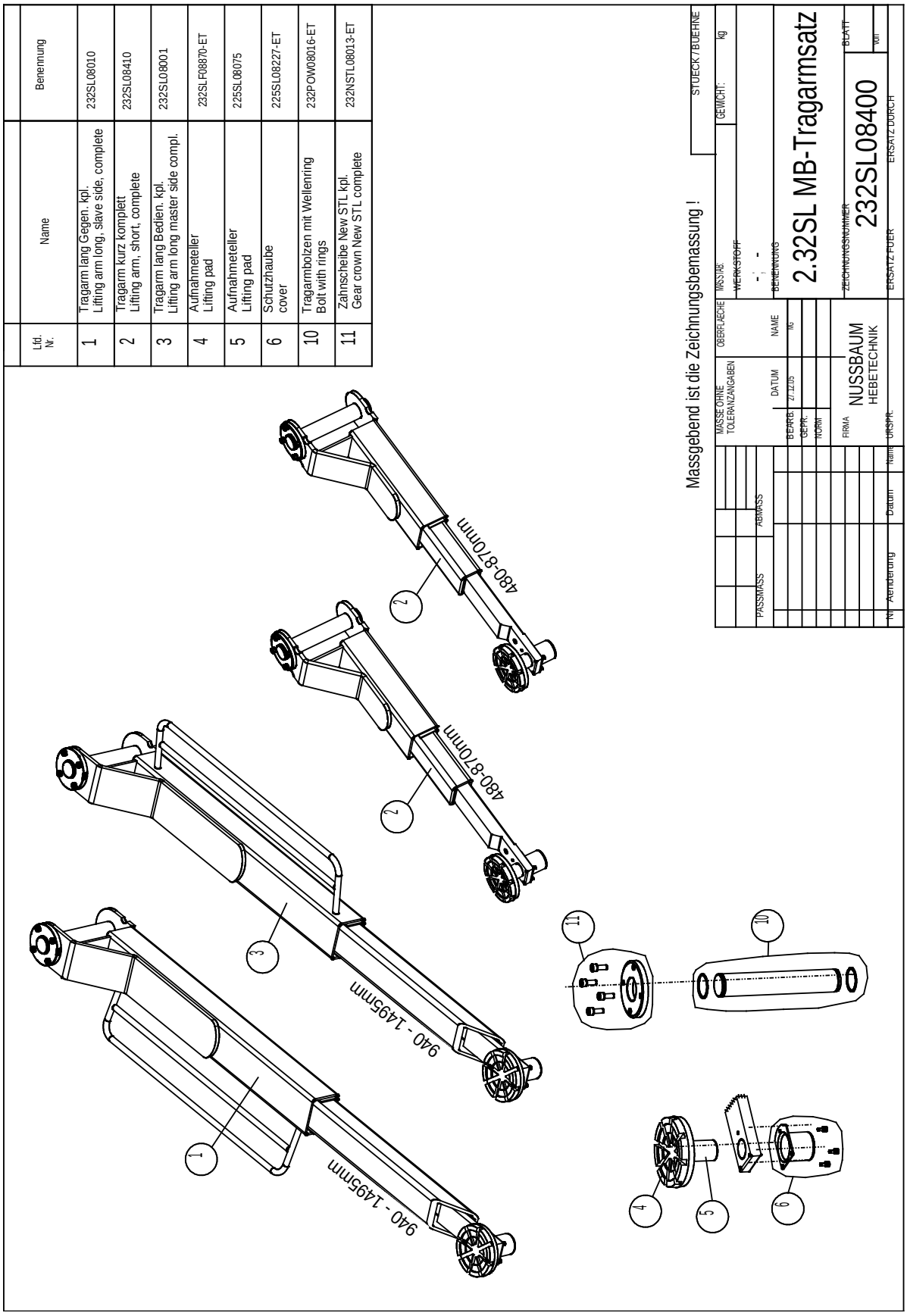
## 2.30 SL 2-fach Tragarmsatz (MB/BMW-Version)

| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm lang Gegen. komplett<br>Lifting arm long slave side complete | 225SL08010BMW |
| 2 | Tragarm kurz komplett<br>Lifting arm short complete | 232SL08410 |
| 3 | Tragarm lang Bedien. kpl.<br>Lifting arm long master side com. | 225SL08001BMW |
| 4 | Aufnahmeteller<br>Lifting pad | 232SLF08870-ET |
| 5 | Aufnahmeteller<br>Lifting pad | 225SL08075 |
| 6 | Schutzhaube<br>cover | 225SL08227-ET |
| 10 | Tragarmbolzen mit Wellenring<br>bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL kpl.<br>crown gear New STL complete | 232NSTL08013-ET |



## 2.32 SL 3-fach Tragarmsatz (MB/BMW-Version)

| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm lang Gegen. kpl.<br>Lifting arm long, slave side, complete | 232SL08010 |
| 2 | Tragarm kurz komplett<br>Lifting arm, short, complete | 232SL08410 |
| 3 | Tragarm lang Bedien. kpl.<br>Lifting arm long master side compl. | 232SL08001 |
| 4 | Aufnahmeteller<br>Lifting pad | 232SLF08870-ET |
| 5 | Aufnahmeteller<br>Lifting pad | 225SL08075 |
| 6 | Schutzhaube<br>cover | 225SL08227-ET |
| 10 | Tragarmbolzen mit Wellenring<br>Bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL kpl.<br>Gear crown New STL complete | 232NSTL08013-ET |



## 2.32 SL Mini-Max

| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm MM kurz Bedienseite<br>Lifting arm MM short master side | 232SL28031 |
| 2 | Tragarm MM kurz Gegenseite<br>Lifting arm MM short slave side | 232SL28032 |
| 3 | Tragarm MM lang Bedienseite<br>Lifting arm MM long master side | 232SL28001 |
| 4 | Tragarm MM lang Gegenseite<br>Lifting arm MM long slave side | 232SL28002 |
| 5 | Aufnahmeteller<br>Lifting pad | 232SLF08870-ET |
| 7 | Führungswinkel<br>Guiding device | 235SL08329 |
| 10 | Tragarmbolzen mit Wellenring<br>Bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL kpl.<br>Gear crown New STL complete | 232NSTL08013-ET |
| 12 | Anschlag<br>stopper | 232SL08269 |

| | | |
|---|---|---|
| A | Mini-Max links<br>Mini-Max left side | Seite 13<br>page 13 |
| B | Mini-Max rechts<br>Mini-Max right side | Seite 12<br>page 12 |

Massgebend ist die Zeichnungsbemessung !

STUECK / BUEHNE

GEWICHT: kg

MASSE OHNE TOLERANZANGABEN | OBERFLÄCHE | MASSAB | WERKSTOFF | BENENNUNG

Tragarmsatz komplett

DATUM | NAME

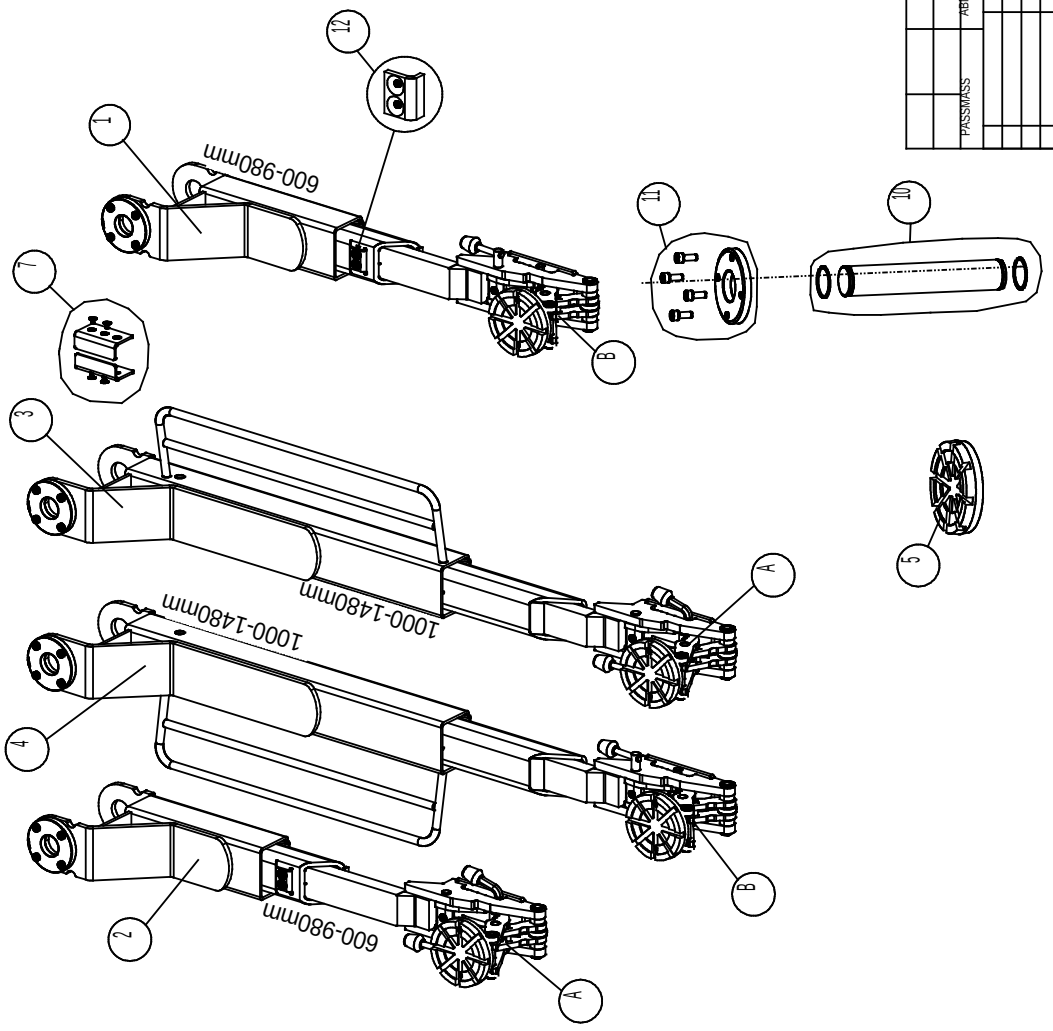
BEARB. | 24.11.11 | Ms

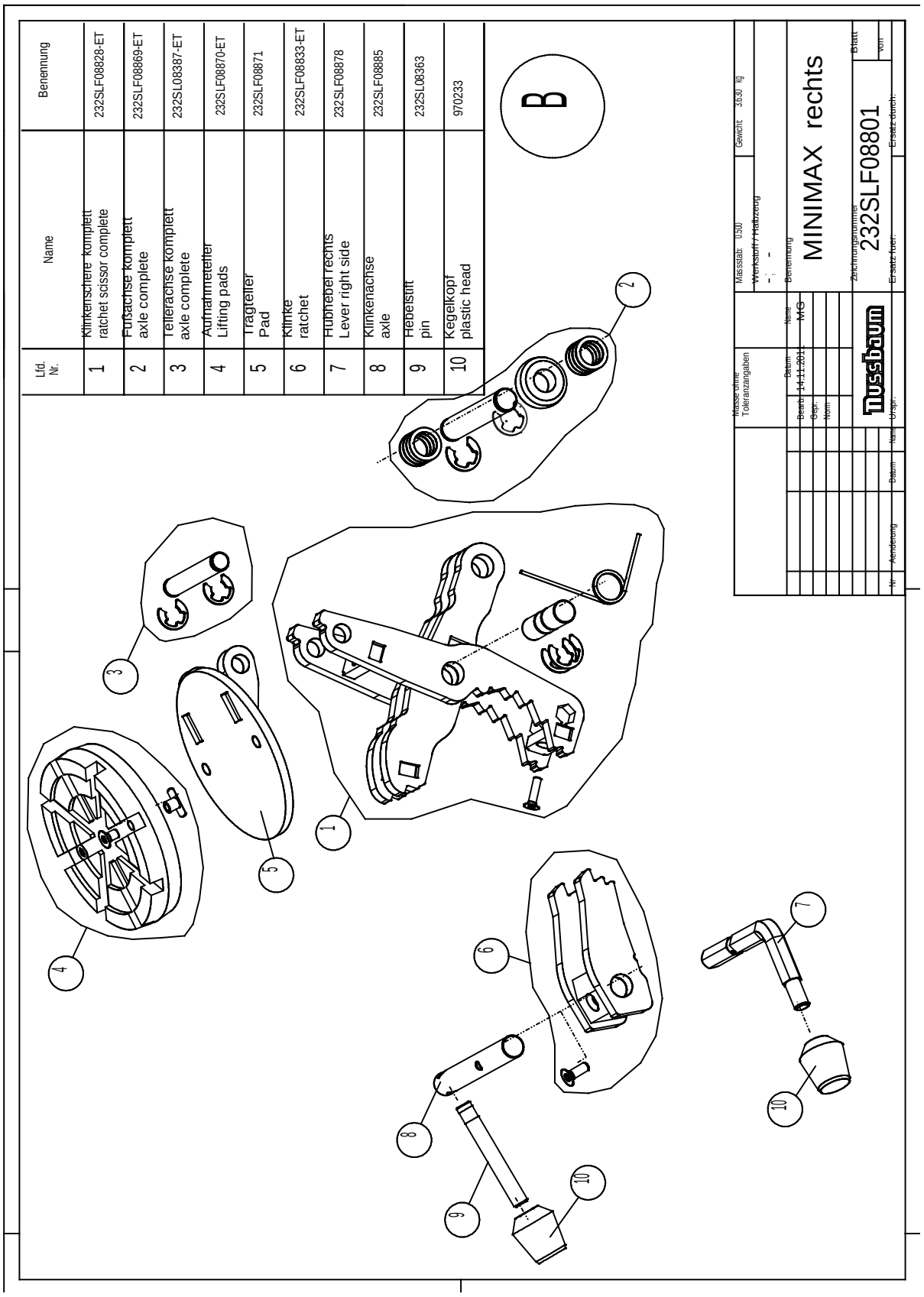
GEPR. | NORM | FIRMA NUSSBAUM HEBETECHNIK

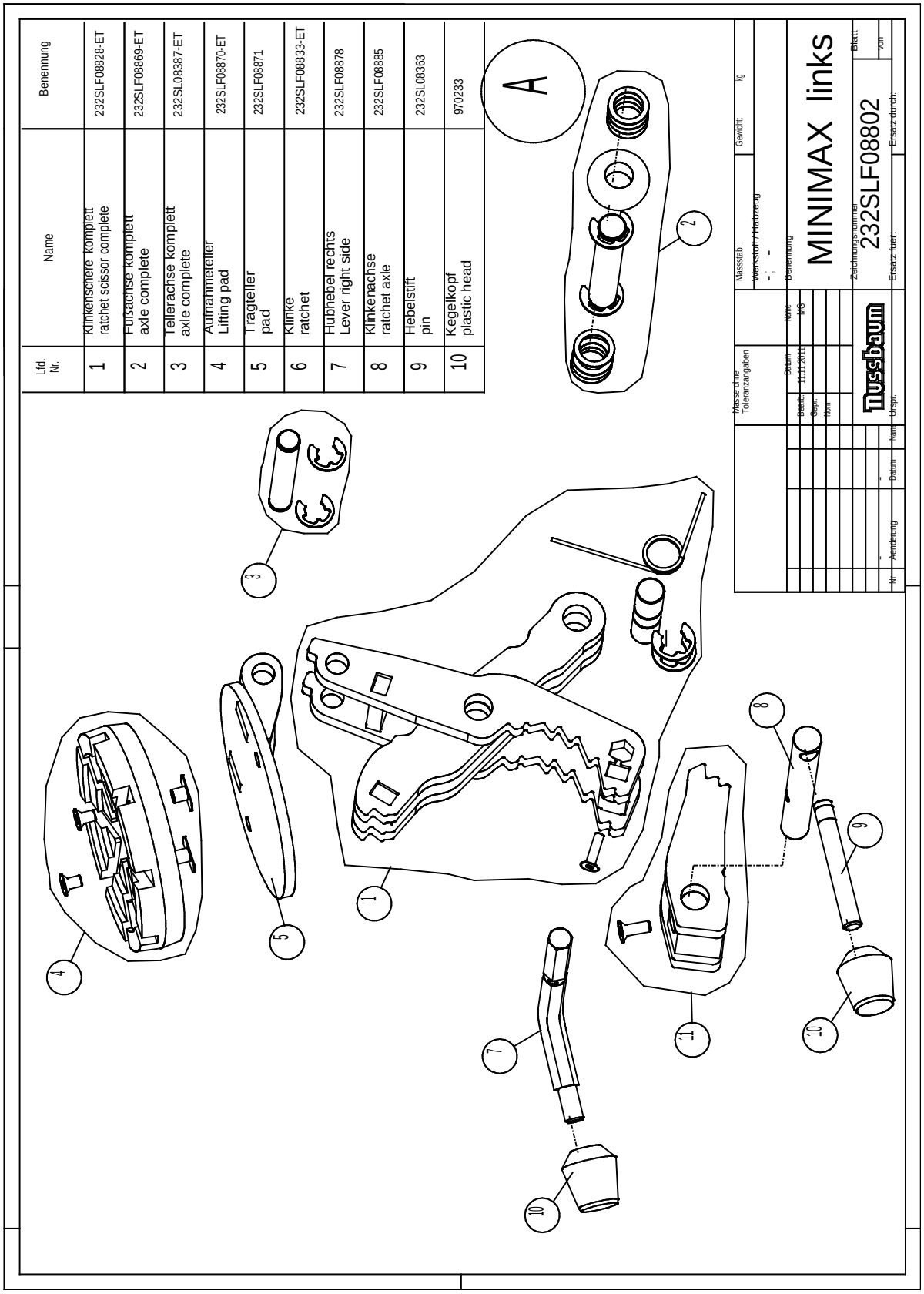
PASSMASS | ABMASS

ZEICHNUNGSNUMMER 232SL28000 | BLATT

Nr. | Aenderung | Datum | Name | URSPR. | ERSATZ FÜER | ERSATZ DURCH

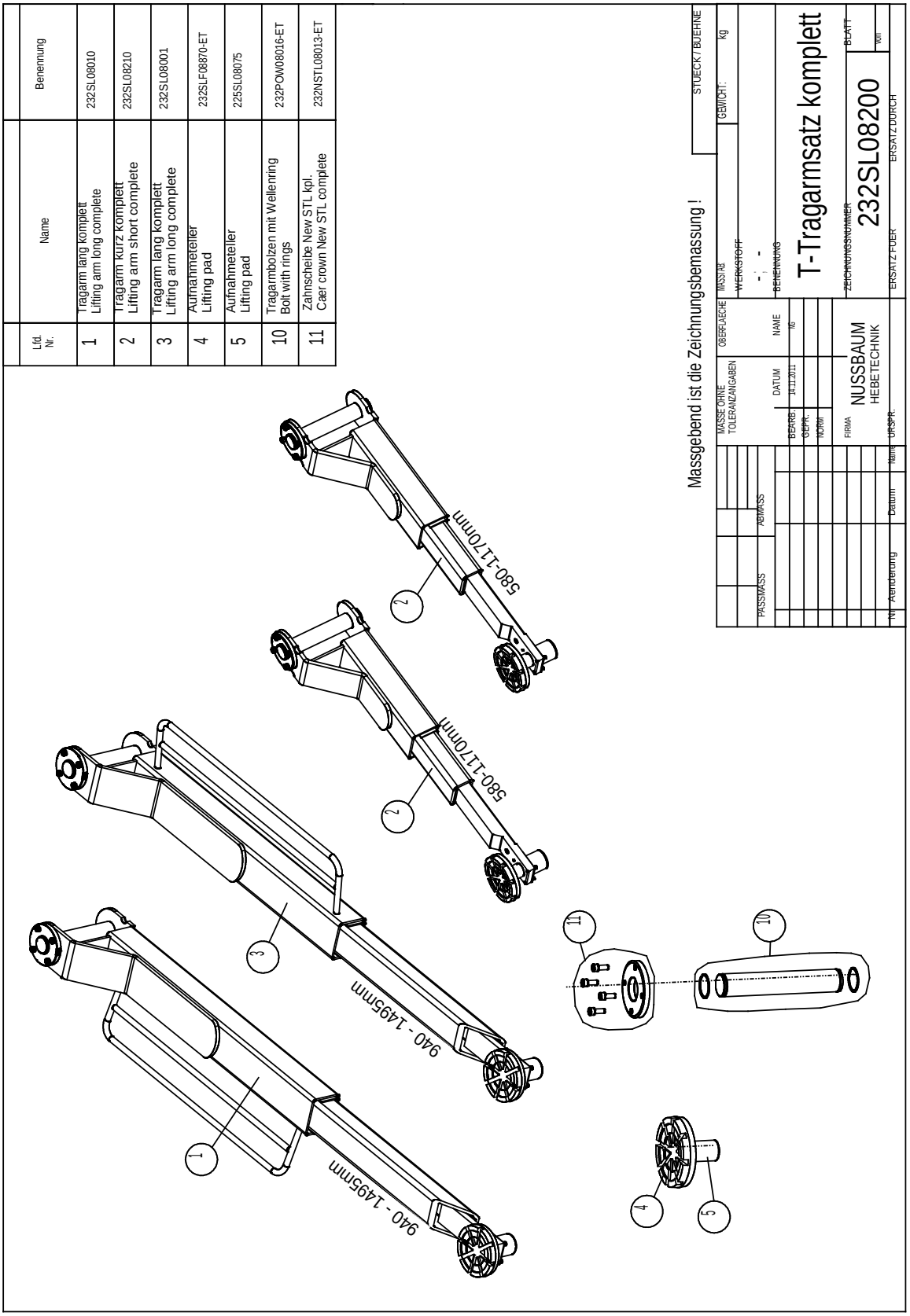



Lfd. Nr.
Name
Benennung
1 Klinkenschere komplett ratchet scissor complete 232SLF08828-ET
2 Fußachse komplett axle complete 232SLF08869-ET
3 Tellerachse komplett axle complete 232SL08387-ET
4 Aufnahmeteller Lifting pads 232SLF08870-ET
5 Tragteller Pad 232SLF08871
6 Klinke ratchet 232SLF08833-ET
7 Hubhebel rechts Lever right side 232SLF08878
8 Klinkenachse axle 232SLF08885
9 Hebelstift pin 232SL08363
10 Kegelkopf plastic head 970233
B
MINIMAX rechts
232SLF08801
Nussbaum
Maßstab: 0,500
Gewicht: 3,630 kg
Werkstoff / Halbzeug
Benennung
Name
Datum
Bearb. 14.11.2011 MG
Gepr.
Norm
Urspr.
Zeichnungsnummer
Ersatz für:
Ersatz durch:
Blatt
Von
Masse ohne Toleranzangaben
Änderung
Datum
Name

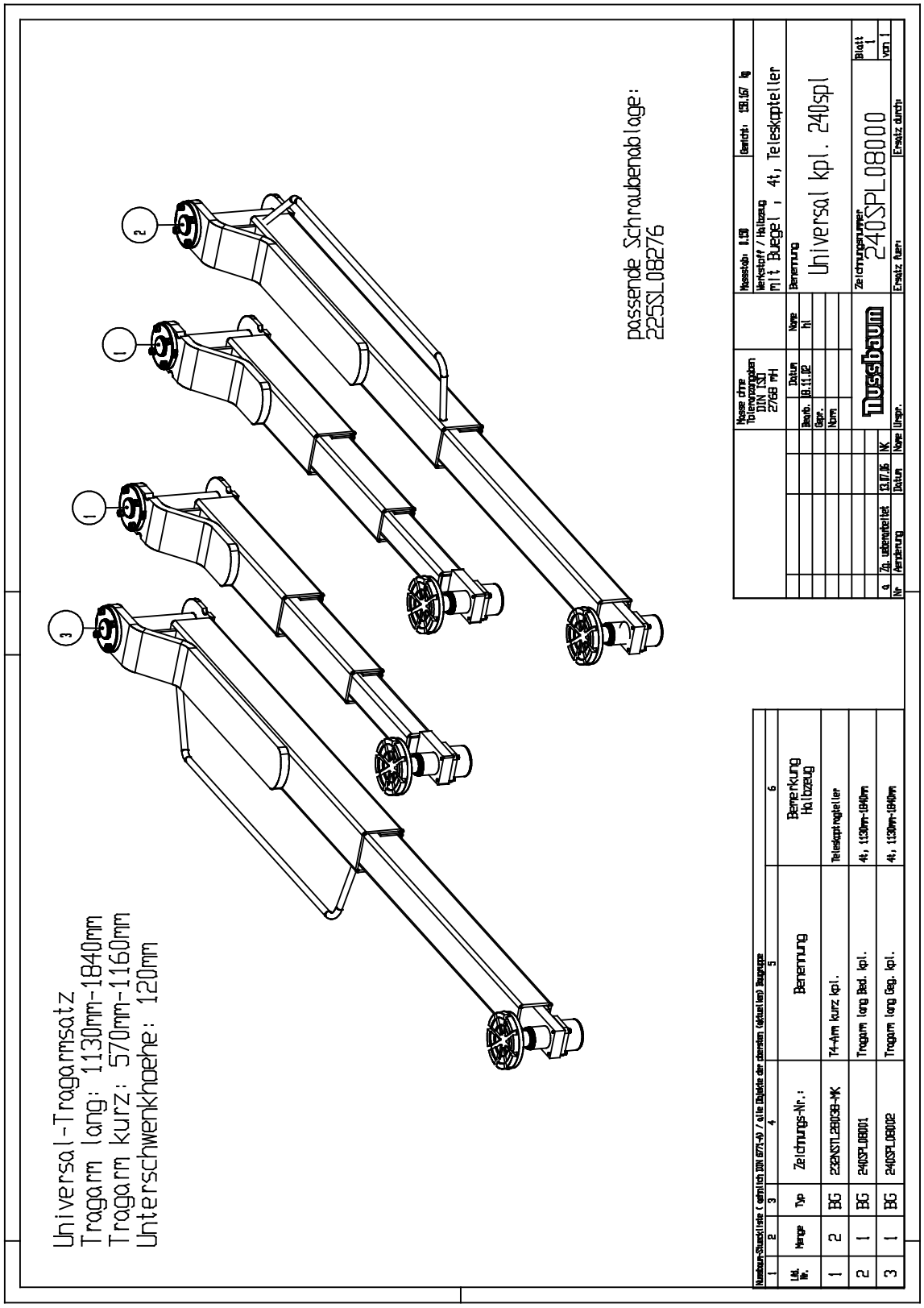

Lfd. Nr.
Name
Benennung
1 Klinkenschere komplett ratchet scissor complete 232SLF08828-ET
2 Fußachse komplett axle complete 232SLF08869-ET
3 Tellerachse komplett axle complete 232SL08387-ET
4 Aufnahmeteller Lifting pad 232SLF08870-ET
5 Trägteller pad 232SLF08871
6 Klinke ratchet 232SLF08833-ET
7 Hubhebel rechts Lever right side 232SLF08878
8 Klinkenachse ratchet axle 232SLF08885
9 Hebelstift pin 232SL08363
10 Kegelkopf plastic head 970233
A
MINIMAX links
232SLF08802
Nussbaum
Maßstab:
Gewicht:
Werkstoff / Halbzeug
Bezeichnung
Zeichnungsnummer
Ersatz für:
Ersatz durch:
Blatt
Datum
Name
Maße ohne Toleranzangaben
Bearb.
Gepr.
Norm
Urspr.
Änderung

## 2.32 SL Transporter-Tragarme

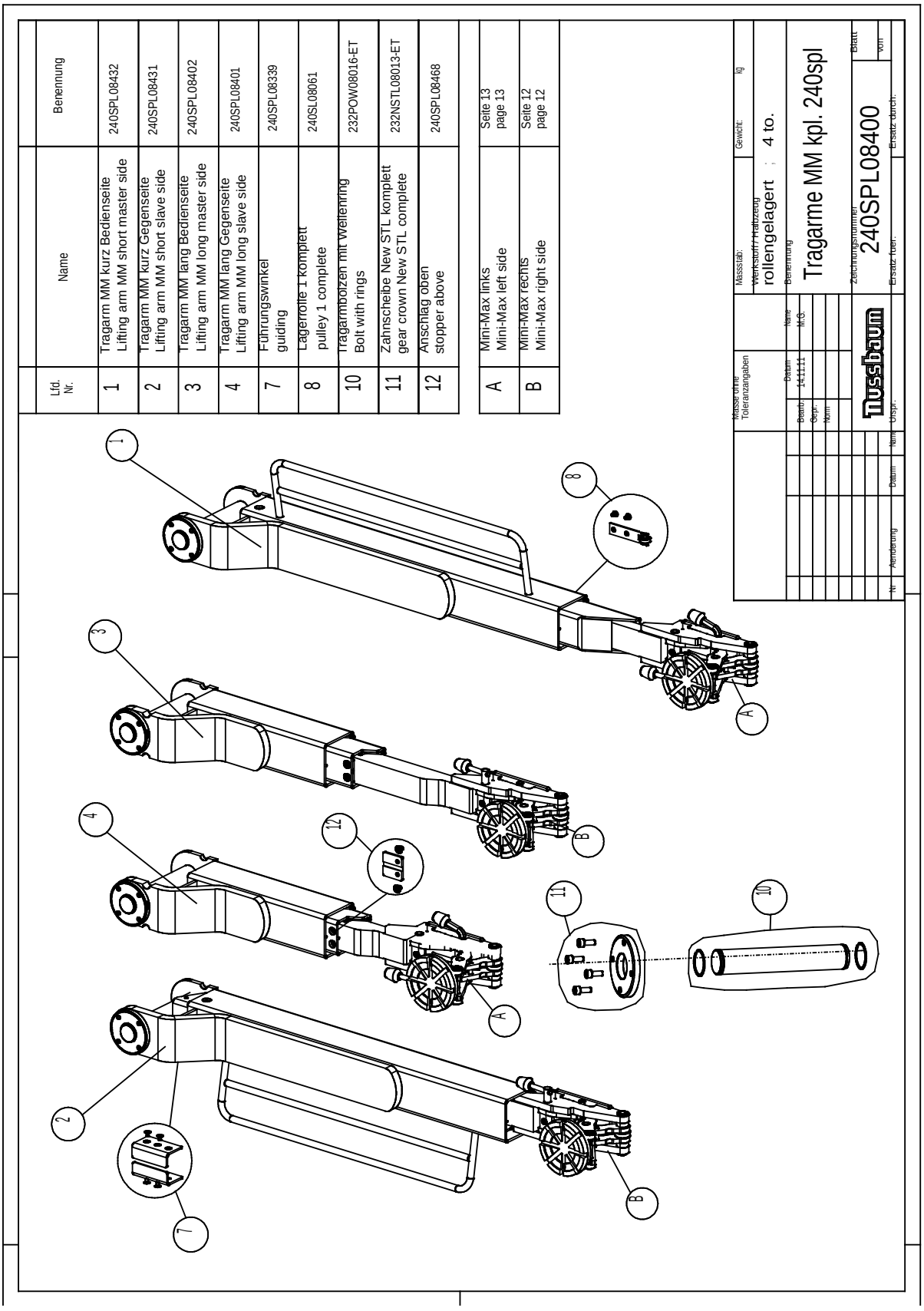
| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm lang komplett<br>Lifting arm long complete | 232SL08010 |
| 2 | Tragarm kurz komplett<br>Lifting arm short complete | 232SL08210 |
| 3 | Tragarm lang komplett<br>Lifting arm long complete | 232SL08001 |
| 4 | Aufnahmeteller<br>Lifting pad | 232SLF08870-ET |
| 5 | Aufnahmeteller<br>Lifting pad | 225SL08075 |
| 10 | Tragarmbolzen mit Wellenring<br>Bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL kpl.<br>Caer crown New STL complete | 232NSTL08013-ET |



## 2.40 SL Standard Tragarme



## 2.40 SL Mini-Max Tragarme

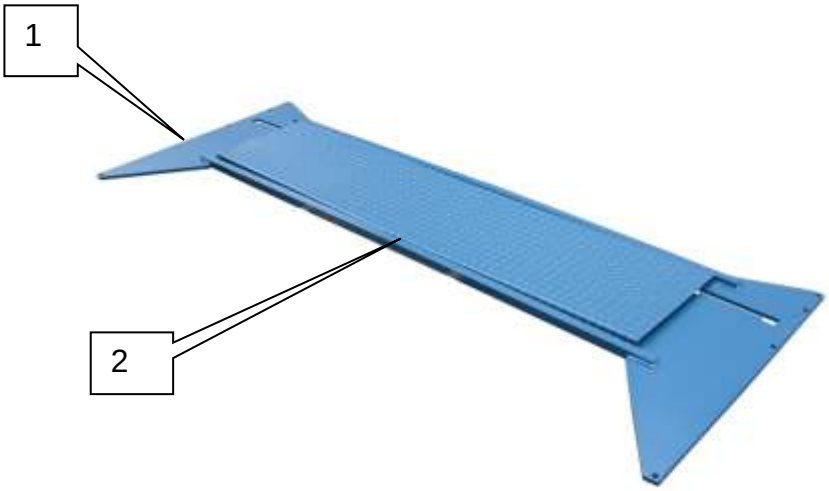


| Lfd. Nr. | Name | Benennung |
|---|---|---|
| 1 | Tragarm MM kurz Bedienseite<br>Lifting arm MM short master side | 240SPL08432 |
| 2 | Tragarm MM kurz Gegenseite<br>Lifting arm MM short slave side | 240SPL08431 |
| 3 | Tragarm MM lang Bedienseite<br>Lifting arm MM long master side | 240SPL08402 |
| 4 | Tragarm MM lang Gegenseite<br>Lifting arm MM long slave side | 240SPL08401 |
| 7 | Führungswinkel<br>guiding | 240SPL08339 |
| 8 | Lagerrolle 1 komplett<br>pulley 1 complete | 240SL08061 |
| 10 | Tragarmbolzen mit Wellenring<br>Bolt with rings | 232POW08016-ET |
| 11 | Zahnscheibe New STL komplett<br>gear crown New STL complete | 232NSTL08013-ET |
| 12 | Anschlag oben<br>stopper above | 240SPL08468 |

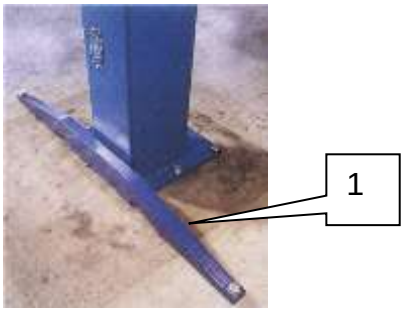
| | | |
|---|---|---|
| A | Mini-Max links<br>Mini-Max left side | Seite 13<br>page 13 |
| B | Mini-Max rechts<br>Mini-Max right side | Seite 12<br>page 12 |

Maßstab: Gewicht: kg
Werkstoff / Halbzeug
rollengelagert : 4 to.
Benennung
Tragarme MM kpl. 240spl
Zeichnungsnummer
240SPL08400
Blatt:
von
Ersatz für:
Ersatz durch:
Nussbaum
Name
M.S.
Datum
14.11.11
Bearb.
Gepr.
Norm
Urspr.
Maße ohne Toleranzangaben
Nr. Änderung Datum Name

## Grundrahmen / base frame

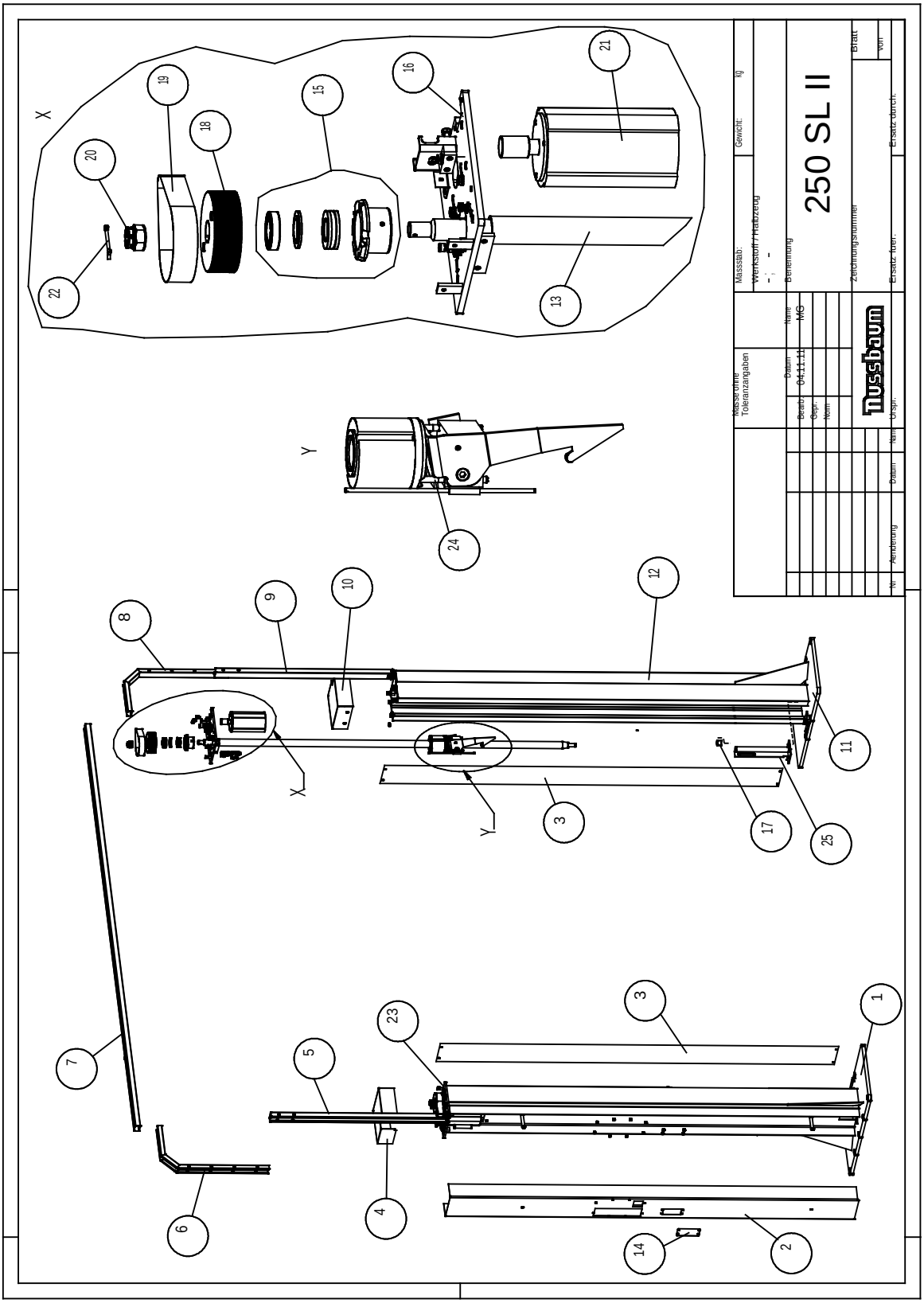



| Grundrahmen / baseframe | | | | | |
|---|---|---|---|---|---|
| | 2.28 SL | 2.30 SL | 2.30 SL MB | 2.32 SL | 2.35 SL / 2.40 SL |
| 1+2 | Komplett 228SL11000 | Komplett 225SL51000 | Komplett 230SL51100 | Komplett 232SL11000 | Komplett 240SL11000 |
| 1 | 228SL11003 | 225SL51003 | 230SL51103 | 232SL11003 | 240SL11003 |
| 2 | 228SL11033 | 225ATL51033 | 230SL51133 | 232SL11009 | 240SL11033 |




| Hilfsbügel / additional bow | | | | | |
|---|---|---|---|---|---|
| | | 2.30 SL<br>2.30 SL MB | | 2.32 SL | 2.35 SL / 2.40 SL |
| 1+2 | | 225SL31000 | | 232SL10000 | X |

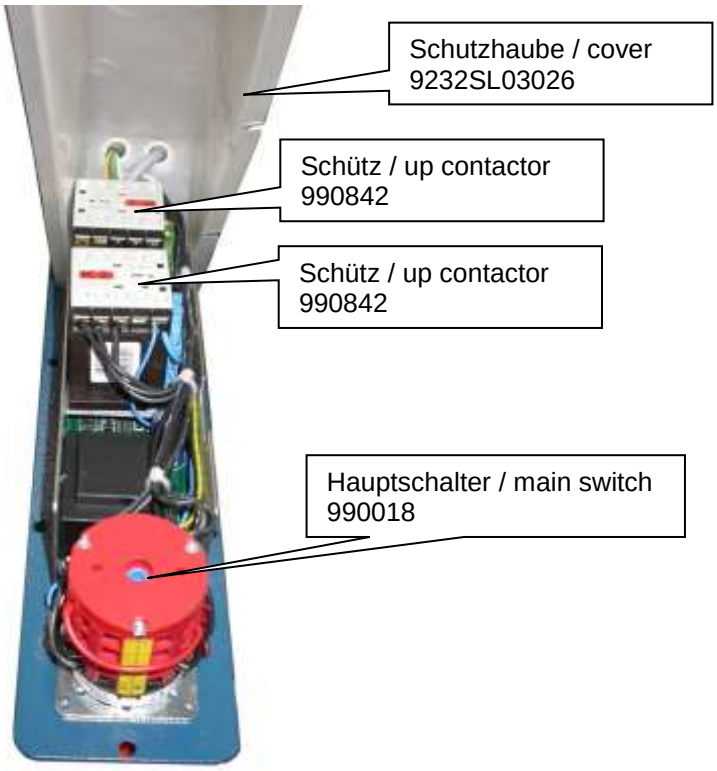
# 2.50 SL Ersatzteilliste

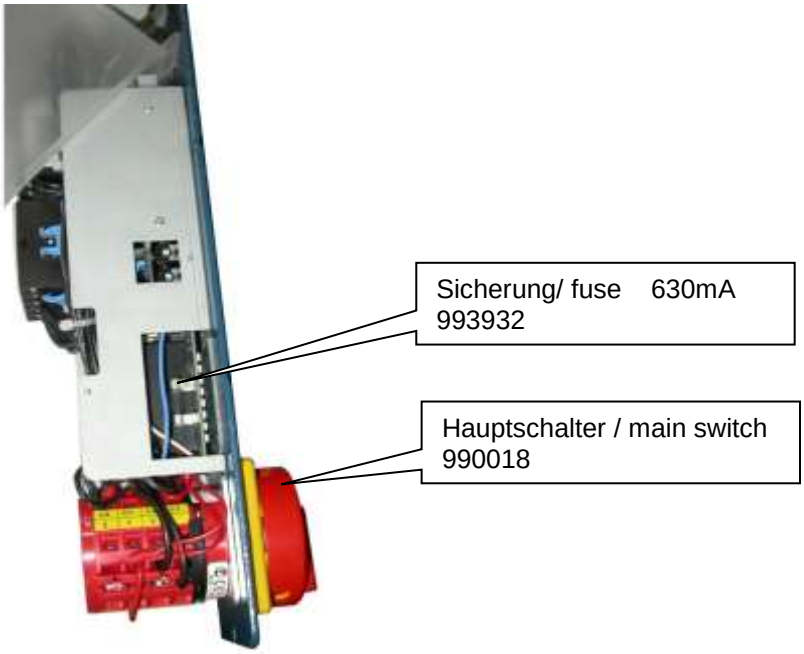


| | | | |
|---|---|---|---|
| 1 | Hubsäule Bedienseite<br>Column master side | 250SL05203 | |
| 2 | Abdeckung<br>cover | 250SL09004 | |
| 3 | Abdeckband<br>Rubber cover | 972434 | |
| 4 | Abdeckung<br>cover | 250SL09212 | |
| 5 | Steigrohr<br>pipe | 232SL05070 | |
| 6 | Steigrohr<br>pipe | 225SL45073 | |
| 7 | Querrohr<br>Cross beam | 250SL05083 | |
| 8 | Steigrohr<br>pipe | 225SL45073 | |
| 9 | Steigrohr<br>pipe | 232SL05070 | |
| 10 | Abdeckung<br>cover | 250SL09212 | |
| 11 | Hubsäule Gegenseite<br>Column slave side | 250SL05203 | |
| 12 | Abdeckung<br>cover | 250SL09303 | |
| 13 | Spindel<br>Spindle | 225SL22001 | |
| 14 | Abdeckblech<br>cover | 225SL09021 | |
| 15 | Lager<br>bearing | 225SL25031M | |
| 16 | Kopfplatte Gegenseite<br>Head plate slave side | 250SL02353 | |
| 17 | DU-Lager<br>sliding bearing | 970065 | |
| 18 | Keilriemenscheibe<br>v-belt pulley | 250SL02010 | |
| 19 | Polyflexriemen<br>V-belt | 972357 | |
| 20 | Kronenmutter<br>Hexagon castle nut | 9935M24x1,5ZN | |
| 21 | Motor komplett<br>Motor complete | 232SL01003 | !! Pro Bühne müssen in jedem Fall die gleichen Motoren verwendet werden!<br>!!Use always the same motors per lift. |
| 22 | Splint<br>Splint pin | 994D05x050 | |
| 23 | Kopfplatte Bedienseite<br>Head plate Master side | 250SL02303 | |
| 24 | Hubmutter komplett | 232SL02018<br>Version mit Senkkopfschraube | Montagehinweis: $28^{+6}$ mm Abstand zwischen beiden Muttern.<br>Installation note: $28^{+6}$ mm distance between the both nuts. |
| 25 | Spindelführung<br>Guide tube | 250SL05243 | |

**Steuerung Bedienteil: 250SL03000TG (<u>ohne</u> CE-Stop) (gültig ab 04/06)**

**Control unit: 250SL03000TG (<u>without</u> CE-Stop) (valid since 04/06)**

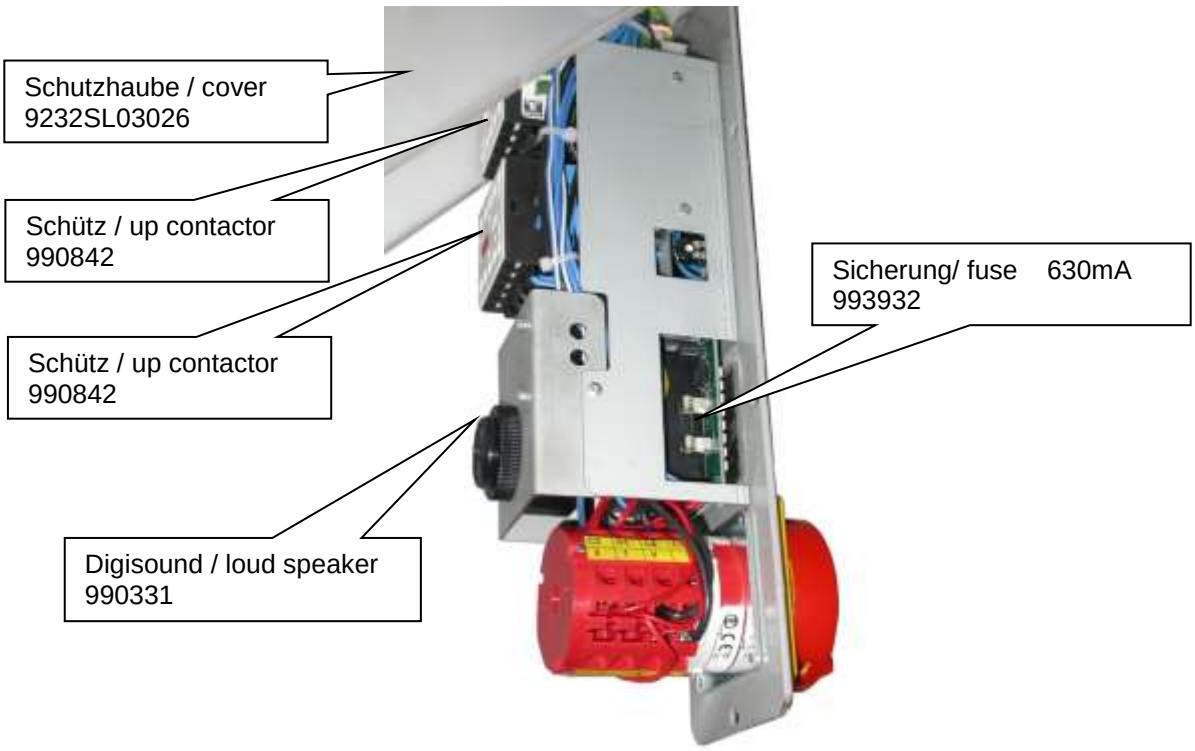



**Steuerung Bedienteil: 250SL03600TG (<u>mit</u> CE-Stop) (gültig ab 04/06)**

**Control unit: 250SL03600TG (<u>with</u> CE-Stop) (valid since 04/06)**


CE-Stop Überbrückungstaster:
(bestehend aus)
990130, 990142 , 990133
991045 (grünes
Tastenschild)
Hauptschalter / main switch
990018


Schutzhaube / cover
9232SL03026
Schütz / up contactor
990842
Schütz / up contactor
990842
Digisound / loud speaker
990331
Sicherung/ fuse 630mA
993932

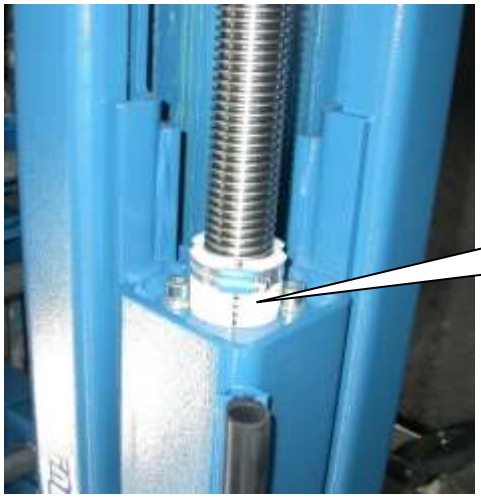
Tragteller komplett
pad complete
235TTKAS08055

Gummiteller 901103031
Rubber pad

Kopfschutz 250HDL28028
Head protection

115-190mm

2.50 SL Schraubenablage
Screw storage
Satz/Set 2 St. 250SL08376S

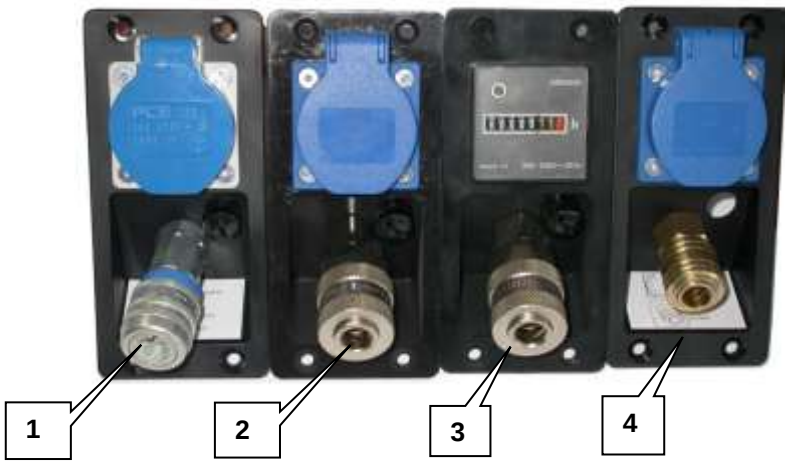


Spindelführung komplett
Spindle guiding 232SL62011
+ Schlauchschelle / clamp
+ Filz / felt

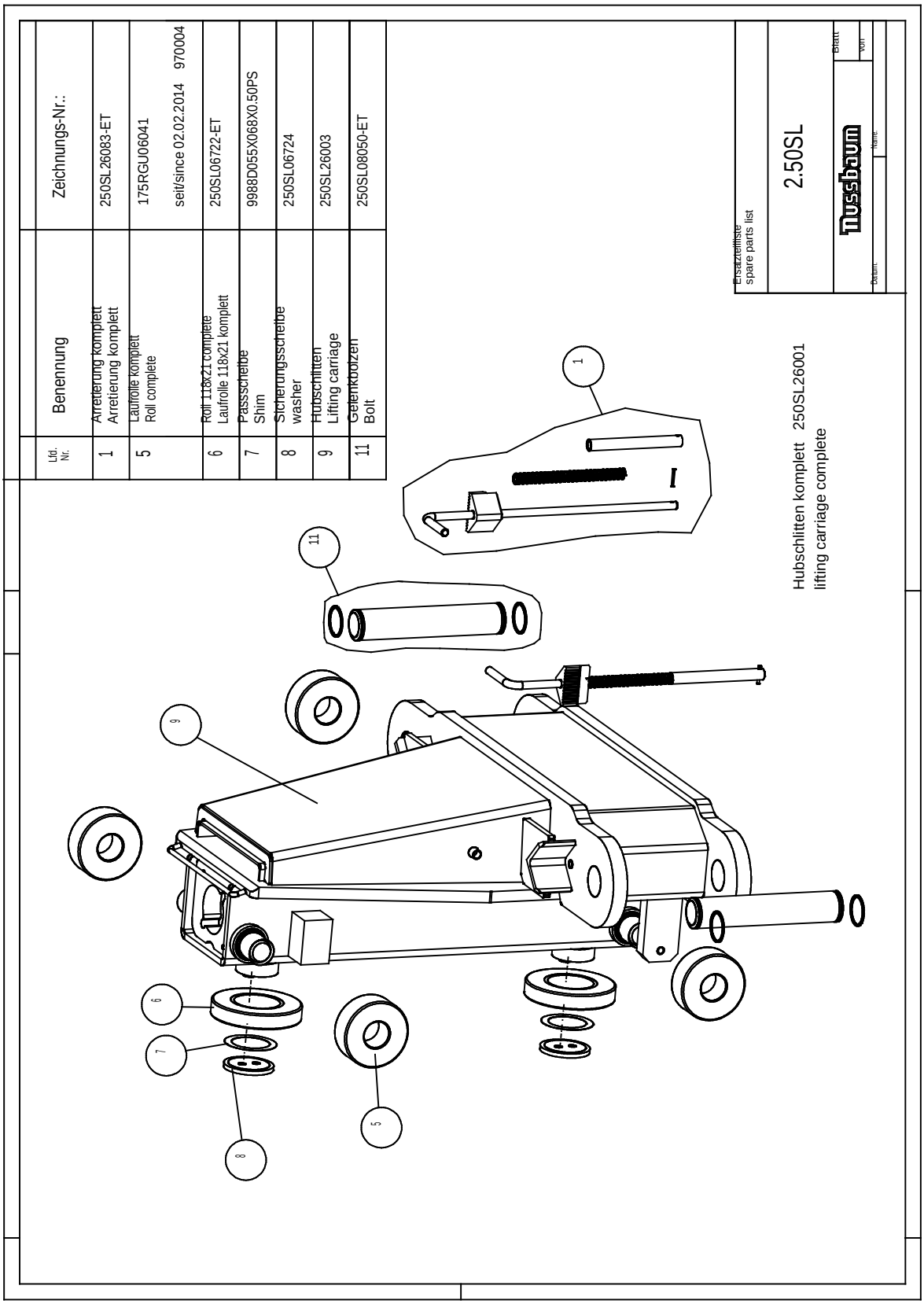
SL Gleichlaufpoti komplett
SL Potentiometer complete
232SL03003

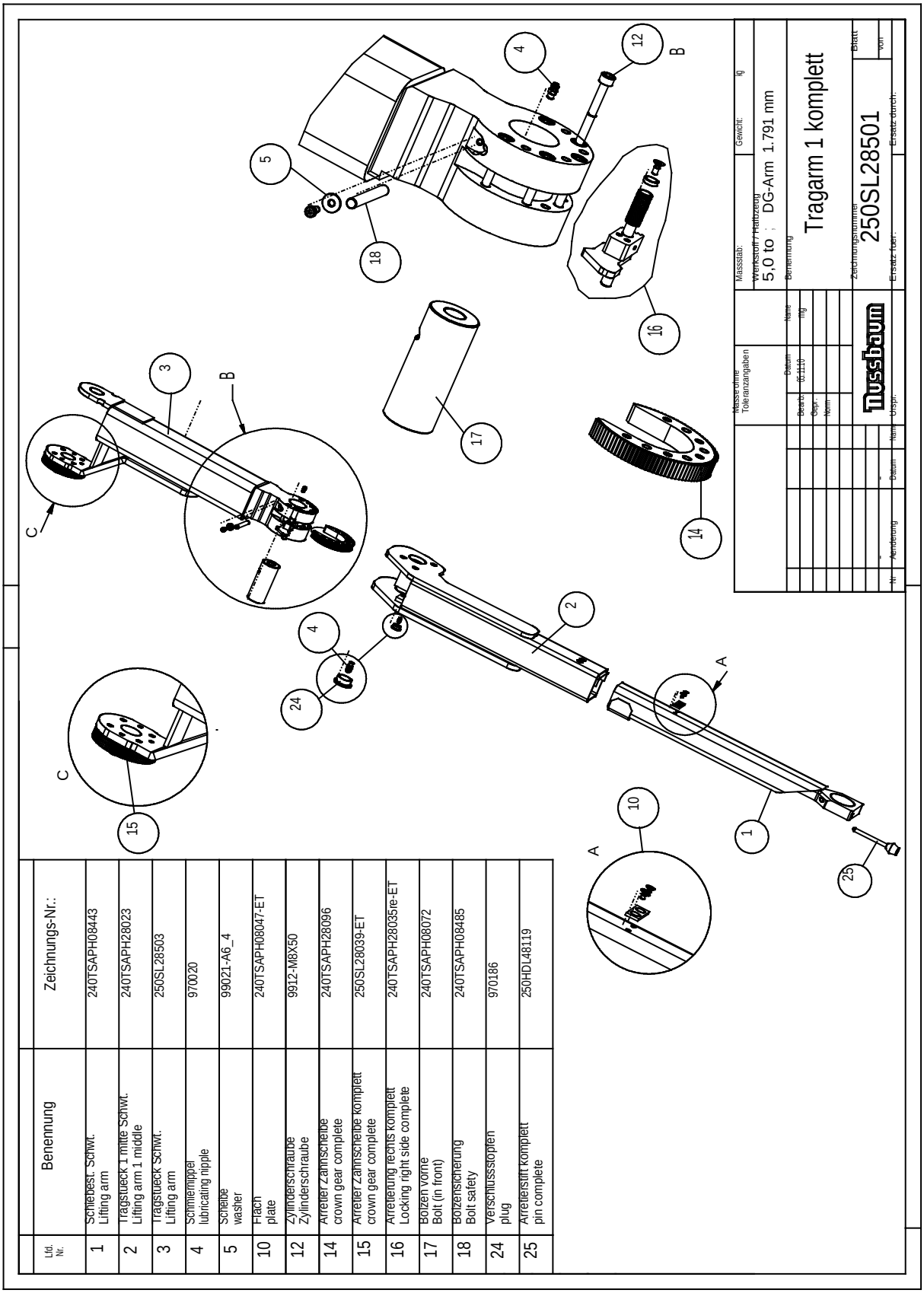
Motor 2.50 SL II
232SL01003

**Energieset komplett / Energy set complete**

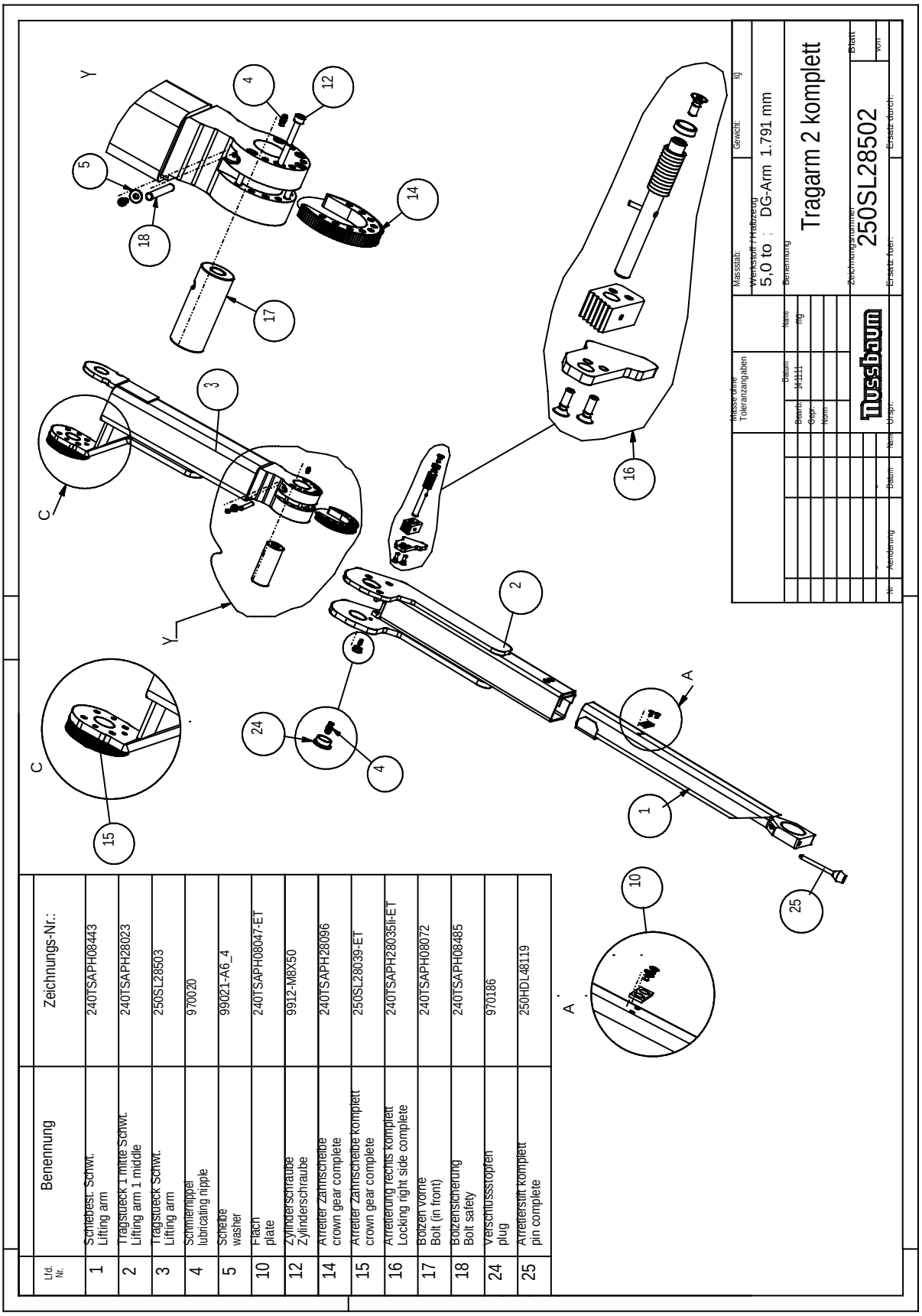



| | | |
|---|---|---|
| 1 | Energieset / Energy set Schweiz/ Switzerland | 225SL05091CH (Bedienseite)<br>225SL05092CH (Gegenseite) |
| 2 | Energieset / Energy set | 225SL05092MB |
| 3 | Energieset / Energy set<br>mit Betriebsstundenzähler / with elapsed time indicator | 225SL05091MB |
| 4 | Energieset / Energy set (Standard) | 225SL05091 (Bedienseite)<br>225SL05092 (Gegenseite) |

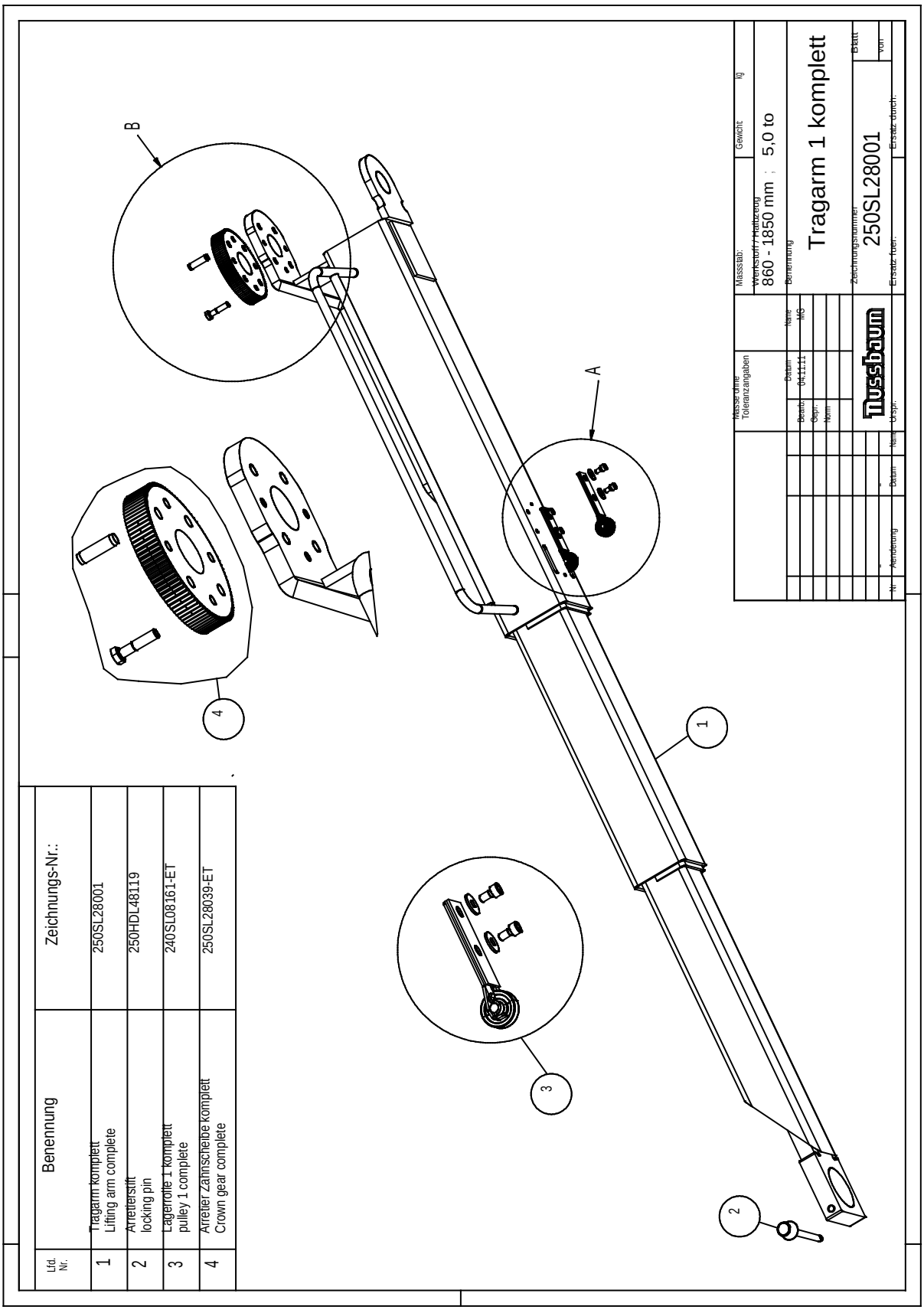

Lfd. Nr.
Benennung
Zeichnungs-Nr.:
1 Arretierung komplett / Arretierung komplett 250SL26083-ET
5 Laufrolle komplett / Roll complete 175RGU06041 seit/since 02.02.2014 970004
6 Roll 118x21 complete / Laufrolle 118x21 komplett 250SL06722-ET
7 Passscheibe / Shim 9988D055X068X0.50PS
8 Sicherungsscheibe / washer 250SL06724
9 Hubschlitten / Lifting carriage 250SL26003
11 Gelenkbolzen / Bolt 250SL08050-ET
Ersatzteilliste / spare parts list
2.50SL
Nussbaum
Datum
Name
Blatt
von
Hubschlitten komplett 250SL26001
lifting carriage complete

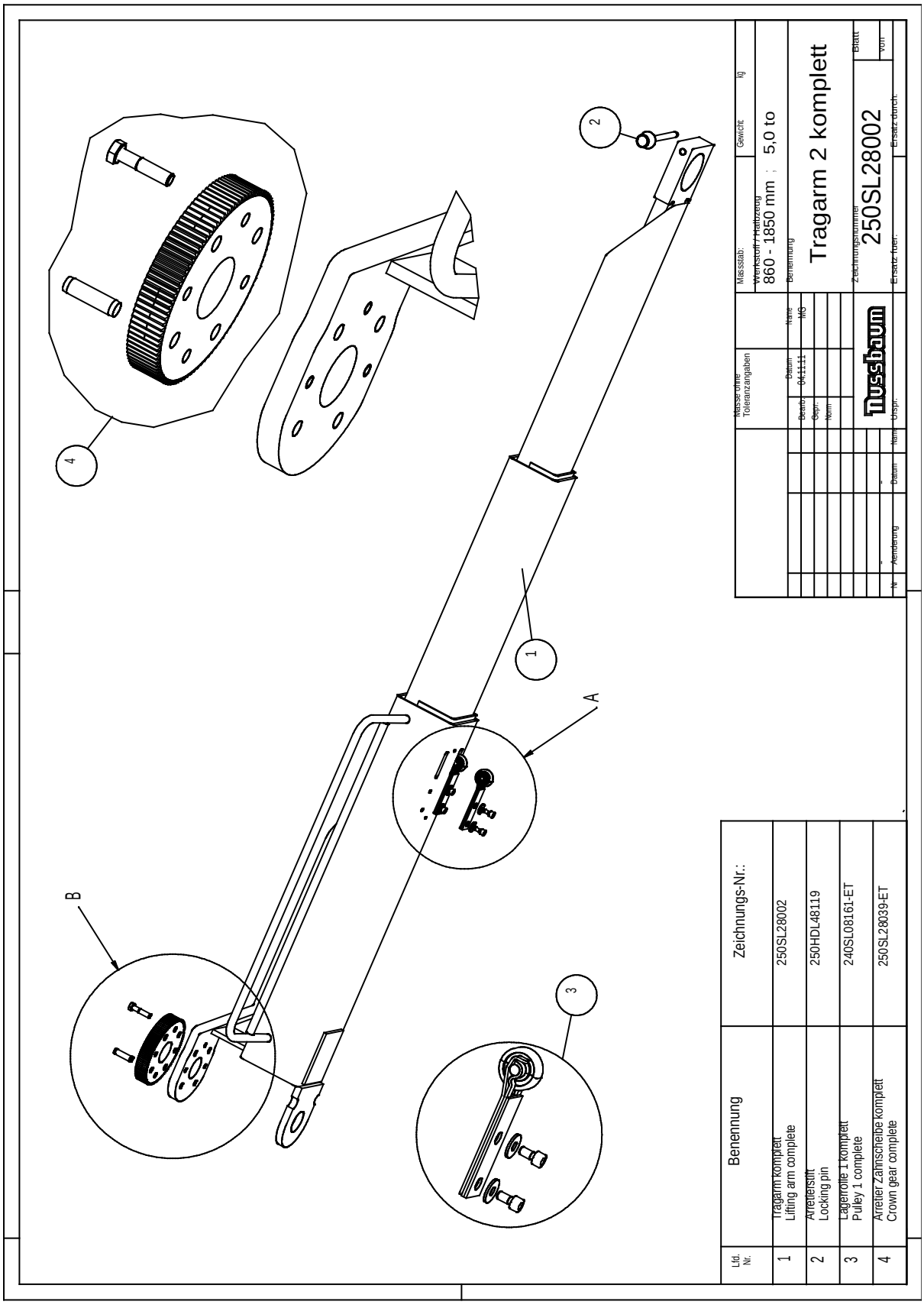



| Lfd. Nr. | Benennung | Zeichnungs-Nr.: |
|---|---|---|
| 1 | Schiebest. Schwt. Lifting arm | 240TSAPH08443 |
| 2 | Tragstueck 1 mitte Schwt. Lifting arm 1 middle | 240TSAPH28023 |
| 3 | Tragstueck Schwt. Lifting arm | 250SL28503 |
| 4 | Schmiernippel lubricating nipple | 970020 |
| 5 | Scheibe washer | 99021-A6_4 |
| 10 | Flach plate | 240TSAPH08047-ET |
| 12 | Zylinderschraube Zylinderschraube | 9912-M8X50 |
| 14 | Arretier Zahnscheibe crown gear complete | 240TSAPH28096 |
| 15 | Arretier Zahnscheibe Komplett crown gear complete | 250SL28039-ET |
| 16 | Arretierung rechts komplett Locking right side complete | 240TSAPH28035re-ET |
| 17 | Bolzen vorne Bolt (in front) | 240TSAPH08072 |
| 18 | Bolzensicherung Bolt safety | 240TSAPH08485 |
| 24 | Verschlussstopfen plug | 970186 |
| 25 | Arretierstift komplett pin complete | 250HDL48119 |




| Lfd. Nr. | Benennung | Zeichnungs-Nr.: |
|---|---|---|
| 1 | Schiebest. Schwr.<br>Lifting arm | 240TSAPH08443 |
| 2 | Tragstueck 1 mitte Schwr.<br>Lifting arm 1 middle | 240TSAPH28023 |
| 3 | Tragstueck Schwr.<br>Lifting arm | 250SL28503 |
| 4 | Schmiernippel<br>lubricating nipple | 970020 |
| 5 | Scheibe<br>washer | 99021-A6_4 |
| 10 | Flach<br>plate | 240TSAPH08047-ET |
| 12 | Zylinderschraube<br>Zylinderschraube | 9912-M8X50 |
| 14 | Arretier Zahnscheibe<br>crown gear complete | 240TSAPH28096 |
| 15 | Arretier Zahnscheibe komplett<br>crown gear complete | 250SL28039-ET |
| 16 | Arretierung rechts komplett<br>Locking right side complete | 240TSAPH28035li-ET |
| 17 | Bolzen vorne<br>Bolt (in front) | 240TSAPH08072 |
| 18 | Bolzensicherung<br>Bolt safety | 240TSAPH08485 |
| 24 | Verschlussstopfen<br>plug | 970186 |
| 25 | Arretierstift komplett<br>pin complete | 250HDL48119 |


Lfd. Nr.
Benennung
Zeichnungs-Nr.:
1 Tragarm komplett / Lifting arm complete 250SL28001
2 Arretierstift / locking pin 250HDL48119
3 Lagerrolle 1 komplett / pulley 1 complete 240SL08161-ET
4 Arretier Zahnscheibe komplett / Crown gear complete 250SL28039-ET
Masse ohne Toleranzangaben
Masstab:
Gewicht:
Werkstoff / Holzzeug
860 - 1850 mm ; 5,0 to
Benennung
Tragarm 1 komplett
Zeichnungsnummer
250SL28001
Blatt
Ersatz für:
Ersatz durch:
Nussbaum
Datum
Name
Bearb. 04.11.11 MG
Gepr.
Norm
Urspr.
Änderung
Datum
Name
A
B
1
2
3
4


Tragarm 2 komplett
250SL28002
860 - 1850 mm
5,0 to
Ltd. Nr.
Benennung
Zeichnungs-Nr.:
1 Tragarm komplett / Lifting arm complete 250SL28002
2 Arretierstift / Locking pin 250HDL48119
3 Lagerrolle 1 komplett / Pulley 1 complete 240SL08161-ET
4 Arretier Zahnscheibe komplett / Crown gear complete 250SL28039-ET
A
B

Otto Nußbaum GmbH & Co.KG | Korker Str. 24 | D 77694 Kehl-Bodersweier
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Service Hotline Germany: 0800 5 288 911
Service Hotline International: +49 180 15 288 911
20110015 SMART LIFT 2.30 SL-2.35 SL-2.40 SL - HYMAX S 3000-3500-4000 OP+ETLI | EN | Version 1.0