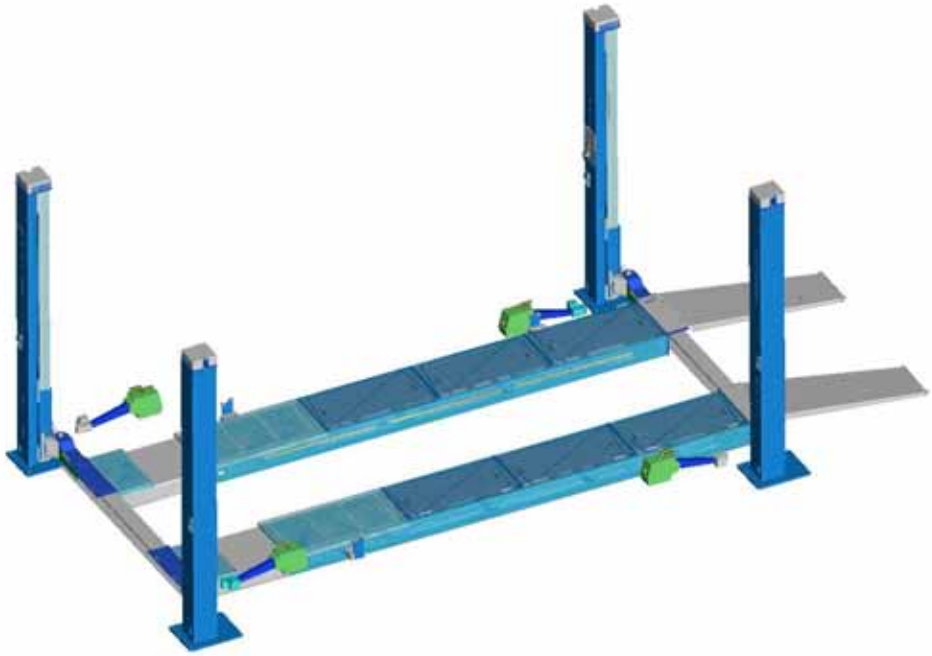
4.55 SL

Automotive Lift date: 01/2010
Manual Date: 02.01.2010



Original Operating Instruction

Operating Instruction and Documentation

Serial-number:.....

Retailer address / phone

Made in Germany

Otto Nußbaum GmbH & Co.KG ● Korker Straße 24 ● D-77694 Kehl-Bodersweier
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Content

Foreword

Nußbaum lifting systems are the result of over 25 years experience in the automotive lifting industry. The high quality and the superior concept ensure reliability, a long lift lifetime and above all and economic business solution.
To avoid unnecessary damage, injury or even death, read the operating instructions with care and observe the contents.
Nußbaum lifts is not responsible for incidents involving the use of Nußbaum lifting systems for applications other than those for which they were designed.

Nußbaum GmbH & Co. KG is not liable for any resulting damages. The user carries the risk alone.

Obligations of the user:

- To observe and adhere to the operating instructions.
- To follow the recommended inspection and maintenance procedures and carry out the prescribed tests.
- The operating instructions must be observed by all persons working with or around the lift.
- Above all chapter 4 “Safety Regulations“ is very important and must be closely adhered to.
- In addition to the safety regulations stated in the operating instructions manual, the appropriate safety regulations and the operating procedures of the place of operation must also be considered.

Obligations of the operator:

The operator is obliged to allow only those persons complying to the following requirements to work with or around the unit.

- Persons being familiar with the basic regulations concerning labour safety and accident prevention and being trained to operate the particular unit.
- Persons having read and understood the chapter concerning safety and warning symbols.
- Persons using the lift are required to confirm that they have read and understood the chapter on safety and warning symbols by signing the appropriate form.

Dangers when operating the lift:

Nußbaum-Lifts are designed and built according to technical standards and the approved regulations for technical safety. The use of Nußbaum lifts for purposes other than those for which they were designed, may result in injury or even death.

The lift must only be operated :

- For its appropriate use
- In faultless condition concerning technical security.

Organisational Requirements

- The instructions for use are to be kept at the place of operation being easily accessible at any time.
- In addition to the instructions for use, rules pertaining to other regulations i.e. accident prevention and environmental rules are to be observed and adhered to.
- The owner of the Nußbaum lifting system must ensure that operators and persons working with or around the lift occasionally conduct “refresher” courses to ensure that the appropriate operating procedures and safety precautions are known.
- Personal Protective Equipment (PPE) must be used according to the appropriate regulations.
- All safety- and danger signs on and around the lift are to be observed and followed!
- Spare parts must comply with the technical requirements specified by the manufacturer. This is only warranted with original parts.
- Observe and adhere to the specified time intervals between tests and inspections.

Maintenance works, repairing faults

- Adjustments, maintenance, and inspections, are to be followed according to the time intervals specified. Details regarding the exchange of parts and components as mentioned in the operating instructions are to be adhered to.
  These works must only be carried out by expert personal.
- After maintenance- and repair works loose screws, nuts and bolts must always be firmly tightened!

Guarantee and liability

- Our “General conditions of selling and delivering” are in force.
  There will be no guarantee or liability for incidents involving injuries or death or damage to equipment if these incidents are the result of one or more of the following reasons.
- Inappropriate use of the lift
- Inappropriate installation, initiation, operation and maintenance of the lift.
- Use of the lift while one or several security devices do not work, do not work correctly or are not installed correctly.
- Failure to follow the regulations of the operating instructions regarding transport, storage, installation, initiation, operation and maintenance of the lift.
- Unauthorized changes to the structure of the lift without first asking the producer.
- Unauthorized changes of adjustments of important components of the lift (e.g. driving elements, power rating, motor speed, etc)
- Wrong or incorrect maintenance practice.
- Catastrophes, acts of God or external reasons.

☞ ***After completely filling out this sheet including signatures, copy and return the original to the manufacturer. The copy must remain in the manual.***

Otto Nußbaum GmbH & Co. KG

Korker Straße 24

D-77694 Kehl-Bodersweier

Record of installation

The automotive lift with the

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

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

The initial safety check was carried out and the lift was started.
The installation was carried out by the operating authority/competent (please delete as applicable).
The initial safety check was carried out by a competent person before the initial operation.
The operating authority confirms the correct installation of the automotive lift, the competent person confirms the correct initial operation.

Used Dowels(*):_____(Type/Name)

Minimum anchorage depth (*) kept: _____mm ☐ ok

Starting torque (*) kept: _____NM ☐ ok

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

Your customer service:.....(stamp)

(*) see supplement of the dowel manufacturers

Record of handing over

The automotive lift with the

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

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

the safety was checked and the lift was started.

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

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

Your customer service:.....(stamp)

1.General Information

The document **"Operating Instructions and Documentation"** contains important information about installation, operation and maintenance of the automotive lift.

- Conformation of **installation of the automotive lift** is recorded on the "Record of Installation" form and must be signed and returned to the manufacturer.
- Conformation of once of, regular and out of the ordinary service checks is recorded in the respective check forms. The forms are used to document the checks. They should not be removed from the manual.
- All **Changes to the structure** and any change of **location** of the automotive lift must be registered in the **"Master document"** of the lift

1.1 Installation and service checks of the automotive lift

Only specialised staff are allowed to repair and maintain the lift and only these specialised staff are allowed to conduct safety checks on the lift. For the purposes of this document these specialised staff will be called Experts and Competent persons.

Experts are persons (for example self-employed engineers, experts) which have received instructions and have the appropriate experience to check and to test the automotive lifts. They are aware of the work involved and know the accident prevention regulations.

Competent persons are persons who have acquired adequate knowledge and experience with automotive lifts. They have completed the appropriate training provided by the lift-manufacturer (the servicing technicians of the manufacturer or dealer, are regarded as competent)

1.2 Warning Symbols

The three symbols below are used to indicate danger and other important information. Pay attention to areas on and around the lift that are marked with these symbols.

Danger! This sign indicates danger. Ignoring this warning may result in injury or even death.

Caution! This sign cautions against possible damage to the automotive lift or other material objects in the case of improper use .

Attention! This sign indicates an important function or other important information regarding the operation of the lift.

2. Master document of the automotive lift

2.1 Lift–manufacturer

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

2.2 Application

The automotive lift is a lifting mechanism for lifting motor vehicles with a laden weight of up to 5500 kg . The max. load distribution is 2:1 either in or against the drive-on direction.
The automotive lift has been designed for servicing vehicles only. It has not been designed to carry people. Carrying people either directly on the lift or in vehicles that are on the lift is therefore not allowed.
The installation of the standard lift in hazardous or dangerous locations such as wash bays is dangerous and is therefore not allowed.

Changes of construction, repairing and changes of place must be registered in this master document.

2.3 Changes at the construction

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

.....

.....

.....

name, address of the expert

....
place, date signature of the expert

2.4 Displacement of the automotive-lift

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

.....

.....

.....

name, address of the competent

....
place, date signature of the competent

2.5 Declaration of conformity

EG- Konformitätserklärung

Nussbaum

gemäß Maschinenrichtlinie Anhang II 1A

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

Hiermit erklären wir, daß die Hebebühne, Modell: Hereby we declare that the lift model: Par la présente nous déclarons que le pont élévateur modèle: Por la presente declara, que el elevador modelo: Con la presente si dichiara che il sollevatore:	**COMBI LIFT** COMBI LIFT 4.50 SL A MB COMBI LIFT 4.55 SL
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 EMV Richtlinie / EMC Directive	2006/42/EG 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 conformita con le norme armonizzate	
Fahrzeug- Hebebühnen / Vehicle lifts Elektromagnetische Verträglichkeit / Electromagnetic compatibility (EMC)	EN 1493: 2010 EN 61000-6-2 ,-6-4
Beauftragter für die Technische Dokumentation Authorised to compile the technical file	Otto Nußbaum GmbH & Co. KG
Seriennummer Serial number	Seriennummer

Kehl- Bodersweier, 12.03.2012

Hans Nußbaum

DoC-Combi-Lift_2012-03.doc

3. Technical Information

3.1 Technical ratings

Capacity:	5500 kg
Load distribution:	max. 2:1 in or against the drive on direction
Lifting time:	approx. 40 sec.
Lowering time:	approx. 40 sec.
Line Voltage:	3 ~/N+PE,400 Volt ,50 Hz
Power rating:	4 x 1,5 kW
Motor rotation:	1420 rotation/Min
Sound level L_{pA}:	$\leq$ 70 dB(A)
Connection by customer	3~/N+PE, 400V, 50 Hz fuse 32 Ampere (time-lag fuse) observe your regulations of your country
Optional: Energy set:	Pneumatic connection: air pressure 6-10 bar Electrical plug: 220V/50hz

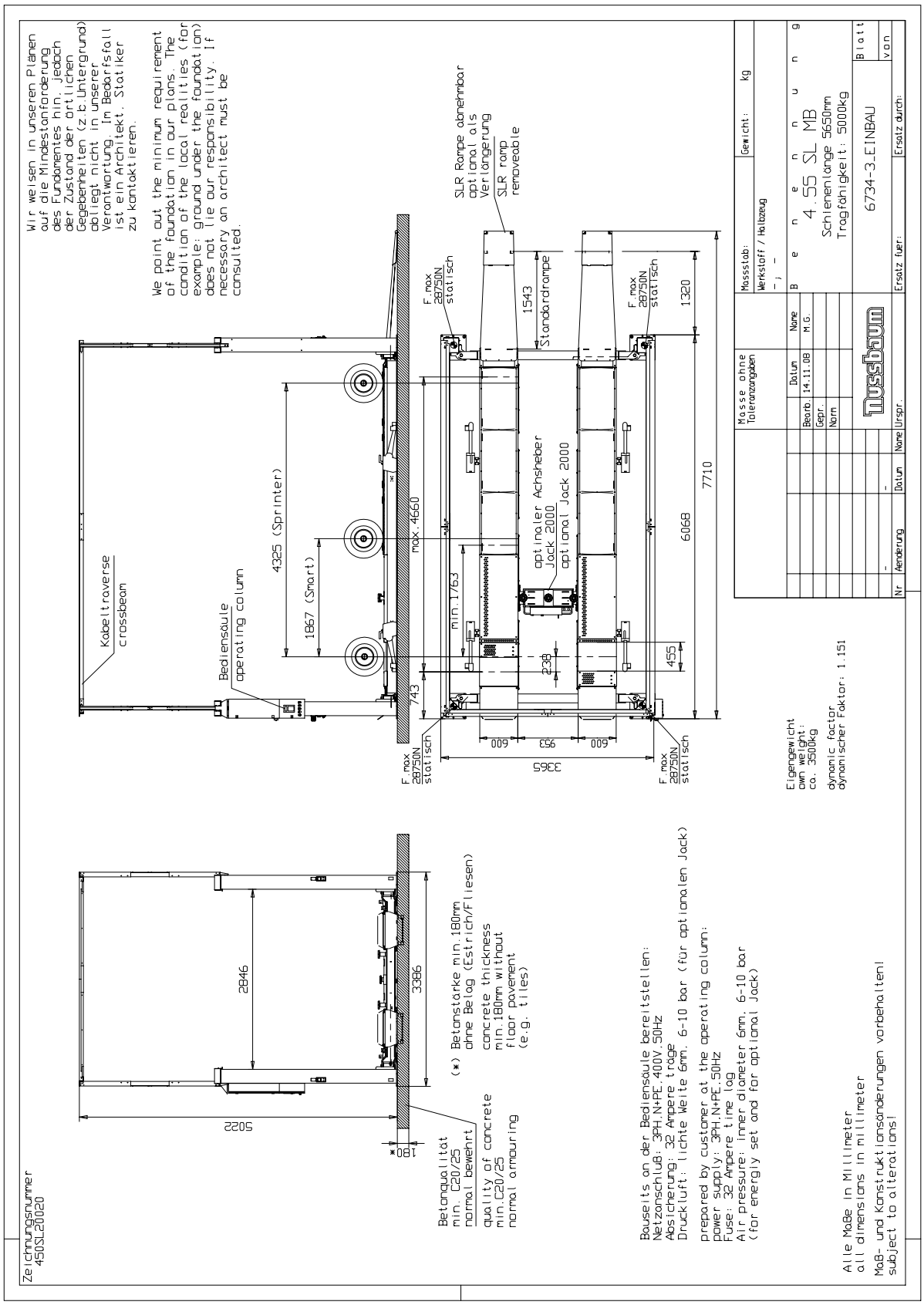
3.2 Safety device

1. Safety switching in case the carrying nut breaks
   Examination of the carrying nut with a wear-pin into the lifting carriage.
2. Electronic disconnection
   If the final position is reached, the lifting platform switched-off
3. Electronic synchronisation
   Safety device against unequal run of the lifting carriage
4. Safety catch hook
   Safety device against repeated raising if the lifting nut is broken
5. Roll over safety device at the end of the platform
   Safety device against falling down
6. Totmann" control
   After let go of the buttons, the current movement of the lift stops

Optional:

7. foot protection
   Safety device to avoid crushing
8. CE-STOP + acoustic signal
   Safety device to avoid crushing

3.3 Data sheet



4. Safety regulations

If you use the automotive lift, the German following regulations are to be considered:
BGG945: Examine of automotive-lifts; BGR500 Using automotive-lifts; (VBG14).

Especially the following regulations are very important:

- The laden weight of the lifted vehicle must not exceed 5500 kg for the automotive lift.
  Load distribution max. 2:1 in or against the drive on direction.
- While working with the lift the operating instructions must be followed.
- The automotive lift must be in its lowest position (fully collapsed), before the vehicle can be driving on to the lift. Only then can the vehicle be lifted.
- Vehicles with low clearance or vehicles that are specially equipped should be pre tested to ensure that they clear the lift ramp to avoid damage.
- Only trained personnel over the age of 18 years old are to operate this lift. (see data sheet "Record of handing over")
- No one is to stand within the working area (danger area) during lifting and lowering.
- No one is to be raised or lowed either directly or in a vehicle by the automotive lift.
- No one is to climb onto the automotive lift or onto an already raised vehicle.
- The automotive column lift must be checked by an expert after changes in the construction have been made.
- Position the rubber pads at the pick-up points under the vehicle as described of the vehicle manufacturer. (optional: version with Jack)
- Observe the complete lifting and lowering procedure.
- It is not allowed to install the lift in hazardous or dangerous locations (outdoor, washing bays).
- The main switch must be switched off and locked before work on the vehicle can commence. This is a safety precaution to ensure that the lift does not move during work.
- The main switch must be switched off and locked before any maintenance or repair work on the automotive lift itself can be carried out.

5. Operating instructions

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

5.1 Lifting the vehicle

- Drive the vehicle onto the middle of the lift.

The complete wheels must be standing on the platform, otherwise the vehicle can fall down.

- Secure the vehicle against rolling, put into gear, apply the hand brake.
- Control the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the main switch. Raise the vehicle Press the button „Lifting“.
- Raise the vehicle to the required working height. Press the button “lifting“ .
- The roll over and roll back safe device must be activated when the lift was slightly raised.
- Observe the complete process.

Check the safe position of the vehicle on the platform.

The automotive-lift can regulate several times depending upon distribution of the load.

pic: operating elements

1 Main switch
2 Keyboard and LC-Display
3 Button „Lifting“
4 Button „Lowering“
5 Button „Equalisation“
6 Red light „Malfunction“
7 Switch „Lighting“ (optional)

5.2 Synchronism of the automotive lift

- The lift is equipped with an electronic synchronism.
- At the columns are potentiometer which recognizes the actual-position of the spindle.
- A lifting carriage is faster like the other lifting carriage. No matter whether when lifting or lowering. The electronic control system observe this procedure and stops the fastest carriage so long until all carriage have the same height again. The permitted regulation range is 18 mm.

5.3 Lowering the vehicle

- Control the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Before the lift reaches its lowest position, the lift stops automatically (CE-Stop). After the lift has stopped, check the danger area around the lift. Press the button “lowering”. An acoustic signal will sound as the lift is further lowered. This is to warn against the risk of crushing as the lift is slowly lowered to its lowest position.
- Drive the vehicle in to the working height or to the lowest position.

☞ ***The automotive-lift can regulate several times depending upon distribution of the load.***

- Drive the vehicle from the platform.
- Observe the complete process.

6. Troubleshooting

If the lift does not work properly, the reason might be quite simple. Please check the lift for the potential reasons mentioned on the following pages. If the cause of trouble still cannot be found, please call technical service.
Self-employer repair-working is prohibited.

⚠ ***Repairs at the security devices of the lift as well as repairs and examinations of the electrical fittings are forbidden.***
Repairs at electrical system may be accomplished only by expert persons.

Problem: The lift does not lifting and not lowering!	
possible causes:	**remedying:**
No electrical power supply	*Examine the power supply*
The main switch is not switched on	*Examine the main switch*
Press button „lifting“ is defective	*Examine the press button*
The fuse is faulty	*Examine the fuse, replace it if necessary*
The feed line is cut	*Examine the feed line*
The motor is overheated	*Let it cool down*
The plug connection between the motors are loose	*Examine the plugs*
The lift is not in the regulation range	*Equalize manually (see chapter 6.4)*
V-Belt is torn or defective	*Shut down the lift. Replace the V-belt and adjust it again (see chapter 7.3)*

Motor defective	*Make an emergency lowering (see chapter 6.1)*
Battery on the control board is empty. The lift drive out of the synchronism window	*Phone the service partner*

Problem: The lift does not lifting!	
possible causes:	**remedying:**
Only 2 phases active	*Examine by an electrician*
V-Belt is torn or slack	*Shut down the lift. Replace the V-belt and adjust it again (see chapter 7.3)*
The lifting nut is broken, the safety device(catch hook) is active, the lift is not in the regulation range and the lift has switched off	*Shut down the lift and phone the service partner*
Top limit switch is active	*Only lowering procedure is possible*

Problem: The lift does not lowering!	
possible causes:	**remedying:**
the bottom limit switch is active	*Only lifting procedure is possible*
The lifting carriage or a platform is driven on a obstacle	*Equalise the lift manually*
V-Belt is torn or slack	*Shut down the lift. Replace the V-belt and adjust it again (see chapter 7.3)*

6.1 Emergency lowering

In case of power failure the lift can not lowered with the motors. In this case there is the possibility to lower the lift manually. Switch off the main switch and lock it. Remove all four cover of the v-belt pulleys. Turn alternately (5cm) the nuts on the top end of the spindle anticlockwise until the lift is in the lowest position. After it, remove the vehicle.

The emergency lowering must only carried out by persons which are instructed to using the lift. Please refer to the regulation "Lowering the vehicle".

Procedure the emergency lowering

- Switch off the main switch and lock it.
- Remove all four cover of the v-belt pulleys.
- Turn alternately (5cm) the nuts on the top end of the spindle anticlockwise until the lift is in the lowest position. After it, remove the vehicle.

In case of disturbance or defect, secure the lift against authorized person. Phone your service partner.

6.2 Driving onto an obstacle

If the platform or the lifting carriage is lowering on an obstacle, the motor from this side will be locked. The lift switched off if the lifting carriage are not more in the regulation range (approx. 50 mm).
An additional protection is the temperature control system in the motor. It interrupt the electrical circuit when it is overloaded. You can not work with the lift. Cool down approx. 5 – 10 min. dependently on the outside temperature.
After the locking of the motor, examine the V-belt, if necessary exchange it. Call your service-partner.

6.3 Function of safety device

The lift is equipped with a safety switching, which controls the wear of the main nut.
If the lifting nut is broken, a safety nut which is conducted loose in the spindle, carries the load. After a break of the nut, the lift can only once being lowered in the lowest position. If the lift has reached the lowest position it is not possible to raise the lift again.
The lifting carriage of the broken side gets mechanically locked. During the lifting the other side is driving out of the regulation range and switched off the lift. You can not work with the lift anymore. Call the service-partner.

⚠ ***If the safety device is active, Shut down the lift and phone your the service partner!***

❗ ***Switch off the main switch at all repairs and disturbances!***

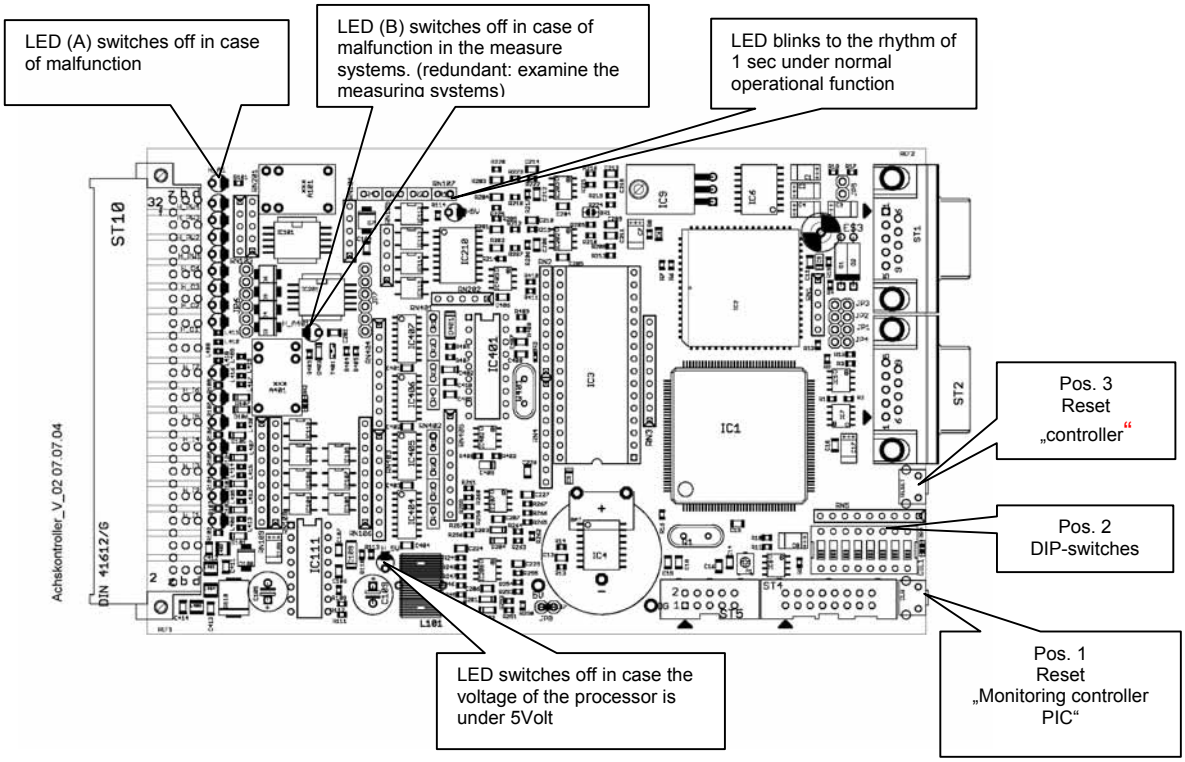
⚠ ***The electrical system may only be opened by trained persons!***

6.4 Manually equalisation of the carriage

The lift is equipped with a position measuring system which guarantee the synchronisation of the lift. The electrical control recognises if one lifting carriage is approx. 20 mm earlier at the definite height. The electrical control stopped the motor of this carriage until both carriage have the same height again. After it both motors are working together again.
If the carriages of the lift are driving out of the regulation range/switching off window of approx. 5 0mm), the electrical control recognises this and switched off the lift.
To reach the normal function of the lift you must equal manually the carriages. Remove the cover of the V-Belt pulley at the top of the lift. Equal the lift: turn the nuts until the carriages have the same height.

- Carry out the equalisation with the lift only without load.
- Open the electrical box.
- See the DIP-switches on the controller (Pos.2).

Pic 4: DIP-switches on the board.



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

- DIP switch 5 (regulation ON/OFF)
- DIP switch 1 (only column 1 moveable)
- DIP switch 2 (only column 1 moveable)
- DIP switch 3 (only column 1 moveable)
- DIP switch 4 (only column 1 moveable)

example: Equal the column 1:

- Equalization the column 1 as follows:
- Move the DIP switch 5 on position "off" (regulation off)
- Move the DIP switch 1 on Position „ON" (DIP switch 1 for column 1)
- Press the button „lifting" or „lowering" until the column has the same height as the other columns.
- Move the DIP switch 1 on position „off".
- Move the DIP switch 5 on position „on" (regulation on).
- If necessary repeat the procedure with the column 2,3 and 4 until all columns (lifting carriage are on the same height.
- Close the electrical box.

6.5 Driving to the Reference point

After 50 working steps shows the display „Referenzpunkt anfahren" (Drive to the reference point". Now, it is necessary to drive the lift to the reference point, because the height of the carriage can be examined.
This can be achieved by a variety of factors sturgeon (dirt, slack, interference pulses, etc.)

- Lower the lift into the lowest position
- Drive the vehicle from the platform

- Open the electrical box.
- Press the button (see pic 5) and hold it pressed and press simultaneously the button „lifting“ until the lift stops at the reference point. Turn off the main switch.

pic 5: button „reference point“

The reference point is marked at every column. Examine the points with the carriage.
In case the level of the carriage and the reference point is not on the same height, level out manually the carriage at the spindle until the level is ok. In this case the main switch must be turned off.
Remove the cover at the top of the columns and turn the spindle with a suitable tool until the carriage is on the „reference point“.

switch power back and push on the keypad # enter 1234 and #, with the * go to menu point "reference point" and enter #
now confirm with # again.
push * several times to get to the menu point "return" and confirm with #
finished.

7. Inspection and Maintenance

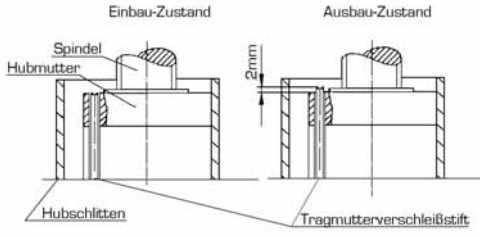
☞ ***Before conducting maintenance work, preparations must be made to ensure that during maintenance and repair work there is no risk to the safety of people working on or around the lift and also that there is no risk of damage to equipment being used on or around the lift.***

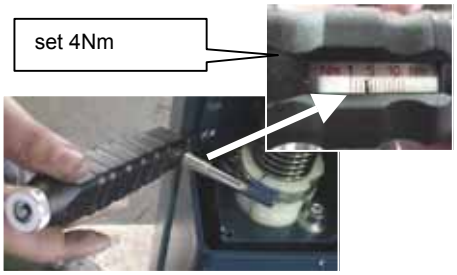
☞ ***German legal guidelines : BSV (Prescription of working tools) + BGR500 (Work with working tools)***

To guarantee the utmost availability and to ensure that the lift remains functional, maintenance work contracts are organised between our clients and their local retailers.
A service must be performed at regular intervals of 3 months through the operator in accordance with following service manual. If the lift is in continuous operation or in a dirty environment, the maintenance rate must be increased.
During daily operation the lift must be closely observed to ensure that it is functioning correctly. In the case of malfunction or leakage the technical service must be informed.

7.1 Maintenance plan of the lift

Before beginning any maintenance work isolate the power supply. Secure the main switch (lock it). Secure the danger area around the automotive lift and secure the lift against unintentional lowering.

Maintenance plan	***period***
Check the condition of the type plate, sticker, short operating instruction. Clean it and if necessary replace it.	Daily
Grease the lubricate nipples with a multipurpose lipid. (example: Auto Top 2000 LTD. Agip).Before remove the spindle cover . Avoid too much grease.	min. once in a year
Check condition the Poly-V belt. and if necessary replace it. Observe the chapter of the V-Belt installation.	min. once in a year
Check the spindle for wear.	min. once in a year
Oiling the spindle and the lubricating felt between the carrying nut and the centring of the spindle one time a month with a thin oil as SAE15W40. Attaching twice lifting and lowering the lift in the end position. After lifting and lowering the lift with load. The lubricating interval has to be carried out at every maintenance. If the lift is in continuous operation, the maintenance rate has to be increased. The nut between the column and the covering will greased with an oil can. The regular complete lubrication in the mentioned distances secures the absolutely easy operation for the lift. *Do not use adhesive Oil. A formation of resin is possible and a damage can occur. Normal adhesive Oil impaired the running of the lift negative. We recommended e.g. SAE 15W40.*	nach der Montage and min. once in a year
 carrying nut (optical wearing device). To check the carrying nut, take off the covering of the spindle. There is a pin built in the carrying plate. This pin must be even with the top edge of the carrying plate (upper side of the lifting carriage; built-in state. If the pin looks 2 mm out of the top edge at the annually check (changing state). The carrying nut and the sequence nut must be replaced.	min. once in a year

   	Examine the condition and the function of the spindle centering (after running delay) annually, or if necessary. Adjust it, if necessary or handle it with a file. Is it not possible to adjust the spindle centering anymore, exchange it. Examine the spindle centering without a torque moment key: (4 Nm) Gap: approx. 1mm Back: the half shells touch with the back Switch of the main switch. Take one hand on the spindle and rotate it easily back and forth. During this procedure, fasten the hose clamp with a suitable tool until the back and forth movements are only possible with more power. In this case put the second hand on the spindle, too. The spindle centering is correctly fastened, when the spindle can be rotated with the two hand but with more expenditure of force. Before starting another maintenance, carry out the same procedure at the second column. In case the spindle can be easily moving despite fastening the spindle centering, then it is necessary to work at the cut edge of the spindle centering. Or exchange the spindle centering if necessary. Note: After the repair, both lifting carriage must be on the same level. If necessary, adjust the spindle with the hand. (see chapter 6.4 in the detailed documentation).	min. once in a year
Check the condition and function of the roll back safety device at the end of the platforms		min. once in a year
Check the condition and function of the flat plates, platforms. In case of damages exchange defective parts.		
Check the Spindle DU-bearing (below) of wear. Oil it with e.g. an SAE 15W40.		min. once in a year
Check the condition and function of the sliding plates. Remove the cover and clean the frame. Lubricate the balls		min. once in a year
Check the condition and function of the CE-Stop and acoustic signal		daily
Check the condition and function of the electrical press button		daily
Grease the lubricate nipples of the slave nuts (behind the spindle cover) with a multipurpose fat. (example: Auto Top 2000 LTD. Agip). Remove the spindle cover and lubricate the nut through the bore hole of the lifting carriage Avoid too much grease.		monthly
Check the condition and the function of the sliding blocks of the lifting carriage and also the sliding surfaces of the columns. After cleaning lubricate it.		min. once in a year

Alle Befestigungsschrauben und Befestigungsdübel sind mit einem Drehmomentschlüssel zu prüfen. Anzugsdrehmoment (Nm) für Schaftschrauben Festigkeitsklasse 8.8 		0,10*	0,15**	0,20***
---	---	---	---
M8	20	25	30
M10	40	50	60
M12	69	87	105
M16	170	220	260
M20	340	430	520
M24	590	740	890 | Festigkeitsklasse 10.9 |	0,10*	0,15**	0,20***
---	---	---	---
M8	30	37	44
M10	59	73	87
M12	100	125	151
M16	250	315	380
M20	490	615	740
M24	840	1050	1250	 * Gleitreibungszahl 0,10 für sehr gute Oberfläche, geschmiert ** Gleitreibungszahl 0,15 für gute Oberfläche, geschmiert oder trocken *** Gleitreibungszahl 0,20 Oberfläche schwarz oder phosphatiert, trocken	min. once in a year
Alle Schweißnähte sind einer Sichtprüfung zu unterziehen. Bei Rissen oder Brüchen von Schweißnähten ist die Hebebühne stillzulegen und ihr Händler zu kontaktieren.	min. once in a year
Check the varnish: Damage to external surfaces, must be immediately repaired. If theses repairs are not made immediately, permanent damage to the powder-coated surface may result. Repair and clean damaged areas with an abrasive paper (grain 120). After this is complete, use a suitable paint (observe the RAL Number). Check the zinc surface and repair it with a suitable tool. Use abrasive paper (grain 280). White rust can result from moisture laying in certain areas for long periods of time. Poor aerating can also result in rust formation. Rust may result from mechanical damage, wear, aggressive sediments (de-icing salt, liquids) or insufficient cleaning. Repair and clean these areas with abrasive paper (grain 280). After this is complete, use a suitable paint (observe the RAL Number).	min. once in a year
Check the condition and function of the electrical parts: - plugs - During the installation and the maintenance, check the condition of the electrical cables. The cables and wires must be secured, that they are not crushed or kinked, and that they no touched rotating components (e.g. V-belt pulley contact, etc.).	min. once in a year
Check the condition and function the optional Energy set: - plug and fuse - pneumatic connection	min. once in a year
Check the condition and function of the optional lighting	min. once in a year
Check the condition and function of the optional Jack. Chassis, pneumatic lines, connection	min. once in a year
Check the condition and function cable cannel. Exchange defective parts.	min. once in a year
Check all welded joints for cracks on the automotive-lift. If any cracks are found on the lift cease use immediately. Switch-off and secure the main switch (lock) and call the service partner.	min. once in a year
Check that all screws and bolts are fasten correctly with torque (turning moments, see the list)	min. once in a year

Turning moment for screws

property class 8.8

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

property class 10.9

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

Drehmomenttabelle 8.8-10.9 E

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

7.2 How often must the lift be cleaned?

A regular and appropriate maintenance practice will aid the preservation of the lift.
No guarantees can be given when damage (egg rust or fading colour) is the direct result of poor maintenance and cleaning practice.
Regular cleaning of all kinds of dirt is the best protection against wear and the formation of rust and will prolong the life of the lift

- Dirty deposits that can cause rust include:
  - de-icing salt
  - sand, pebble stone, natural soil
  - all types of industrial dust
  - water; also in connection with other environmental influences
  - all types of aggressive deposits
  - constant humidity caused by insufficient ventilation

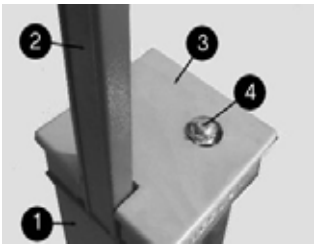
Obviously this is dependent on the type of work being done with the lift, the degree of cleanliness of the workshop and location of the lift. The degree and amount of dirt is dependent on the season, on the weather conditions and the ventilation of the workshop.
During poor conditions it may be necessary to clean the lift once week, but cleaning once a month will suffice.

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

- Do not use steam jet cleaners.
- Remove all dirt carefully with a sponge or if necessary with a brush.
- Ensure that no washing-up liquid is left on the lift after cleaning.
- Do not use aggressive means for cleaning the workshop floor and the automotive lift.
- A permanent contact with any kind of liquid is not allowed. Do not use high pressure devices for cleaning the lift.
- After cleaning dry the automotive-lift with a suitable type of cloth and inject it with a wax spray or an oil spray.

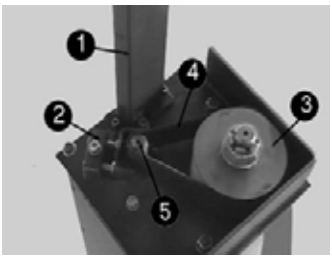
7.3 Adjust the Polylex-belt

If the V-belt was exchanged, the V-belt must be adjusted, again. Remove the cover of the V-belt.

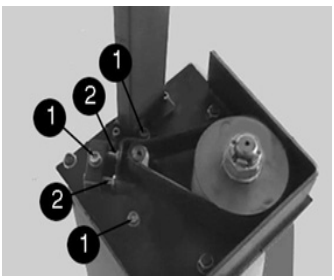


pic 10: cover of the belt (version with raising pipe)
1: column
2: raising pipe
3: cover of the belt
4: spindle

The new V-belt tension must be adjusted at the stretch device. (pic.11). Loose the three screws at the motor easily. (pic. 11, No.1). The belt can be loosened or tightened at the screws. (pic.11, No.2).



pic 11: position of the belt
1: raising pipe
2: stretch device
3: V-belt pulley
4: Polyflex-belt
5: shaft of the motor

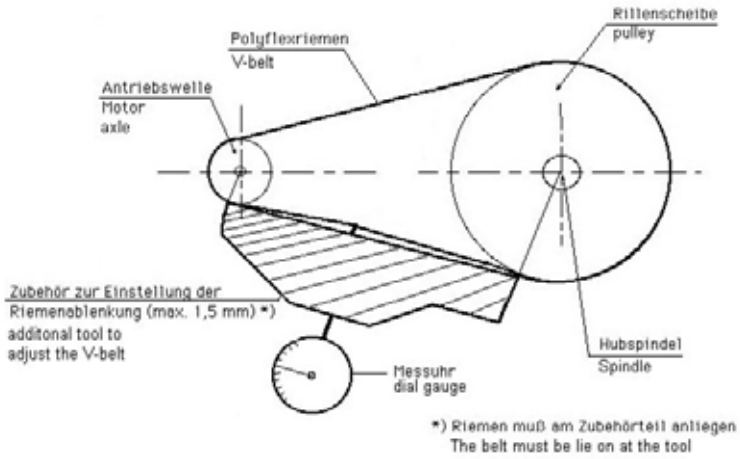


pic 12: adjust the belt tension
1: the three screws of the motor
2: adjusting screws

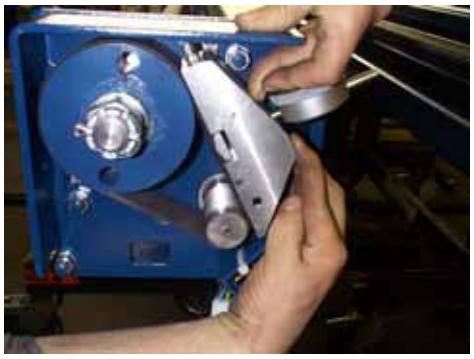
The belt tension gets adjusted with the help of an accessory. (pic. 13; This accessory can be ordered from Nußbaum).

pic 13: accessory

- Put the device on a solid flat surface. Push it down until the pin is on the flat surface. Position the clock on zero. Turn the ring of the clock so long until the indicators are on zero. Put the device on the V- belt (pic.14,15). The indicator of the clock may only turn mini. 1 (1mm) until 1,5 (1,5mm) turn.



pic14: measuring instrument



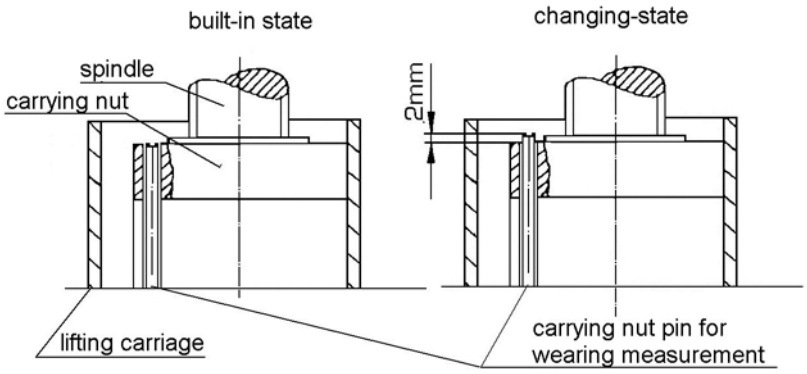
pic 15: Put the measuring device on the V-belt

- Bring the screws back in initial position.

7.4 Examine the carrying nut system

- Carrying nut (optical wearing device). To check the carrying nut, take off the covering of the spindle (pic.3,pos.b). There is a pin built in the carrying plate (pic.16). This pin must be even with the top edge of the carrying plate (upper side of the lifting carriage; built-in state pic.17). If the pin looks 2 mm out of the top edge at the annually check (pic.17 changing state). The carrying nut and the sequence nut must be replaced.

pic 16: the carrying-nut wear pin marked with red safety colour

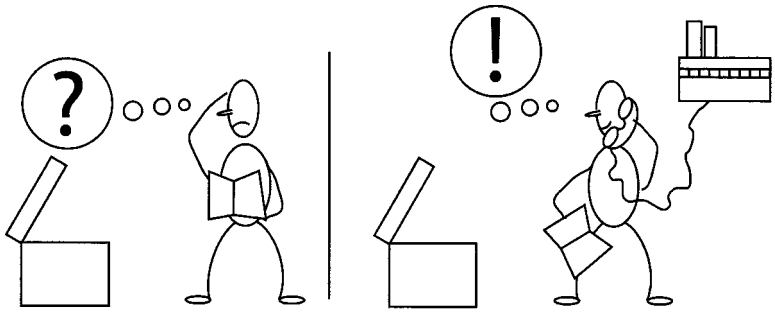


pic 18: carrying nut

7.5 Examine of the stability of the automotive lift

- Examine the dowels with a torque key as described by the dowel manufacturer. Observe the declaration of the dowel manufacturer.

8. Installation and Initiation



pic 18:

8.1 Regulations

- The installation of the lift is performed by trained technicians of the manufacturer or one of its distribution partners. If the operator can provide trained mechanics, he or she can install the lift by him or herself. The installation has to be done according to this regulation.
- Installing the standard-automotive lift in a hazardous location or a washing bay is not allowed.
- Before installation a sufficient foundation must be constructed. If the foundation is already constructed then proof that the foundation conforms to the standard is required.
  A level foundation for the installation is required. The foundations must be based in a frost resistance depth, both outdoors and indoors in a position where the installer believes there is no chance of frost.
- An standard electrical supply 3~/N+PE, 400 V, 50 Hz must be provided. Observe the electrical power supply of your country.
  The supply line must be protected with a time-lag fuse 32 Ampereb time lag (VDE0100 German regulation). The minimum diameter amounts to 2.5 mm².
- All cable ducts must be equipped with protective coverings to prevent accidents.
- After assembly of the lift, the protective grounding of the lift must be examined after International Electronical Commission (IEC) guidelines (60364-6-61) before first start-up by operators. Also an insulation resistance examination is recommended.

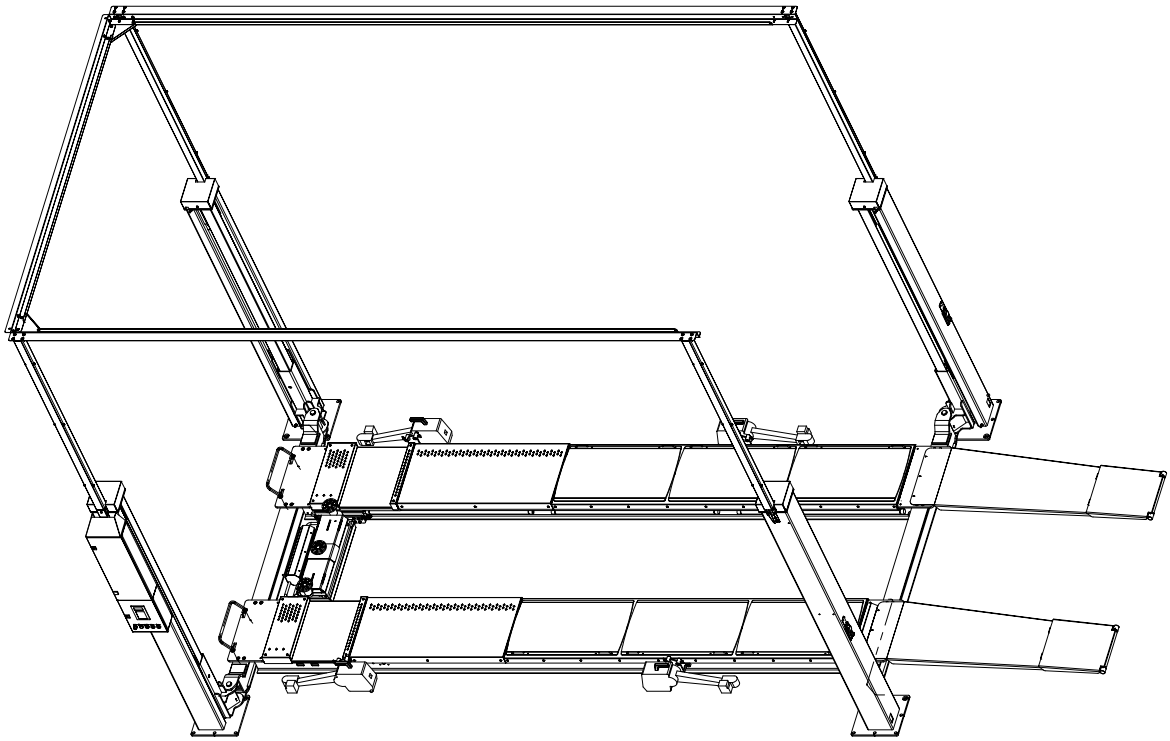
8.1.1 Erection and doweling of the lift

Before installation the lift, secure the installation area to prevent access to unauthorised persons. Use devices such as cranes, fork lift trucks and supports to transport the lift and avoid accidents.

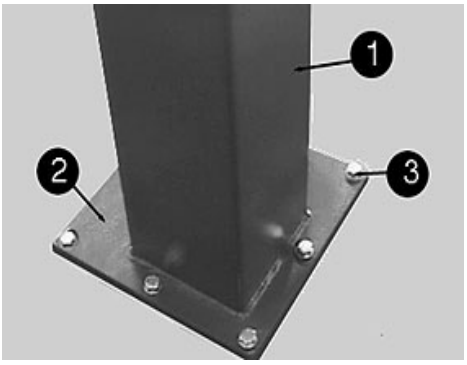
Before installation of the lift create a sufficiently concrete by customer. The operator is responsible for the installation place. A concrete with a quality of minimum C20/25 and a thickness without tiles and floor pavement is necessary (thickness => see the foundation drawing).

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.

In case of doubt a test boring has to be performed and a dowel is to set in. Afterwards the dowel is tighten with a torque which is described of the dowel manufacturer.
If there are defectives (cracks or hairline cracks) in the zone of influence Ø200 mm, the foundation cannot be used to install the lift on it.



A foundation must be constructed in accordance with the data sheet “foundation plan”. It must be paid attention of an even installation place of the lift because of a straight contact between lift and concrete floor.



pic 19: dowel position

1: column

2: base plate

3: dowel

- Concrete has long chemical perspiration, which favour the corrosion at the base plates. We recommended to provide the surface with a 2 components Epoxitharz floor coating, before fastening the lift.
- Bore the holes to position the dowels through the bore holes of the base plates (pic.20). Clean the holes with pressure air. Insert the dowels. The lift manufacturer recommend e.g. Liebig, Hilti, Fischer safety dowels or equal dowels of other manufacturer (with licence) but observe the regulation. (bore hole, torque...).. Before doweling check the concrete floor with quality C20/25 if the concrete floor goes to the top edge of the floor. In this case the dowels have to be chosen in according to the description (Dowels without tiles, floor pavement). If the ground is covered with floor tiles, the dowels have to be chosen according to description (Dowels with tiles, floor pavement). Observe the table of the Dowel manufacturer, too.
- Examine the lining up of the columns with spirit level.
- If necessary put thin metal sheets between the base plate and the floor until the lift is in the correct vertical position and the contact between the base plate and the floor is available.
- Tighten the dowels with the dynamometric key. Observe the regulations of the dowel manufacturer.

Each dowel must be tightened with the demanded torque. Otherwise the normal function of the lift can not guaranteed.

- If the dowel is tightened with the demanded torque, the curved washer lies flat on the base plate. A safe dowel connection is guaranteed.

8.2 Initiation

Before the initiation a security check must be carried out. Therefore use the form: First security check.

If the lift is installed by a competent person, he or she is to perform the security check. If the operator installs the lift by him or herself, he or she must instruct a competent person to perform the security check.
The competent confirms the faultless function of the lift in the installation record and the form for the security check and authorises the use of the lift.

Please send the completed installation record to the manufacturer after installation.

8.3 Change of lift location

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

- Lift or lower the carriage to medium height.
- Take away current supply from the lift.
- If necessary remove the ascending pipe and the traverse.
- Remove the cover of the lift.

- Disconnect the plugs.
- Loosen the dowels.
- Dismount the columns.
- Dismount the crossbeams.
- Transport the lift to the new installation place.
- Install the lift in accordance with chapter 8 " Installation and Initiation"

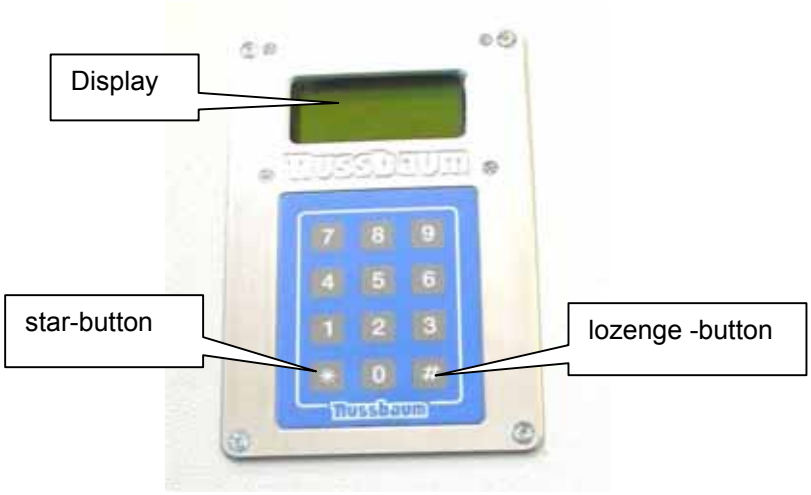
Use new dowels, the used dowels can not be used anymore.

A security check must be performed before re initiation by a competent person. Use the sheet "Regular security check".

8.4 Key in the reference point with the keyboard

After mounting and adjusting of the lift and platforms, raise the lift on a comfortable working height. (e.g. approx. 1250mm)

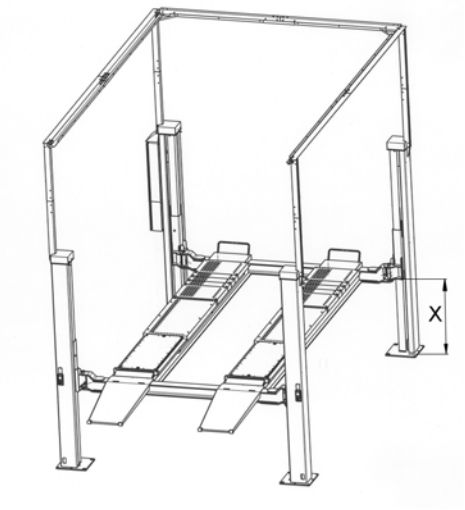
Position the arrow sticker at the lifting carriage and the column after entering of the new reference point. (see the drawing)



Function button:

<*> (star): back to the position display
<#> (lozenge): confirm button

- Measure the distance (X) between the lower edge of the lifting carriage and the upper side of the base plate. Carry out the procedure at all four columns.



- The smallest measure will be used later as the new reference point height.

Login to the service operation:

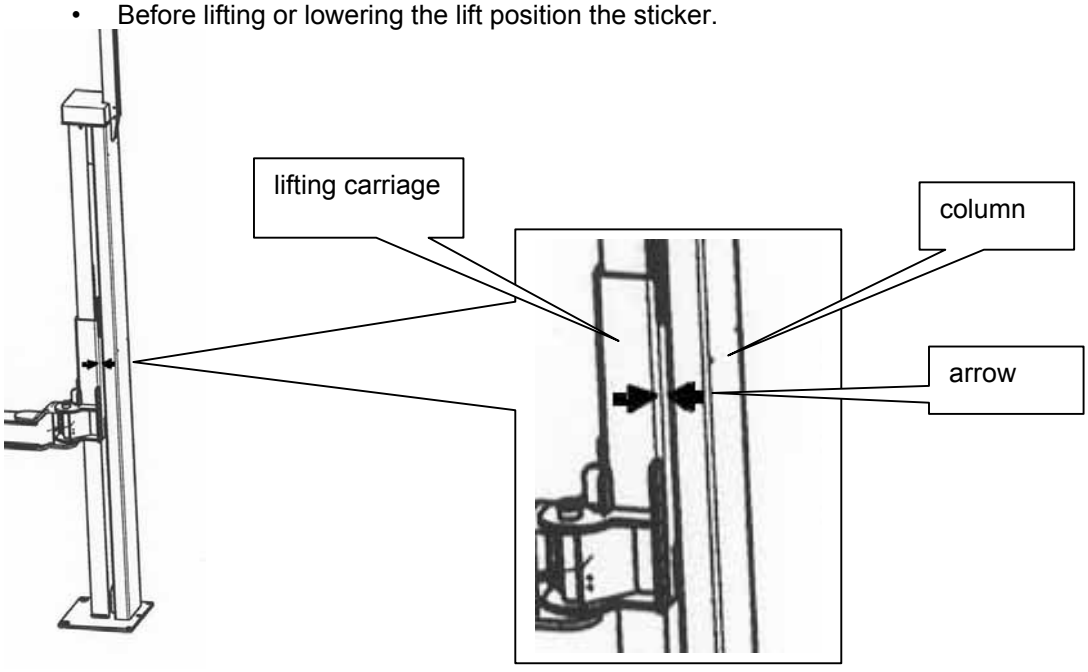
- (#) Press it at the keyboard,

Passwort
_ _ _ _

- Enter the numbers 1,2,3,4.
  After the correct entering, it will be change into the main menu..
- Press the (*) button until to the Display shows „Referenzpunkt“.
- A menu item is selected with <>.
- Then press the button (#).The adjusted value will be displayed.
- Enter now the smallest 4-digit value in the keyboard. (e.g. 1237)
- Then press the button (#).The entered value is confirmed.
- Press the button (*) until the position display (start position).

1	xxxx
2	xxxx
3	xxxx
4	xxxx

- Before lifting or lowering the lift position the sticker.



Unequal height after an lifting procedure „Referenzfahrt“

If you find after an lifting procedure a unequal position of one or more marker arrows, the unequal height must be corrected manually.
Switch off the main switch before the different columns will be adjusted.
Remove the above cover of the affected column. Turn the spindle with a suitable tool until the arrows are again on the same height. Repeat the procedure if necessary at the other columns.
Switch on the main switch if the adjusting is finished.

9. Security check

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

1. Before the initial operation, after the first installation.
   Use the form "First security check before initiation"

2. In regular intervals after the initial operation, at least annually.
   Use the form "Regular security check at least annually"

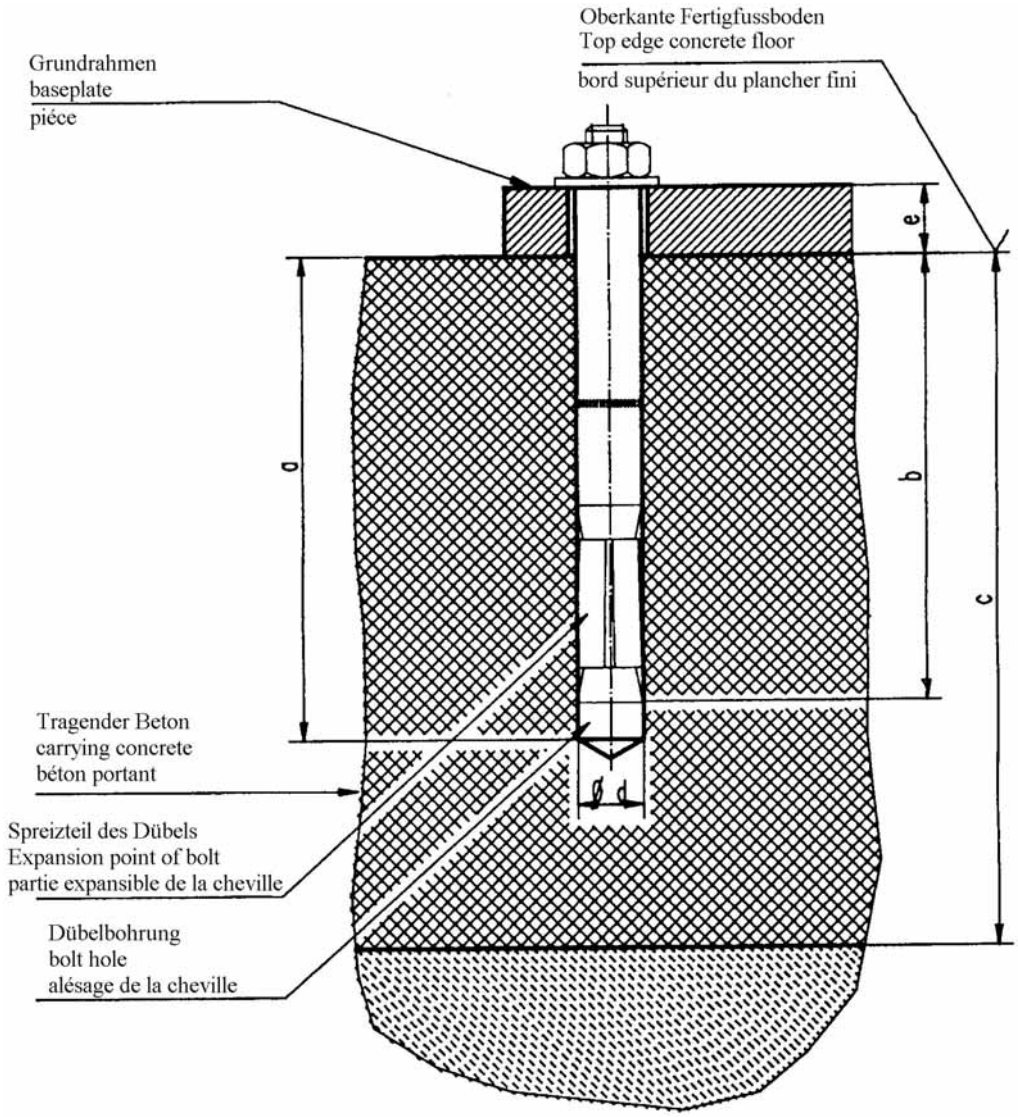
3. Every time the construction of that particular lift has been changed.
   Use the form "Extraordinary security check"

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

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

This manual contains forms with a schedule for the security checks. Please us the appropriate forms for the security checks. The forms should remain in this manual after they have been filled out. A short description about special safety devices follows.

pic: Selection of Liebig-Dowels without tiles, floor pavement

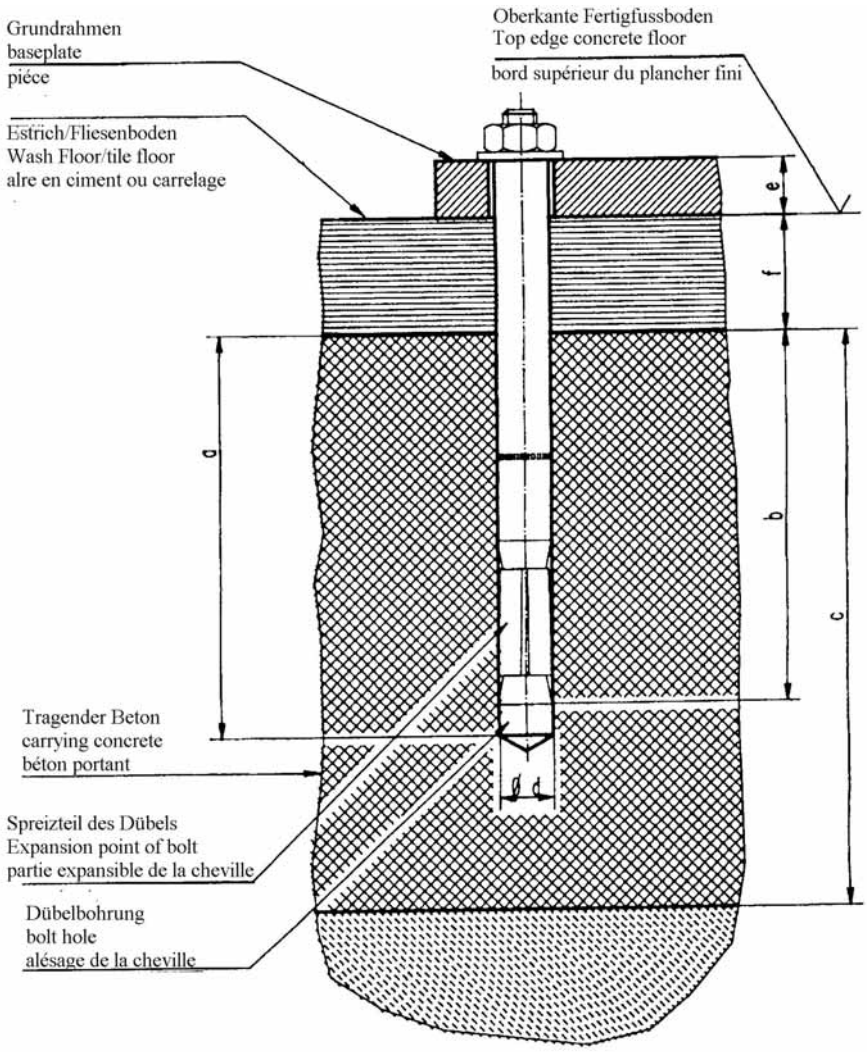


Liebig dowels		
Dowel typ		BM12-20/80/40
Drilling depth	a	100
Min. anchorage depth	b	80
Thickness of concrete	c	min.160 (*)
Diameter of bore	d	20
Thickness of the lift-pieces	e	0-40
Quality of concrete		min.C20/25 with normal armouring
Number of bolts		24
Starting torque		70 Nm

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

It is possible to use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.

pic: Selection of Liebig-Dowels with tiles, floor pavement

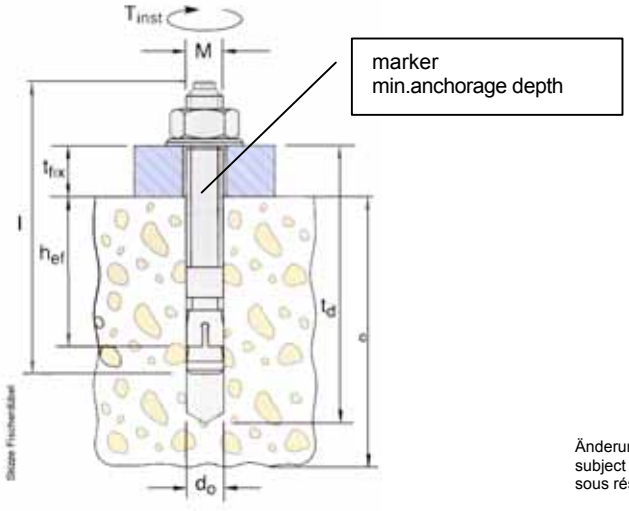


Liebig dowels

Dowel type		BM12-20/80/65	BM12-20/80/100	BM12-20/80/140
Drilling depth (mm)	a	100	100	100
Min. anchorage depth (mm)	b	80	80	80
Thickness of concrete (mm)	c	min.160(*)	min.160(*)	min.160(*)
Diameter of bore (mm)	d	20	20	20
Thickness of the lift-pieces (mm)	e+f	40-65	65-100	100-140
Quality of concrete		min.C20/25 with normal armouring		
Number of bolts		24	24	24
Starting torque		70 Nm	70Nm	70Nm

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

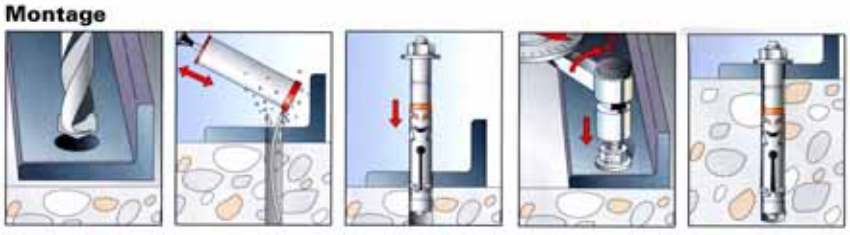
It is possible to use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.



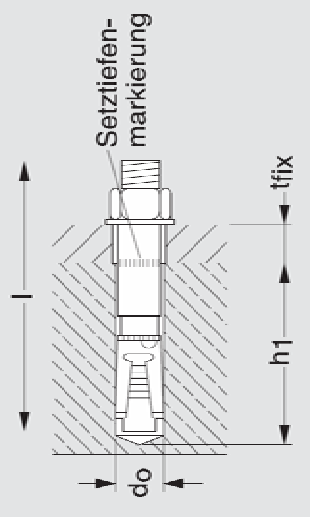
Änderungen vorbehalten!
subject to alterations!
sous réserve des modifications!

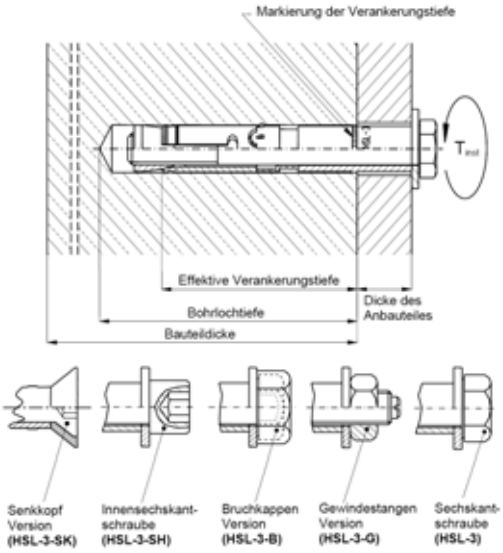
fischer-dowel			**4.50 SL f**	
Dübel typ of dowel type de cheville		FH 15/50 B **Bestellnr. 970265**	FH 18 x 100/100 B **Bestellnr: 972230**	FH 24/100 B **Bestellnr. 970267**
Bohrteife drilling depth Profondeur de l'alésage	t_d	145	230	255
Mindestverankerungstiefe min.anchorage depth Profondeur minimale dáncrage	h_{ef}	70	100	125
Betonstärke thickness of concrete Epaisseur du béton	c	siehe den aktuellen Fundamentplan see current foundation-diagram drawing vois le plan de fondation actuel		
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	d_o	15	18	24
Bauteildicke thickness of the lift-piece Epaisseur de la pièce	t_{fix}	0-50	0-100	0-100
Anzugsdrehmoment Nm turníng moment moment d´une force	M_D	40	80	120
Gesamtlänge Total length Longueur totale	l	155	230	272
Gewinde Thread fil	M	M10	M12	M16
Stückzahl piece number nombre des pièces	a	4		
	b	8		
	c	10		
	d	12		
	e	16		
	f	24		
	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.

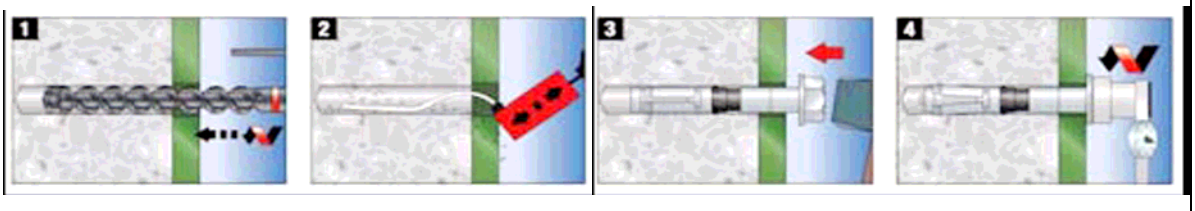




Änderungen vorbehalten!
subject to alterations!
sous réserve des modifications!

Hilti-Dübel

Bodenbelag (Estrich, Fliesen) Floor pavements (tiles)		**ohne Bodenbelag without**	**ohne Bodenbelag without**	**mit Bodenbelag with**	**ohne Bodenbelag without**	**mit Bodenbelag with**
Dübel typ of dowel type de cheville		HSL-3-G M10/40 Art.Nr.371797	HSL-3-G M12/50 Art.Nr.371800	HSL-3-G M12/100 Art.Nr.371831	HSL-3-G M16/50 Art.Nr.371803	HSL-3-G M16/100 Art.Nr.371832
Bohrteife drilling depth Profondeur de l'alésage	h_1	90	105	105	125	125
Mindestverankerungstiefe min.anchorage depth Profondeur minimale dáncrage	h_{ef}	70	80	80	100	100
Betonstärke thickness of concrete Epaisseur du béton	**c**	siehe den aktuellen Fundamentplan see current foundation-diagram drawing vois le plan de fondation actuel				
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	d_o	15	18	18	24	24
Bauteildicke thickness of the lift-piece Epaisseur de la pièce	t_{fix}	0-40	0-50	0-100	0-50	0-100
Anzugsdrehmoment Nm turníng moment moment d´une force	T_{inst}	35	60	60	80	80
Gesamtlänge Total length Longueur totale	**l**	135	164	214	188	238
Gewinde Thread fil	**M**	10	12	12	16	16
Stückzahl piece number nombre des pièces	a	4				
	b	8				
	c	10				
	d	12				
	e	14				
	f	16				
	g	28				



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.

First security check before installation

☞ Fill out and leave in this manual Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	
short operating instruction at the column	☐	☐	☐	
sticker capacity at the column	☐	☐	☐	
sticker lubrication/maintenance plan	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Condition Automotive-lift	☐	☐	☐	
Designation „lifting/lowering“	☐	☐	☐	
Function button „lifting/lowering“	☐	☐	☐	
Function button „equalisation“	☐	☐	☐	
Condition, Function Display	☐	☐	☐	
Condition, Electrical box	☐	☐	☐	
Condition, Function main switch	☐	☐	☐	
Safety seeger ring at the bolts (carriage)	☐	☐	☐	
Function CE-Stop + acoustic signal	☐	☐	☐	
Condition bolts and DU-bearings	☐	☐	☐	
Condition Platform	☐	☐	☐	
Condition, Function drive on ramps	☐	☐	☐	
Condition, Function plugs at the Platform	☐	☐	☐	..(only for wheel alignment)
Condition colour	☐	☐	☐	
Condition Construction (deformation, cracking)	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition Poly V-Belt	☐	☐	☐	
Condition, Function spindle centering	☐	☐	☐	
Condition Crossbeam & cable channel	☐	☐	☐	
Condition of the covers	☐	☐	☐	
Condition Spindle and carrying nut	☐	☐	☐	
Condition carrying nut wear pin	☐	☐	☐	
Condition concrete (cracking)	☐	☐	☐	
Condition electrical cables and plugs	☐	☐	☐	
Function lighting	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function test „driving to the end position “	☐	☐	☐	
Function equalisation of the lift	☐	☐	☐	

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

Security check carried out:.....

Carried out the company:.....

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

Result of the Check:

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

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

If failures must be repaired:

Failures repaired at: ....
signature of the operator

(Use another form for verification!)

Regular security check and maintenance

☞ Fill out and leave in this manual Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	
short operating instruction at the column	☐	☐	☐	
sticker capacity at the column	☐	☐	☐	
sticker lubrication/maintenance plan	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Condition Automotive-lift	☐	☐	☐	
Designation „lifting/lowering“	☐	☐	☐	
Function button „lifting/lowering“	☐	☐	☐	
Function button „equalisation“	☐	☐	☐	
Condition, Function Display	☐	☐	☐	
Condition, Electrical box	☐	☐	☐	
Condition, Function main switch	☐	☐	☐	
Safety seeger ring at the bolts (carriage)	☐	☐	☐	
Function CE-Stop + acoustic signal	☐	☐	☐	
Condition bolts and DU-bearings	☐	☐	☐	
Condition Platform	☐	☐	☐	
Condition, Function drive on ramps	☐	☐	☐	
Condition, Function plugs at the Platform	☐	☐	☐	..(only for wheel alignment)
Condition colour	☐	☐	☐	
Condition Construction (deformation, cracking)	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition Poly V-Belt	☐	☐	☐	
Condition, Function spindle centering	☐	☐	☐	
Condition Crossbeam & cable channel	☐	☐	☐	
Condition of the covers	☐	☐	☐	
Condition Spindle and carrying nut	☐	☐	☐	
Condition carrying nut wear pin	☐	☐	☐	
Condition concrete (cracking)	☐	☐	☐	
Condition electrical cables and plugs	☐	☐	☐	
Function lighting	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function test „driving to the end position “	☐	☐	☐	
Function equalisation of the lift	☐	☐	☐	

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

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signature of the expert signature of the operator

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signature of the operator

(Use another form for verification!)

Regular security check and maintenance

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kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	
short operating instruction at the column	☐	☐	☐	
sticker capacity at the column	☐	☐	☐	
sticker lubrication/maintenance plan	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Condition Automotive-lift	☐	☐	☐	
Designation „lifting/lowering“	☐	☐	☐	
Function button „lifting/lowering“	☐	☐	☐	
Function button „equalisation“	☐	☐	☐	
Condition, Function Display	☐	☐	☐	
Condition, Electrical box	☐	☐	☐	
Condition, Function main switch	☐	☐	☐	
Safety seeger ring at the bolts (carriage)	☐	☐	☐	
Function CE-Stop + acoustic signal	☐	☐	☐	
Condition bolts and DU-bearings	☐	☐	☐	
Condition Platform	☐	☐	☐	
Condition, Function drive on ramps	☐	☐	☐	
Condition, Function plugs at the Platform	☐	☐	☐	..(only for wheel alignment)
Condition colour	☐	☐	☐	
Condition Construction (deformation, cracking)	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition Poly V-Belt	☐	☐	☐	
Condition, Function spindle centering	☐	☐	☐	
Condition Crossbeam & cable channel	☐	☐	☐	
Condition of the covers	☐	☐	☐	
Condition Spindle and carrying nut	☐	☐	☐	
Condition carrying nut wear pin	☐	☐	☐	
Condition concrete (cracking)	☐	☐	☐	
Condition electrical cables and plugs	☐	☐	☐	
Function lighting	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function test „driving to the end position “	☐	☐	☐	
Function equalisation of the lift	☐	☐	☐	

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signature of the expert signature of the operator

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signature of the operator

(Use another form for verification!)

Regular security check and maintenance

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kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	
short operating instruction at the column	☐	☐	☐	
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Designation „lifting/lowering“	☐	☐	☐	
Function button „lifting/lowering“	☐	☐	☐	
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Condition, Function drive on ramps	☐	☐	☐	
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Condition Construction (deformation, cracking)	☐	☐	☐	
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Condition, Function spindle centering	☐	☐	☐	
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Function test with vehicle	☐	☐	☐	
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signature of the expert signature of the operator

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Failures repaired at: ....
signature of the operator

(Use another form for verification!)

Regular security check and maintenance

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Type plate	☐	☐	☐	
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signature of the operator

(Use another form for verification!)

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Function test with vehicle	☐	☐	☐	
Function test „driving to the end position “	☐	☐	☐	
Function equalisation of the lift	☐	☐	☐	

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Regular security check and maintenance

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signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....
signature of the operator

(Use another form for verification!)

Extraordinary security check

☞ Fill out and leave in this manual Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	
short operating instruction at the column	☐	☐	☐	
sticker capacity at the column	☐	☐	☐	
sticker lubrication/maintenance plan	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Condition Automotive-lift	☐	☐	☐	
Designation „lifting/lowering“	☐	☐	☐	
Function button „lifting/lowering“	☐	☐	☐	
Function button „equalisation“	☐	☐	☐	
Condition, Function Display	☐	☐	☐	
Condition, Electrical box	☐	☐	☐	
Condition, Function main switch	☐	☐	☐	
Safety seeger ring at the bolts (carriage)	☐	☐	☐	
Function CE-Stop + acoustic signal	☐	☐	☐	
Condition bolts and DU-bearings	☐	☐	☐	
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Torque moment of screws and dowels	☐	☐	☐	
Condition Poly V-Belt	☐	☐	☐	
Condition, Function spindle centering	☐	☐	☐	
Condition Crossbeam & cable channel	☐	☐	☐	
Condition of the covers	☐	☐	☐	
Condition Spindle and carrying nut	☐	☐	☐	
Condition carrying nut wear pin	☐	☐	☐	
Condition concrete (cracking)	☐	☐	☐	
Condition electrical cables and plugs	☐	☐	☐	
Function lighting	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function test „driving to the end position “	☐	☐	☐	
Function equalisation of the lift	☐	☐	☐	

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signature of the expert signature of the operator

If failures must be repaired:

Failures repaired at: ....
signature of the operator

(Use another form for verification!)

Electrical diagram

Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

INHVERZS / 25.04.2001

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearb.	X
1	Deckblatt		16.11.2009	BOE	
2	Inhaltsverzeichnis		23.02.2010	BOE	X
3	Änderung		16.11.2009	BOE	
4	Hauptstrom		23.02.2010	BOE	
5	Hauptstrom		18.02.2010	BOE	
6	Frei		19.02.2010	BOE	
7	Bedientasten		18.02.2010	BOE	
8	Achscontroller		23.02.2010	BOE	
9	Säulenansteuerung		18.02.2010	BOE	
10	FU		20.11.2009	BOE	
11	Frei		19.02.2010	BOE	
12	-X1		16.11.2009	BOE	X
13	-X2		16.11.2009	BOE	X
14	-XHS1.2		16.11.2009	BOE	X
15	-XHS2.2		16.11.2009	BOE	X
16	-XHS3.2		16.11.2009	BOE	X
17	-XHS4.2		16.11.2009	BOE	X
18	-XST1		16.11.2009	BOE	X
19	-XST2		16.11.2009	BOE	X
20	-XST3		16.11.2009	BOE	X
21	-XST4		16.11.2009	BOE	X
22	Stückliste		23.02.2010	BOE	X
23	Stückliste		23.02.2010	BOE	X
24	Stückliste		23.02.2010	BOE	X

Änderung	Datum	Name	Norm		Ursprung	Ers. f.	Ers. d.
			Datum	10.08.10			
			Bearb.	BOE			
			Gepr.	20.06.13			

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

4.XX SL Achsmess

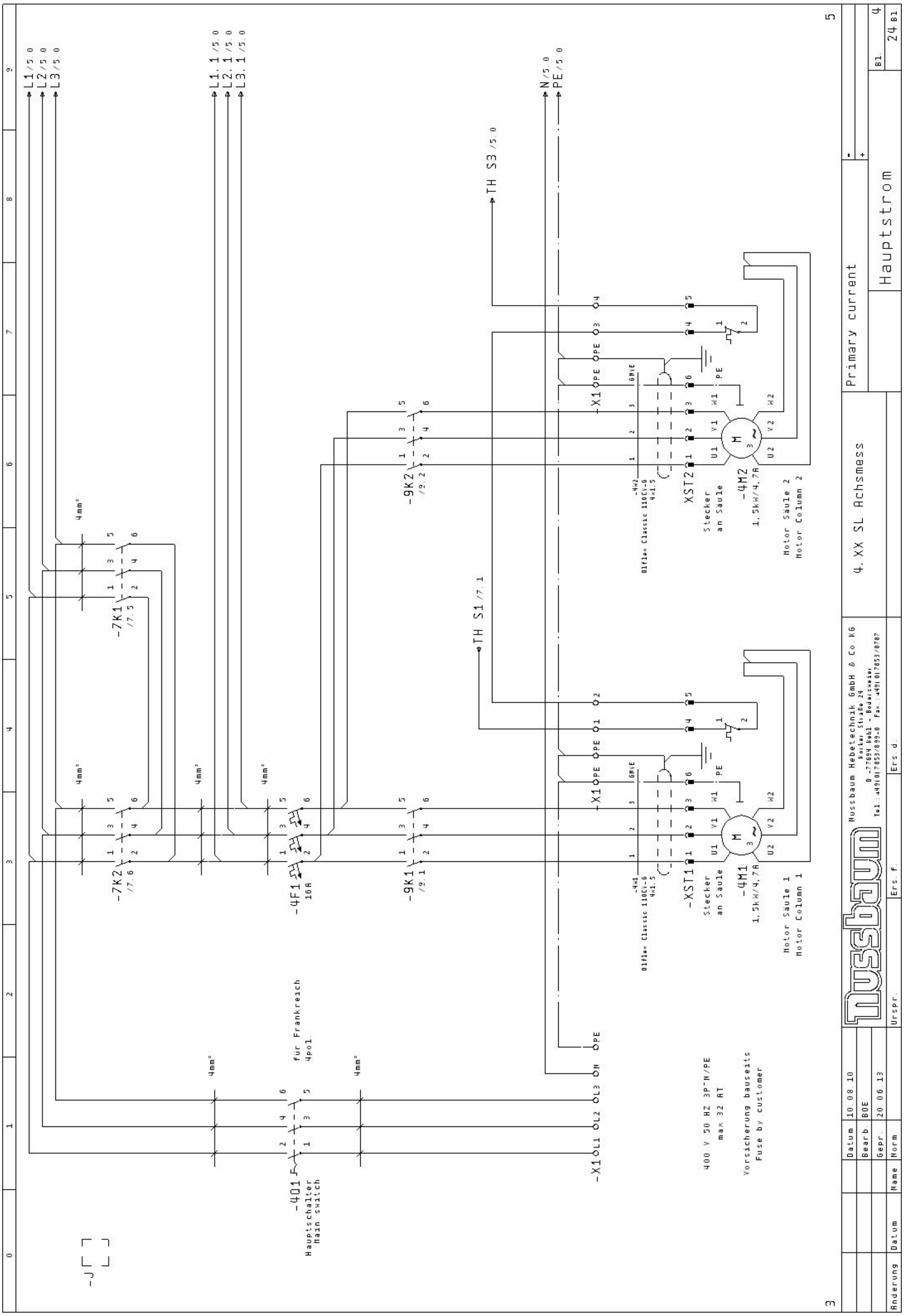
Inhaltsverzeichnis

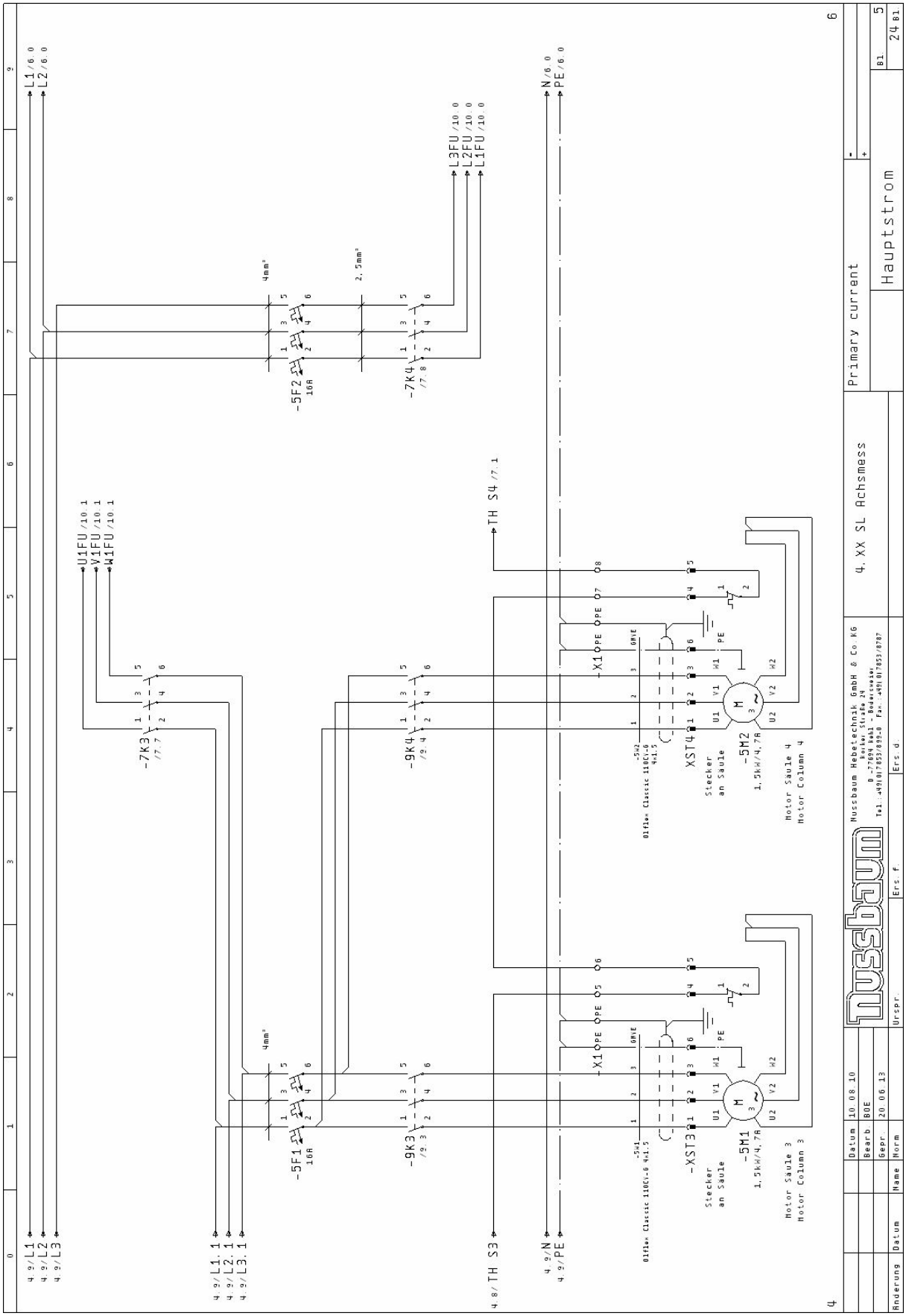
Bl. 2
24 Bl.

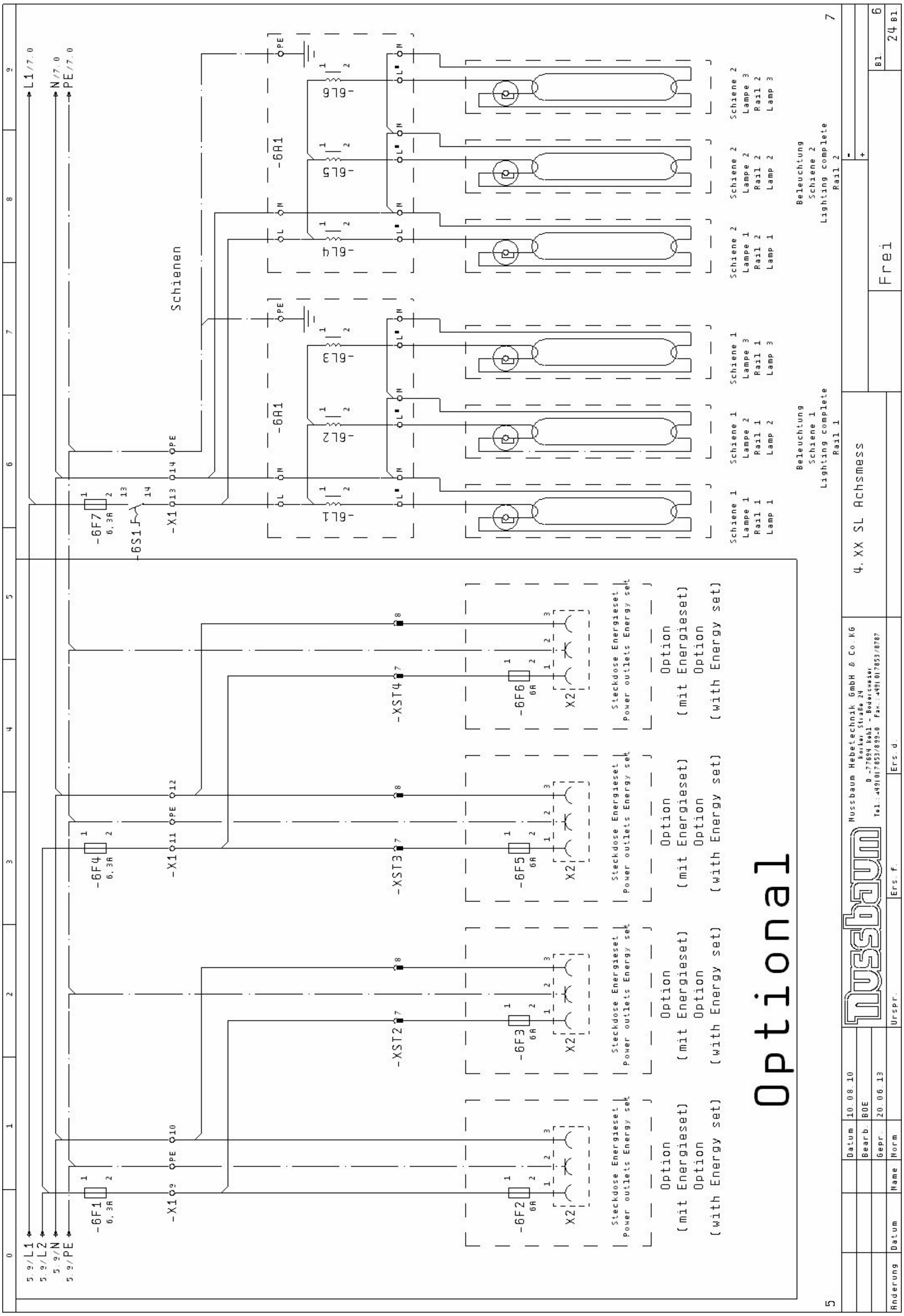
ÄNDERUNGS-INFORMATIONEN

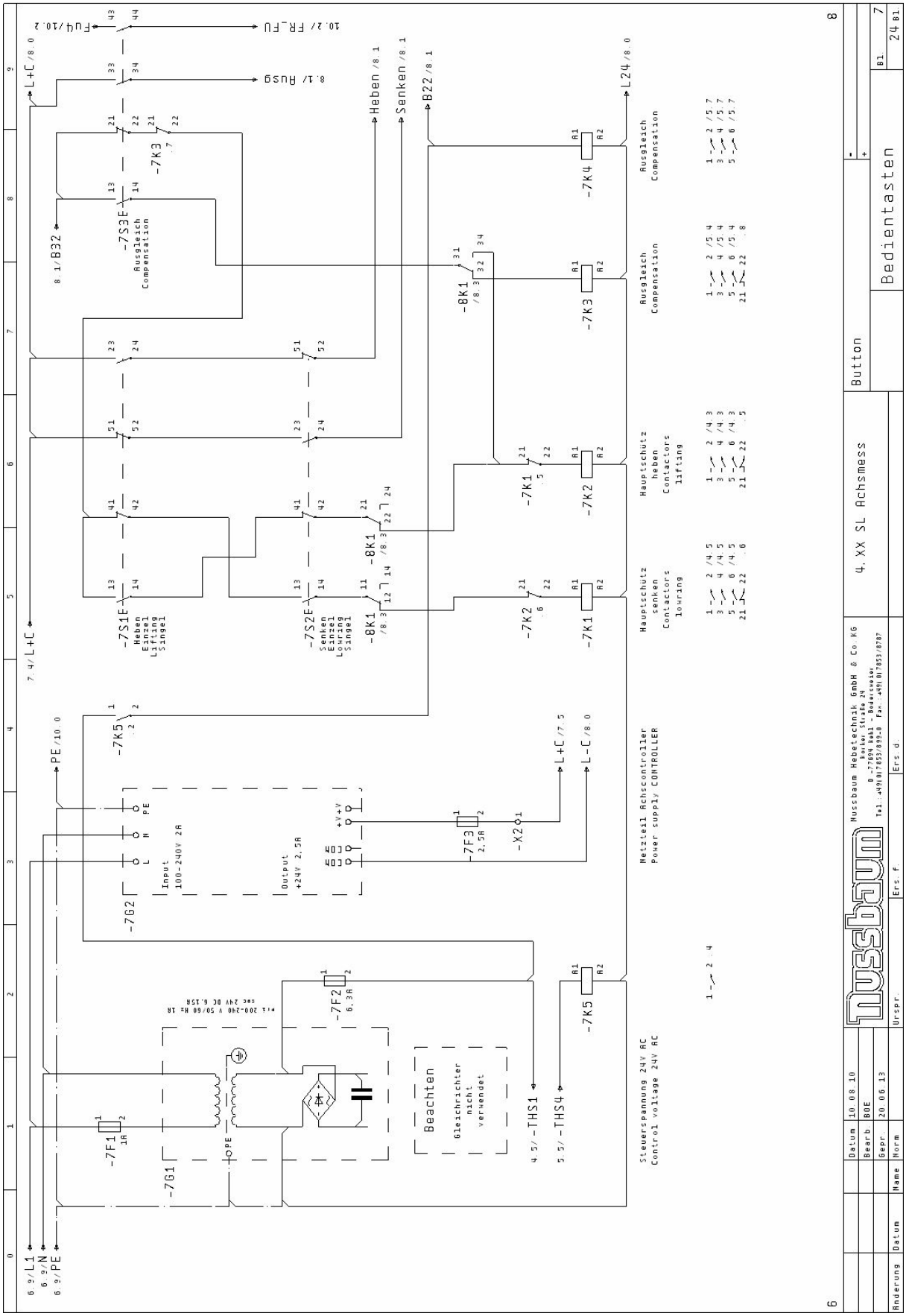
Nr.	Datum	Firma	Bearbeiter	Änderungen	ORT/SEITE

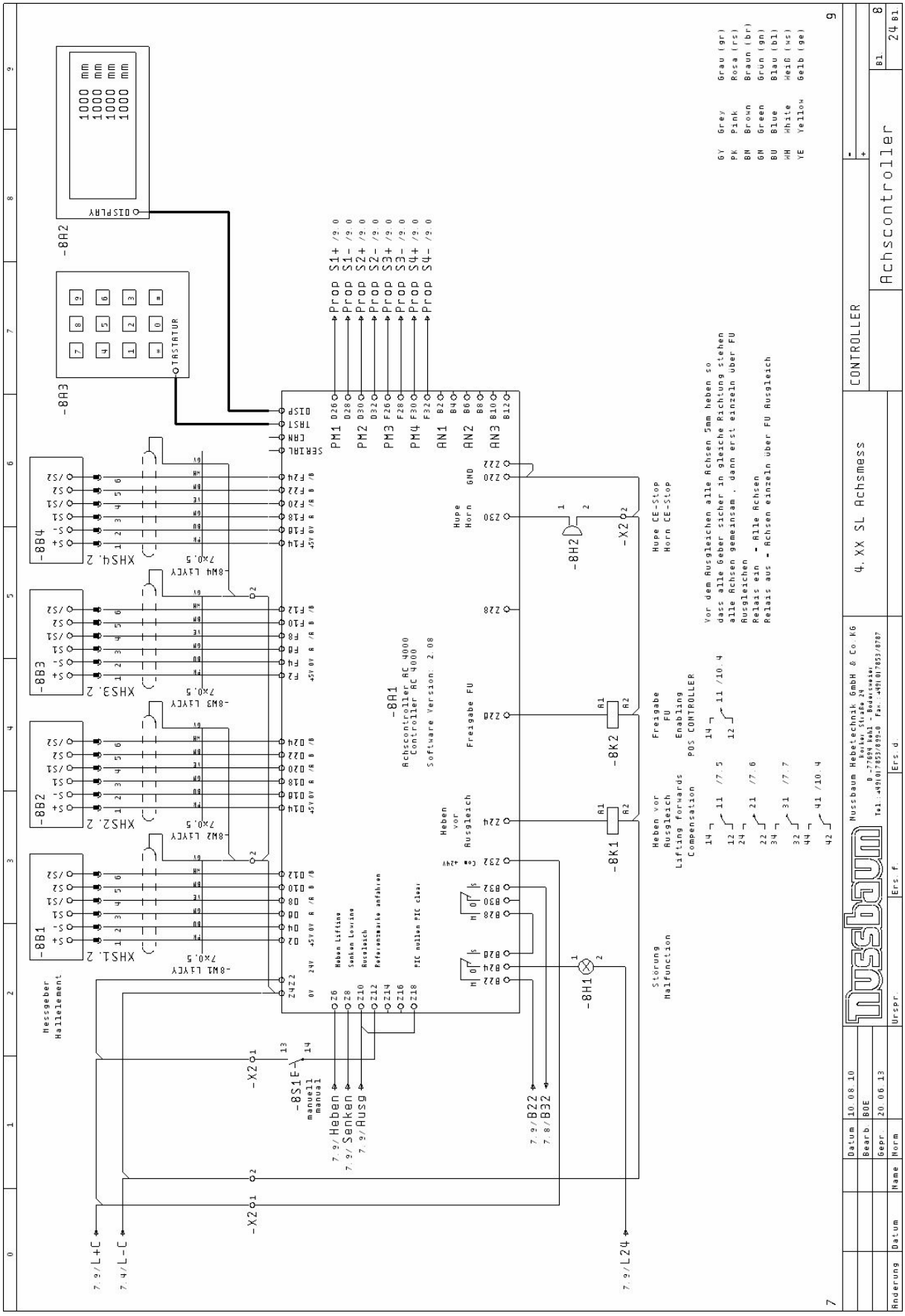
			Datum	10.08.10	Nussbaum Hebetechnik GmbH & Co. KG Becker Straße 24 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	4.XX SL Achsmess	-	
			Bearb.	BOE			+	
			Gepr.	20.06.13			Änderung	Bl. 3
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	24 Bl.

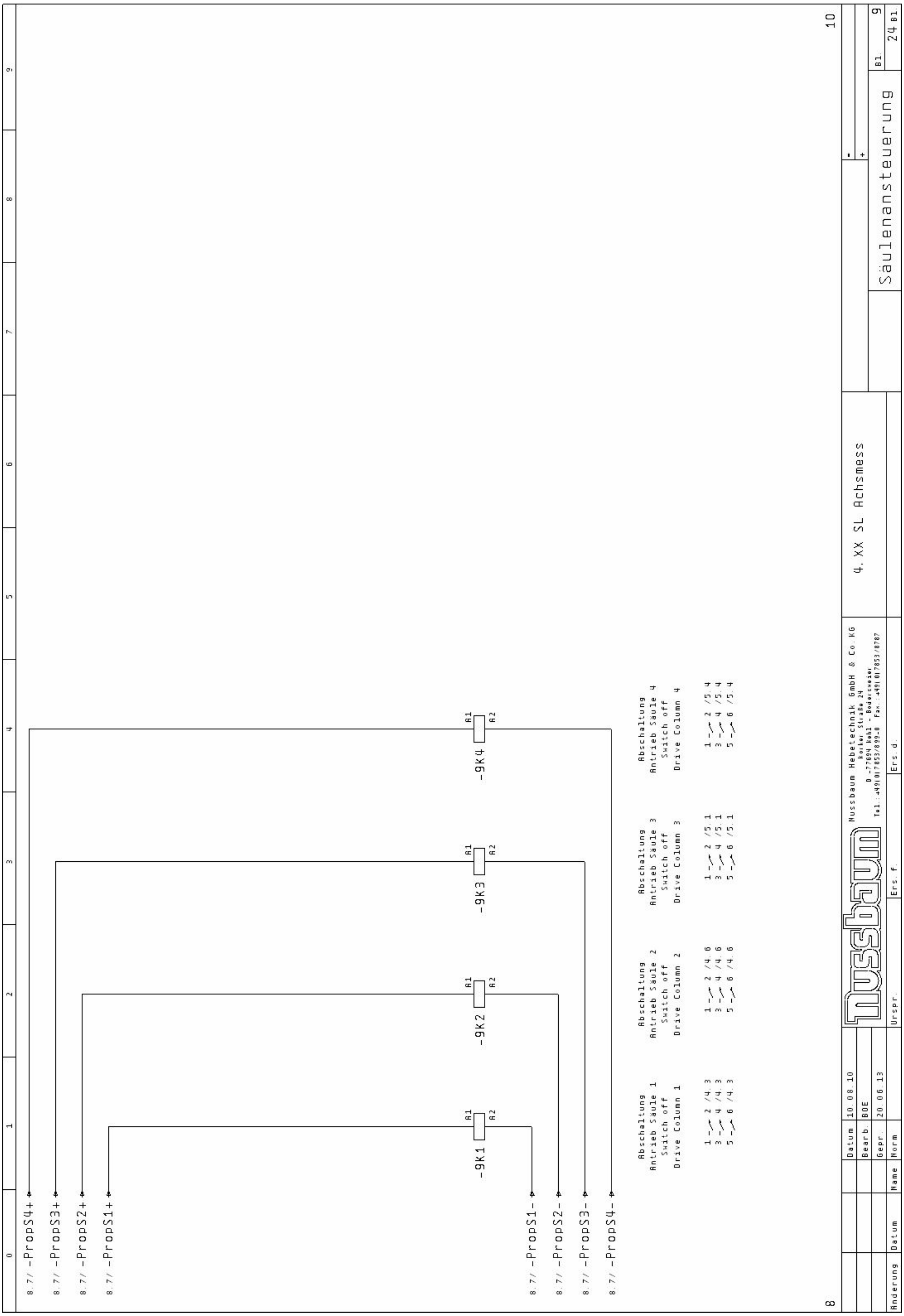

Primary current
Hauptstrom
4.XX SL Achsmess
Nussbaum Hebetechnik GmbH & Co.KG
Hauptschalter
Main switch
für Frankreich
4pol.
400 V 50 HZ 3P~N/PE
max 32 AT
Vorsicherung bauseits
Fuse by customer
Motor Säule 1
Motor Column 1
Motor Säule 2
Motor Column 2
Stecker
an Säule
1,5kW/4,7A
-4Q1
-4F1
16A
-7K1
-7K2
-9K1
-9K2
-X1
-XST1
-XST2
-4M1
-4M2
TH S1
TH S3
Datum
Bearb.
Gepr.
Norm
10.08.10
BOE
20.06.13
Änderung
Datum
Name
Urspr.
Ers. f.
Ers. d.

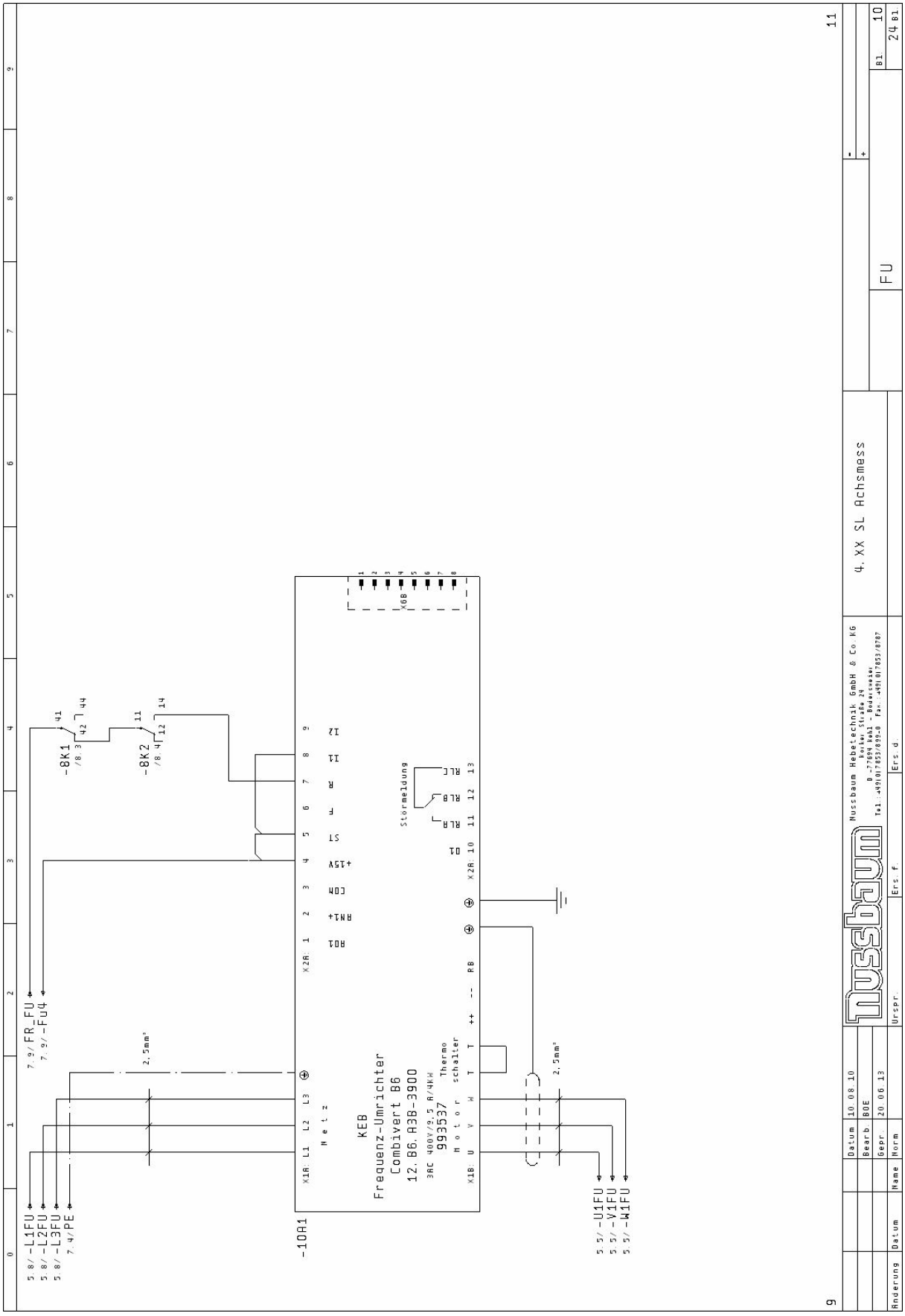

L1 /6.0
L2 /6.0
L3FU /10.0
L2FU /10.0
L1FU /10.0
N /6.0
PE /6.0
U1FU /10.1
V1FU /10.1
W1FU /10.1
TH S4 /7.1
-5F2
16A
-7K4
/7.8
-7K3
/7.7
-9K4
/9.4
-5F1
16A
-9K3
/9.3
-5M2
1,5kW/4,7A
-5M1
1,5kW/4,7A
XST4
XST3
Stecker an Säule
Motor Säule 4
Motor Column 4
Motor Säule 3
Motor Column 3
4 9/L1
4 9/L2
4 9/L3
4 9/L1.1
4 9/L2.1
4 9/L3.1
4 8/TH S3
4 9/N
4 9/PE
Nussbaum Hebetechnik GmbH & Co. KG
Primary current
Hauptstrom
4. XX SL Achsmess

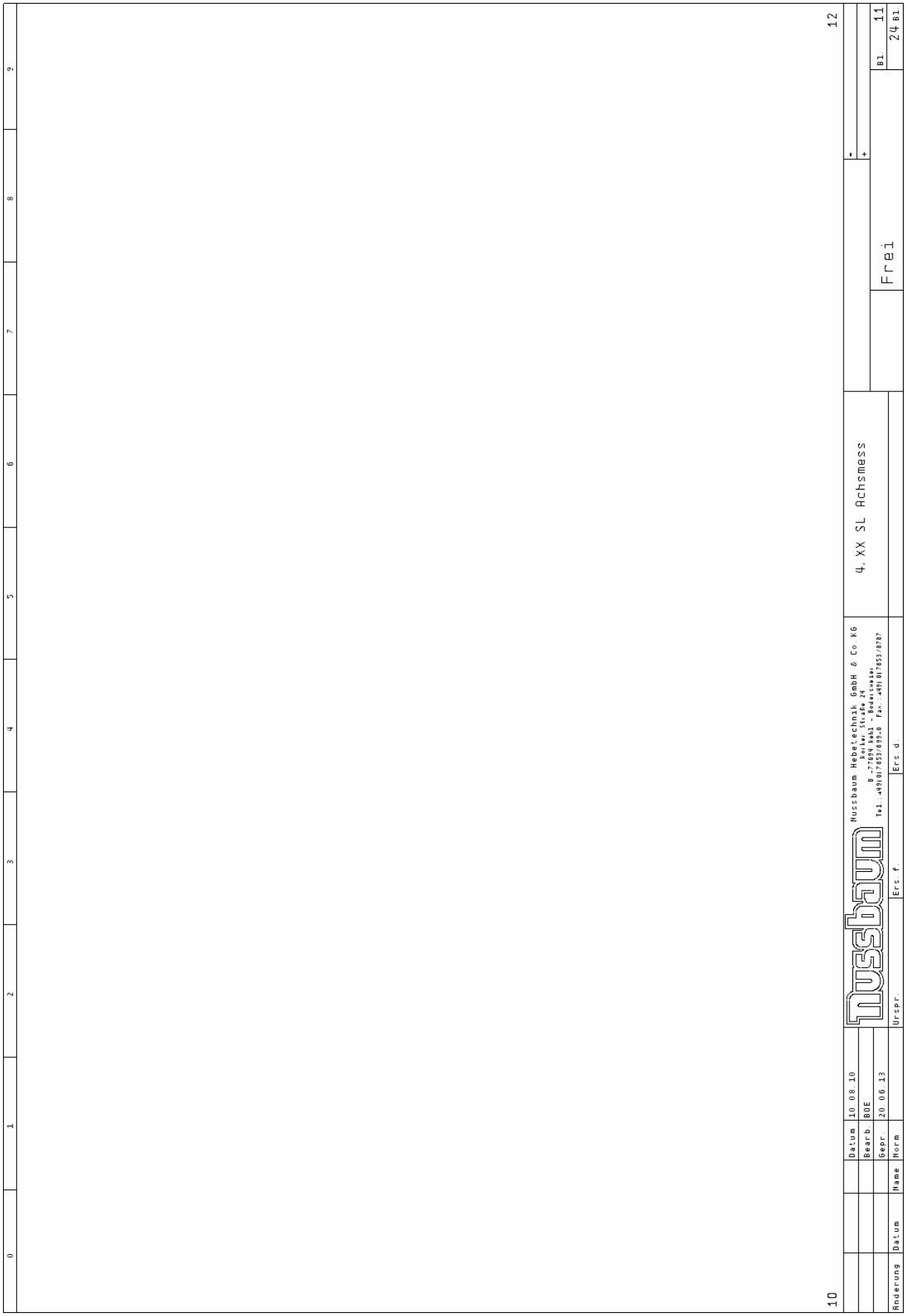

Schienen
-6A1
-6L1
-6L2
-6L3
-6L4
-6L5
-6L6
-6F7
-6S1
-X1
-6F1
-6F2
-6F3
-6F4
-6F5
-6F6
-XST2
-XST3
-XST4
X2
Schiene 1 Lampe 1 Rail 1 Lamp 1
Schiene 1 Lampe 2 Rail 1 Lamp 2
Schiene 1 Lampe 3 Rail 1 Lamp 3
Schiene 2 Lampe 1 Rail 2 Lamp 1
Schiene 2 Lampe 2 Rail 2 Lamp 2
Schiene 2 Lampe 3 Rail 2 Lamp 3
Beleuchtung Schiene 1 Lighting complete Rail 1
Beleuchtung Schiene 2 Lighting complete Rail 2
Steckdose Energieset Power outlets Energy set
Option (mit Energieset) Option (with Energy set)
Optional
4.XX SL Achsmess
Frei
Nussbaum Hebetechnik GmbH & Co. KG
Datum 10.08.10
Bearb. BOE
Gepr. 20.06.13


Button
Bedientasten
4. XX SL Achsmess
Nussbaum Hebetechnik GmbH & Co. KG
Steuerspannung 24V AC
Control voltage 24V AC
Netzteil Achscontroller
Power supply CONTROLLER
Hauptschütz heben
Contactors lifting
Hauptschütz senken
Contactors lowring
Ausgleich
Compensation
Heben
Senken
Beachten
Gleichrichter nicht verwendet
Input 100-240V 2A
Output +24V 2,5A


1000 mm
1000 mm
1000 mm
1000 mm
DISPLAY
TASTATUR
-8A2
-8A3
-8A1
Achscontroller AC 4000
Controller AC 4000
Software Version: 2.08
-8B1
-8B2
-8B3
-8B4
XHS1.2
XHS2.2
XHS3.2
XHS4.2
7x0.5
-8K1
-8K2
-8H1
-8H2
-8S1E
manuell
manual
-X2
Prop S1+ /9.0
Prop S1- /9.0
Prop S2+ /9.0
Prop S2- /9.0
Prop S3+ /9.0
Prop S4+ /9.0
Prop S4- /9.0
PM1 PM2 PM3 PM4 AN1 AN2 AN3
Heben
Senken
Ausg
Hupe
Horn
Hupe CE-Stop
Horn CE-Stop
Freigabe FU
Enabling POS CONTROLLER
Störung
Malfunction
Heben vor Ausgleich
Lifting forwards Compensation
Messgeber Hallelement
Vor dem Ausgleichen alle Achsen 5mm heben so
dass alle Geber sicher in gleiche Richtung stehen
alle Achsen gemeinsam , dann erst einzeln über FU
Ausgleichen
Relais ein - Alle Achsen
Relais aus - Achsen einzeln über FU Ausgleich
GY Grey Grau (gr)
PK Pink Rosa (rs)
BN Brown Braun (br)
GN Green Grun (gn)
BU Blue Blau (bl)
WH White Weiß (ws)
YE Yellow Gelb (ge)
CONTROLLER
4. XX SL Achsmess
Achscontroller
Nussbaum Hebetechnik GmbH & Co. KG
Datum 10.08.10
Bearb BOE
Gepr 20.06.13
Name Norm
Urspr
Ers f.
Ers d.
Änderung Datum


8.7/ -PropS4+
8.7/ -PropS3+
8.7/ -PropS2+
8.7/ -PropS1+
8.7/ -PropS1-
8.7/ -PropS2-
8.7/ -PropS3-
8.7/ -PropS4-
-9K1
-9K2
-9K3
-9K4
A1
A2
Abschaltung Antrieb Säule 1 Switch off Drive Column 1
1-/-2 /4.3
3-/-4 /4.3
5-/-6 /4.3
Abschaltung Antrieb Säule 2 Switch off Drive Column 2
1-/-2 /4.6
3-/-4 /4.6
5-/-6 /4.6
Abschaltung Antrieb Säule 3 Switch off Drive Column 3
1-/-2 /5.1
3-/-4 /5.1
5-/-6 /5.1
Abschaltung Antrieb Säule 4 Switch off Drive Column 4
1-/-2 /5.4
3-/-4 /5.4
5-/-6 /5.4
Säulenansteuerung
4.XX SL Achsmess
Nussbaum Hebetechnik GmbH & Co.KG
Datum 10.08.10
Bearb. BOE
Gepr. 20.06.13
Norm
Änderung Datum Name
Urspr.
Ers. f.
Ers. d.
Bl. 9
24 Bl.
8
10


4. XX SL Achsmass
FU
Nussbaum Hebetechnik GmbH & Co. KG
KEB
Frequenz-Umrichter
Combivert B6
12.B6.A3B-3900
-10A1
-8K1
-8K2
-L1FU
-L2FU
-L3FU
PE
FR_FU
-Fu4
-U1FU
-V1FU
-W1FU
2.5mm²
Störmeldung
Motor
Thermo schalter
Netz


Nussbaum Hebetechnik GmbH & Co KG
4. XX SL Achsmass
Frei
Datum 10.08.10
Bearb BOE
Gepr 20.06.13
Name Norm
Änderung Datum
Urspr
Ers. f.
Ers. d.

Klemmenplan

Leistenbezeichnung: -X1

WUPKM020 / 22.04.1998

Seite/Pfad	Kabeltyp	Anschluß	Ziel-bezeichnung	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Kabeltyp	Funktionstext
/4.1				L1	1	-4Q1		
/4.1				L2	3	-4Q1		
/4.1				L3	5	-4Q1		
/4.1				N	10	-X1		
/4.2				PE				
/4.4				PE	6	-XST1	GNYE	Motor Säule 1
/4.4				PE				"
/4.4		14	-5Q2	1	4	-XST1		"
/4.4				2	5	-XST1		"
/4.7				PE	6	-XST2	GNYE	Motor Säule 2
/4.7				PE				"
/4.7				3	4	-XST2		"
/4.7				4	5	-XST2		"
/5.2				PE	6	-XST3	GNYE	Motor Säule 3
/5.2				PE				"
/5.2				5	4	-XST3		"
/5.2				6	5	-XST3		"
/5.5				PE	6	-XST4	GNYE	Motor Säule 4
/5.5		PE	-X1	PE				"
/5.5				7	4	-XST4		"
/5.5		13	-7S3	8	5	-XST4		"
/6.1		2	-0F1	9	1	-6F2		
/6.1		N	-X1	10	3	-X2		Steckdose Energieset
/6.1		PE 2	-X1 -X2	PE	2	-X2		"
/6.4		2	-0F4	11	7	-XST3		"
/6.4				12	8	-XST3		"
/6.4		2 2	-X2 -X2	PE	2	-X2		"
/6.7		14	-0S1	13	L	-6A1		"
/6.7		_3	-7B1	14	N	-6A1		Beleuchtung Schiene 1
/6.7		2 PE	-X2 -7B1	PE				"

Kabelname	Kabeltyp
W-4W1	Ölflex Classic 110CY-6
W-4W2	Ölflex Classic 110CY-6
W-5W1	Ölflex Classic 110CY-6
W-5W2	Ölflex Classic 110CY-6

Datum	10.08.10	Nussbaum Hebetechnik GmbH & Co. KG Korker Straße 24 D-77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	4.XX SL Achsmess	-X1
Bearb.	BOE			Bl. 12
Gepr.	20.06.13			24 Bl.
Änderung / Datum / Name	Norm	Urspr.	Ers. f.	Ers. d.

11 13

Klemmenplan

Leistenbezeichnung: -X2

WUPKH020 / 22.04.1998

Seite/Pfad	Kabeltyp	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	W-8W1 (LiYCY)	W-8W3 (LiYCY)	Funktionstext
/7.3		2	-7F3			1	51	-7S1			Steuerspannung 24V AC
/8.1		33	-7S3		●	1	B28	-8A1			
/8.1			-Z2		●	1	13	-8S1			
/8.0		COM	-7G2		●	2		-Z4			
/8.2					●	2	2	-8H1			Störung
/8.6		220	-8A1		●	2	2	-8H2			Hupe CE-Stop
/8.3			-Z4		●	2	Schirm	W-8W1	GY		Störung
/8.5					●	2	Schirm	W-8W3		GY	"

Kabelname	Kabeltyp
W-8W1	LiYCY
W-8W3	LiYCY

0 1 2 3 4 5 6 7 8 9

12 14

Änderung	Datum	Name	Norm
			Datum 10.08.10
			Bearb. BOE
			Gepr. 20.06.13

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

4.XX SL Achsmess

Urspr. Ers. f. Ers. d.

-X2

Bl. 13
24 Bl.

Klemmenplan

Leistenbezeichnung: -XHS1.2

Kabelname: W-8W1 | Kabeltyp: LiYCY

Seite/Pfad	Kabeltyp (Ader)	Ziel-bezeichnung	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
/8.2	PK	-D2	1	S+	-8B1	Störung
/8.2	BU	-D4	2	S-	-8B1	"
/8.3	GN	-D6	3	S1	-8B1	"
/8.3	YE	-D8	4	/S1	-8B1	"
/8.3	BN	-D10	5	S2	-8B1	"
/8.3	WH	-D12	6	/S2	-8B1	"

WUPKM02D / 22.04.1998

13 15

Änderung	Datum	Name	Norm

Datum: 10.08.10
Bearb.: BOE
Gepr.: 20.06.13

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

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

4.XX SL Achsmess

-XHS1.2

Bl. 14
24 Bl.

Klemmenplan

Leistenbezeichnung: -XHS2. 2

Kabelname: W-8W2 — Kabeltyp: LiYCY

Seite/Pfad	Ader	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
/8. 3	PK		-D14			1	S+	-8B2	Störung
/8. 3	BU		-D16			2	S-	-8B2	"
/8. 4	GN		-D18			3	S1	-8B2	"
/8. 4	YE		-D20			4	/S1	-8B2	"
/8. 4	BN		-D22			5	S2	-8B2	"
/8. 4	WH		-D24			6	/S2	-8B2	"

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Änderung	Datum	Name	Norm
		Datum	10. 08. 10
		Bearb.	BOE
		Gepr.	20. 06. 13

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

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

4. XX SL Achsmess

-XHS2. 2

Bl. 15
24 Bl.

Klemmenplan

Leistenbezeichnung: -XHS3.2

Kabelname: W-8W3 — Kabeltyp: LiYCY

Seite/Pfad	Kabeltyp	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Kabeltyp	Funktionstext
/8.4	PK		-F2			1	S+	-8B3		Störung
/8.4	BU		-F4			2	S-	-8B3		"
/8.5	GN		-F8			3	S1	-8B3		"
/8.5	YE		-F8			4	/S1	-8B3		"
/8.5	BN		-F10			5	S2	-8B3		"
/8.5	WH		-F12			6	/S2	-8B3		"

WUPKM020 / 22.04.1998

15 17

Änderung	Datum	Name	Norm	
			Datum	10.08.10
			Bearb.	BOE
			Gepr.	20.06.13

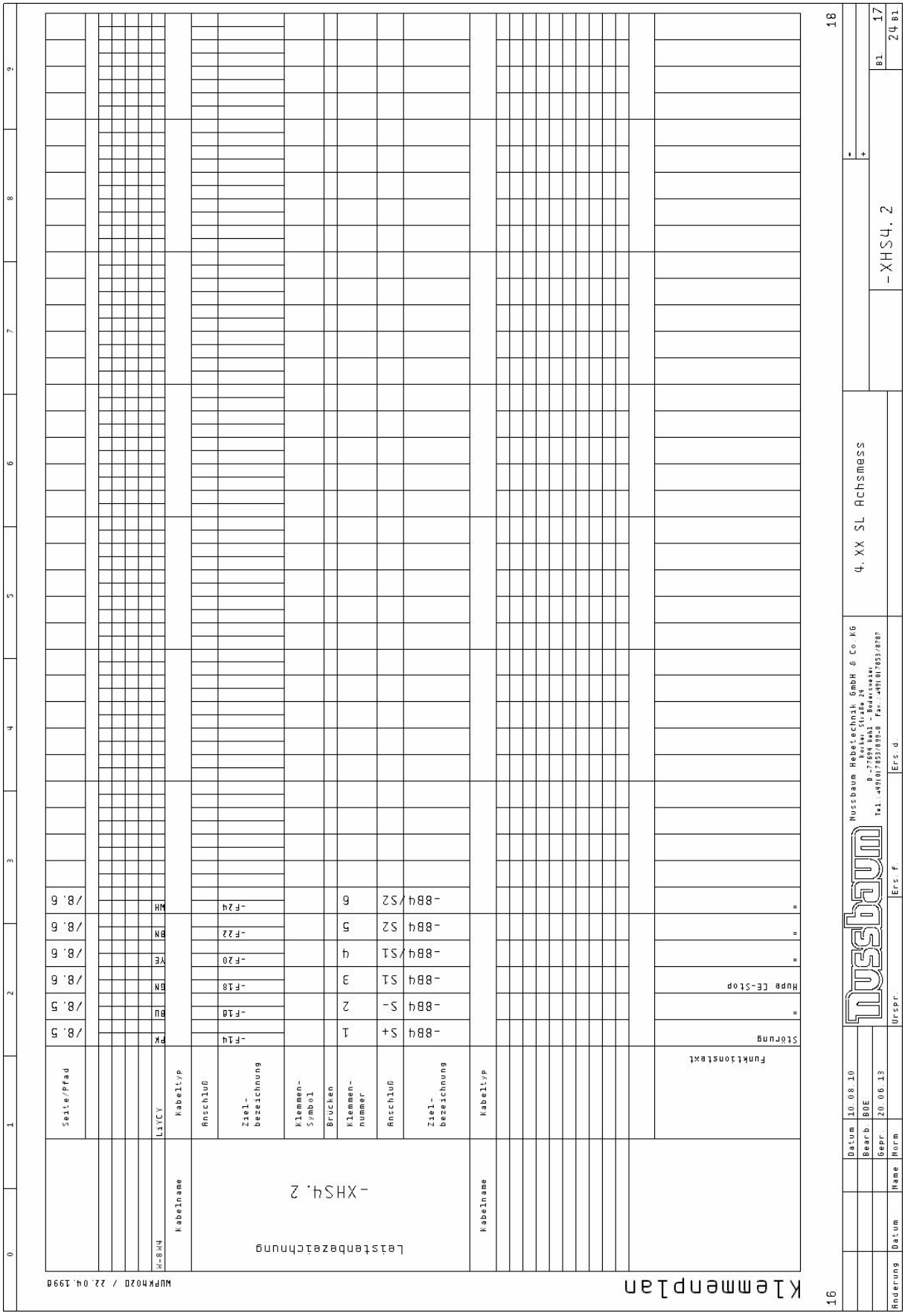
Nussbaum Hebetechnik GmbH & Co. KG
Korker Straße 24
D-77694 Kehl - Bodersweier
Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787

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

4.XX SL Achsmess

-XHS3.2

Bl. 16
24 Bl.


Klemmenplan
Leistenbezeichnung
-XHS4.2
4.XX SL Achsmass
-XHS4.2
Nussbaum Hebetechnik GmbH & Co KG
Störung
Hupe FE-Stop
Funktionstext
Kabelname
Kabeltyp
Anschluß
Ziel-bezeichnung
Klemmen-Symbol
Brücken
Klemmen-nummer
Seite/Pfad
Datum
Bearb
Gepr
Name
Änderung

Klemmenplan

Leistenbezeichnung: -XST1

Kabelname: W-4W1 — Kabeltyp: Olflex Classic 110CY 4G

Seite/Pfad	Ader	Anschluß	Ziel-bezeichnung	Klemmen-Symbol	Brücken	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
/4.3	1	2	-9K1			1	U1	-4M1	Motor Säule 1
/4.3	2	4	-9K1			2	V1	-4M1	"
/4.3	3	8	-9K1			3	W1	-4M1	"
/4.4		1	-X1			4	1	-4M1	"
/4.4		2	-X1			5	2	-4M1	"
/4.4	GNYE	PE	-X1			6	PE	-4M1	"

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17 19

Datum	10.08.10
Bearb.	BOE
Gepr.	20.06.13
Norm	

Änderung | Datum | Name | Urspr. | Ers. f. | Ers. d.

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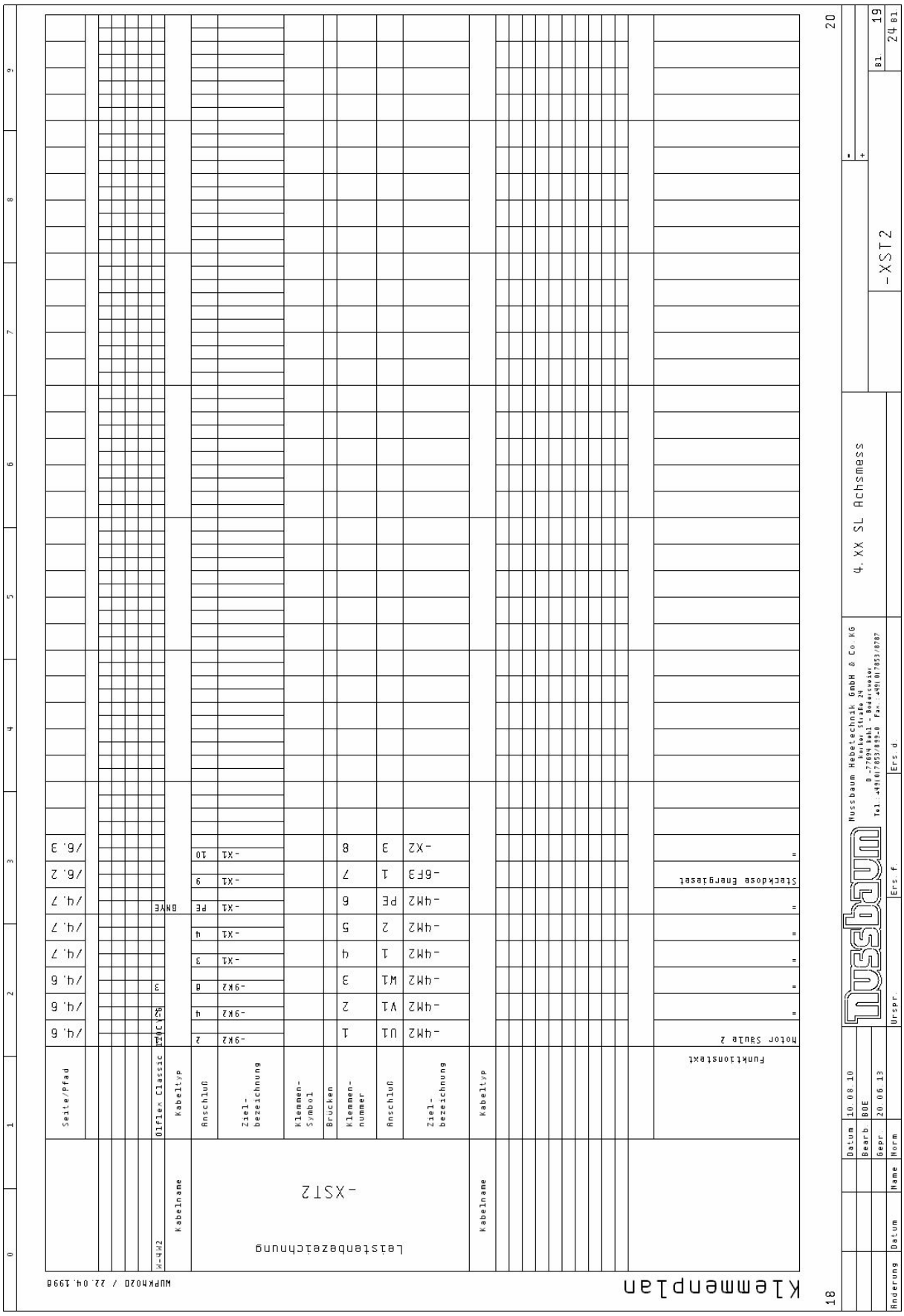
Tel.: +49(0)7853/899-0 Fax: +49(0)7853/8787

4.XX SL Achsmess

-XST1

Bl. 18
24 Bl.


Klemmenplan
Leistenbezeichnung
-XST2
Funktionstext
Motor Säule 2
Steckdose Energiebest
Kabelname
Kabeltyp
Anschluß
Ziel-bezeichnung
Klemmen-Symbol
Brücken
Klemmen-nummer
Seite/Pfad
Nussbaum Hebetechnik GmbH & Co. KG
4. XX SL Achsmass
-XST2
Datum 10.08.10
Bearb BOE
Gepr 20.06.13
Norm
Name
Datum
Änderung
WUPKH02D / 22.04.1998

Klemmenplan

WUPKM02D / 22.04.1998

Leistenbezeichnung: -XST3

Kabelname: W-5W1 — Kabeltyp: Olflex Classic 110CY 4G

Seite/Pfad	Kabeladern	Anschluß	Ziel-bezeichnung	Klemmen-nummer	Anschluß	Ziel-bezeichnung	Funktionstext
/5.1	1	2	-9K3	1	U1	-5M1	Motor Säule 3
/5.1	2	4	-9K3	2	V1	-5M1	"
/5.1	3	8	-9K3	3	W1	-5M1	"
/5.2		5	-X1	4	1	-5M1	"
/5.2		8	-X1	5	2	-5M1	"
/5.2	GNYE	PE	-X1	6	PE	-5M1	"
/6.4		11	-X1	7	1	-6F5	Steckdose Energieset
/6.4		12	-X1	8	3	-X2	"

19 | 21

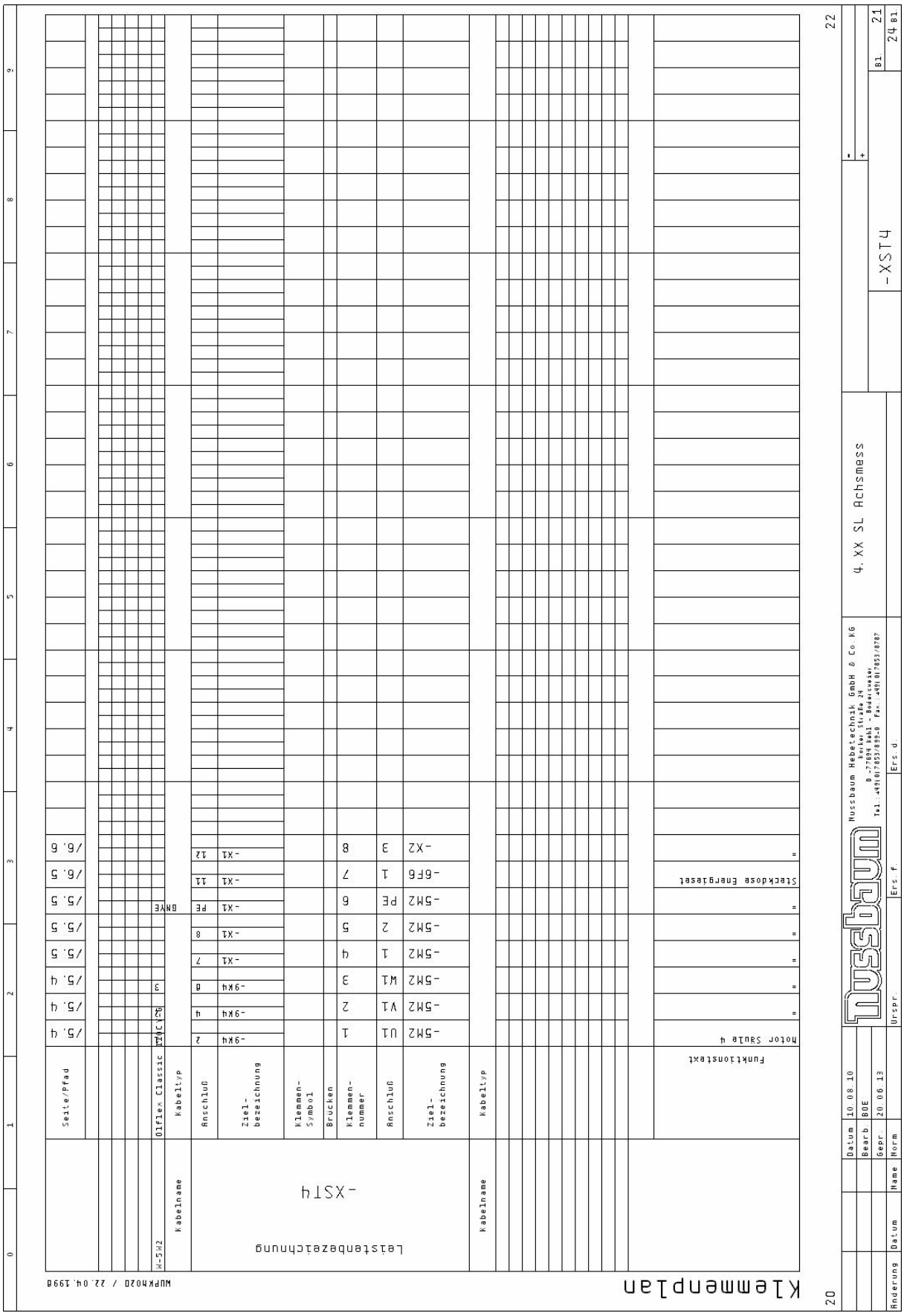
Änderung	Datum	Name	Norm		
			Datum	10.08.10	
			Bearb.	BOE	
			Gepr.	20.06.13	

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

4.XX SL Achsmess

-XST3

Bl. 20 — 24 Bl.


Klemmenplan
-XST4
4. XX SL Achsmass
Nussbaum Hebetechnik GmbH & Co. KG
Motor Säule 4
Steckdose Energiesatz
Funktionstext
Leistenbezeichnung
Kabelname
Kabeltyp
Anschluß
Ziel-bezeichnung
Klemmen-Symbol
Brücken
Klemmen-nummer
Seite/Pfad
Ölflex Classic
WUPK0020 / 22.04.1998

Stückliste Bill of materials

NUSTÜCK2 16.11.2004

Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
-J	1	E-Box gelocht 300x1200x155	B1045-0260LB08	Krauth technology	B1045-0260LB08
-J	1	Montageplatte ungelocht 300*1200	B1045-0260	Krauth technology	B1045-0260
-Q01	1	Hauptsch. Not-Aus 3p 40A ,11kW	A2251/6.1050	Herz GmbH	990375
-X1	4	Reihenklemme M 16/12 schraub-schraub	M 16/12	Entrelec	990794
-X1	1	Schutzleiterklemme M 16/12.P schraub-schraub	M 16/12.P	Entrelec	990844
-X1	8	Reihenklemme D 6/8 ADO grau schraub-schn	D 6/8 ADO	Entrelec	990593
-X1	8	Schutzleiterkl D 6/8 P ADO schraub-schn	D 6/8 P ADO	Entrelec	990594
-X1	6	Reihenklemme D 1,5/6 ADO grau schn-schn	D 1,5/6 ADO	Entrelec	990183
-X1	3	Schutzleiterkl D 2,5/6 P ADO schn-schn	D 2,5/8 P ADO	Entrelec	990185
-X1	9	Schutzleiterklemme	M 2.5/5 PI	Entrelec	ENT.16518822
-X1	9	Blanko Schild	RC510 5X10	Entrelec	ENT.23100007
-4F1	1	Sicherungsautomat 3 pol. 16 A Typ K	EP63 K16	General Elektric	992824
-XST1	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
-XST1	6	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
-XST1	6	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
-XST1	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
-4M1	1	Drehstrommotor 1,5kW/4,7A 50Hz SL	W7HIU4D-239	Hanning GmbH	990950
-XST2	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
-XST2	6	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
-XST2	6	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
-XST2	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
-4M2	1	Drehstrommotor 1,5kW/4,7A 50Hz SL	W7HIU4D-239	Hanning GmbH	990950
-5F1	1	Sicherungsautomat 3 pol. 16 A Typ K	EP63 K16	General Elektric	992824
-XST3	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
-XST3	6	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
-XST3	6	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
-XST3	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
-5M1	1	Drehstrommotor 1,5kW/4,7A 50Hz SL	W7HIU4D-239	Hanning GmbH	990950
-XST4	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
-XST4	6	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
-XST4	6	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
-XST4	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
-5M2	1	Drehstrommotor 1,5kW/4,7A 50Hz SL	W7HIU4D-239	Hanning GmbH	990950
-5F2	1	Sicherungsautomat 3 pol. 16 A Typ K	EP63 K16	General Elektric	992824
-6F1	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F1	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-6F2	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F2	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-X2	1	bestehend aus 1 * Steckdose,1* Luftanschluss	EMERGIESET SL GEGENSEITE	Nussbaum	225SL05092
-6F3	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F3	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-X2	1	bestehend aus 1 * Steckdose,1* Luftanschluss	EMERGIESET SL GEGENSEITE	Nussbaum	225SL05092
-6F4	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F4	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-6F5	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F5	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-X2	1	bestehend aus 1 * Steckdose,1* Luftanschluss	EMERGIESET SL GEGENSEITE	Nussbaum	225SL05092
-6F6	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
-6F6	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-X2	1	bestehend aus 1 * Steckdose,1* Luftanschluss	EMERGIESET SL GEGENSEITE	Nussbaum	225SL05092

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			Datum	10.08.10	Nussbaum Hebetechnik GmbH & Co.KG Berker Straße 24 D -77694 Kehl - Bodersweier Tel.:+49(0)7853/899-0 Fax.:+49(0)7853/8787		4.XX SL Achsmess		-
			Bearb.	BOE					+
			Gepr.	20.06.13				Stückliste	Bl. 22
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.		24 Bl.

0	1	2	3	4	5	6	7	8	9

Stückliste Bill of materials

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Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
-6F7	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
-6F7	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-7G1	1	Trafo + Gleichrichter + Kondensator	TRAFO 1-PH	Schmelzer	990835
-7F1	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
-7F1	1	Feinsicherung	FEINSICHERUNG	GIF	990475
-7F2	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
-7F2	1	Feinsicherung	FEINSICHERUNG	GIF	990286
-7K5	1	Leistungschütz 5,7 kW 24 V 50-60 Hz	11BG12.01 A 24V AC	Lovato electric	990840
-7G2	1	Schalt-Netzgerät Achscontroller DC 24 V /2,5A	S60-F24	Lust GmbH	940101
-7F3	1	Sicherungsklemme Trenner 5x20 mm	M4/8.SF	Entrelec	990661
-7F3	1	Feinsicherung	FEINSICHERUNG	GIF	990124
-X2	8	Reihenklemme D 1,5/6.ADO grau schn-schn	D 1,5/6.ADO	Entrelec	990183
-7S1	1	Drucktaste flach o.Tast.Platte (M22)	M22-D-X	Moeller	990130
-7S1	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
-7S1	1	Kontaktblock 1S 1O (M22)	M22-AK11	Moeller	990132
-7S1	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
-7S1	1	Kontaktelement 1O (M22)	M22-K01	Moeller	990181
-7S2	1	Drucktaste flach o.Tast.Platte (M22)	M22-D-X	Moeller	990130
-7S2	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
-7S2	1	Kontaktblock 1S 1O (M22)	M22-AK11	Moeller	990132
-7S2	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
-7S2	1	Kontaktelement 1O (M22)	M22-K01	Moeller	990181
-7K1	1	Hauptschütz, DILM32-01, 24V50HZ, 1NC,	DILM32-01(24V50HZ)	Moeller	9950147
-7K2	1	Hauptschütz, DILM32-01, 24V50HZ, 1NC,	DILM32-01(24V50HZ)	Moeller	9950147
-7K3	1	Hauptschütz, DILM15-01, 24V50HZ, 1NC,	DILM15-01(24V50HZ)	Moeller	993535
-7S3	1	Drucktaste flach o.Tast.Platte (M22)	M22-D-X	Moeller	990130
-7S3	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
-7S3	1	Kontaktblock 1S (M22)	M22-AK10	Moeller	990142
-7S3	1	Start (I)(M22)	M22-XD-G-X1	Moeller	991045
-7K4	1	Hauptschütz, DILM15-01, 24V50HZ, 1NC,	DILM15-01(24V50HZ)	Moeller	993535
-8S1	1	Drucktaster Einbau klein 1S	DS 131	OSER GmbH	990366
-8A1	1	Achscontroller ASC 4000 Vollversion	940260	Nussbaum	940260
-8A1	1	Federleiste 64pol für Achscontroller	FEDERLEISTE 64POL	Nussbaum	991416
-8A1	1	Leiterkartenhalter/ Kartentasche	120X10029	Zubehör	992045
-8A1	1	Befestigungssatz für Leiterkartenhalter	120X10059	Zubehör	992046
-8A1	1	Blechhalter ASC			035UNI03012
-8A1	52	Flachsteckhülse 2,8	45365.123.204	AMP	991352
-8A1	52	Isoliertülle 2,8	F 2,8	AMP	991353
-8H1	1	Leuchtmeldervorsatz rot,kon.(M22)	M22-LH-R	Moeller	990944
-8H1	1	Befestigungsadapter (M22)	M22-A	Moeller	990965
-8H1	1	Lampenfassung LED weiß (M22)	M22-LED-W	Moeller	991193
-8B1	1	Drehgeber für SL Poti Rad	450SLDREHGEBER	Nussbaum	450SLDREHGEBER
-XHS1.2	1	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	990918
-XHS1.2	1	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	990919
-XHS1.2	6	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
-XHS1.2	6	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
-8K1	1	INDUSTRIERELAIS 24V 4 Wechsler	274I	BTR	990267
-8K1	1	Industrierelaissockel für 4 Wechsler	110178	BTR	990381
-8B2	1	Drehgeber für SL Poti Rad	450SLDREHGEBER	Nussbaum	450SLDREHGEBER
-XHS2.2	1	Steckverb.Gerätestecker ku 6 pol.	STECKVERBINDER	RS Component	990918

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			Bearb.	BOE	
			Gepr.	20.06.13	
Änderung	Datum	Name	Norm		Urspr. / Ers.f. / Ers.d.

4.XX SL Achsmess

Stückliste

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Stückliste Bill of materials

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Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
-XHS2.2	1	Steckverb.Gerätestecker ku 6 pol	STECKVERBINDER	RS Component	990919
-XHS2.2	6	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
-XHS2.2	6	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
-8K2	1	INDUSTRIERELAIS 24V 4 Wechsler	2741	BTR	990267
-8K2	1	Industrierelaissockel für 4 Wechsler	110178	BTR	990381
-8B3	1	Drehgeber für SL Poti Rad	450SLDREHGEBER	Nussbaum	450SLDREHGEBER
-XHS3.2	1	Steckverb.Gerätestecker ku 6 pol	STECKVERBINDER	RS Component	990918
-XHS3.2	1	Steckverb.Gerätestecker ku 6 pol	STECKVERBINDER	RS Component	990919
-XHS3.2	6	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
-XHS3.2	6	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
-8B4	1	Drehgeber für SL Poti Rad	450SLDREHGEBER	Nussbaum	450SLDREHGEBER
-XHS4.2	1	Steckverb.Gerätestecker ku 6 pol	STECKVERBINDER	RS Component	990918
-XHS4.2	1	Steckverb.Gerätestecker ku 6 pol	STECKVERBINDER	RS Component	990919
-XHS4.2	6	Stifteinsatz für Gerätestecker	STIFTEINSATZ	Spörle GmbH	991330
-XHS4.2	6	Buchseneinsatz für Gerätestecker	BUCHSENEINSATZ	Spörle GmbH	991331
-8H2	1	Digisond akustischer Signalgeber	B/P 228	Deltron Components	990331
-8A3	1	Folientastatur für ASC 4000	113-9503	Nussbaum	940265
-8A3	1	Tastaturkabel Achscontroller	990875	Nussbaum	990875
-8A2	1	Display für ASC 4000	DEM16481 SY-LY/L	Nussbaum	940257
-8A2	1	Displayrahmen groß , mit Tastatur	990690	Nussbaum	990690
-8A2	1	Displaykabel Achscontroller	990874	Nussbaum	990874
-9K1	1	Hauptschütz, DILM15-01, 24VDC, 1NC,	DILM15-01(24VDC)	Moeller	993536
-9K2	1	Hauptschütz, DILM15-01, 24VDC, 1NC,	DILM15-01(24VDC)	Moeller	993536
-9K3	1	Hauptschütz, DILM15-01, 24VDC, 1NC,	DILM15-01(24VDC)	Moeller	993536
-9K4	1	Hauptschütz, DILM15-01, 24VDC, 1NC,	DILM15-01(24VDC)	Moeller	993536
W-4W1	1	Steuerleitung mit numerierten Adern und	OLFLEX GESCHIRMT	Kabeltec	990838
W-4W2	1	Steuerleitung mit numerierten Adern und	OLFLEX GESCHIRMT	Kabeltec	990838
W-5W1	1	Steuerleitung mit numerierten Adern und	OLFLEX GESCHIRMT	Kabeltec	990838
W-5W2	1	Steuerleitung mit numerierten Adern und	OLFLEX GESCHIRMT	Kabeltec	990838
W-8W1	1	Steuerleitung 7x0,5 mm² geschirmt	PVC STEUERLEITUNG LIYCY	Kabel Wächter GmbH & Co.KG	991336
W-8W2	1	Steuerleitung 7x0,5 mm² geschirmt	PVC STEUERLEITUNG LIYCY	Kabel Wächter GmbH & Co.KG	991336
W-8W3	1	Steuerleitung 7x0,5 mm² geschirmt	PVC STEUERLEITUNG LIYCY	Kabel Wächter GmbH & Co.KG	991336
W-8W4	1	Steuerleitung 7x0,5 mm² geschirmt	PVC STEUERLEITUNG LIYCY	Kabel Wächter GmbH & Co.KG	991336

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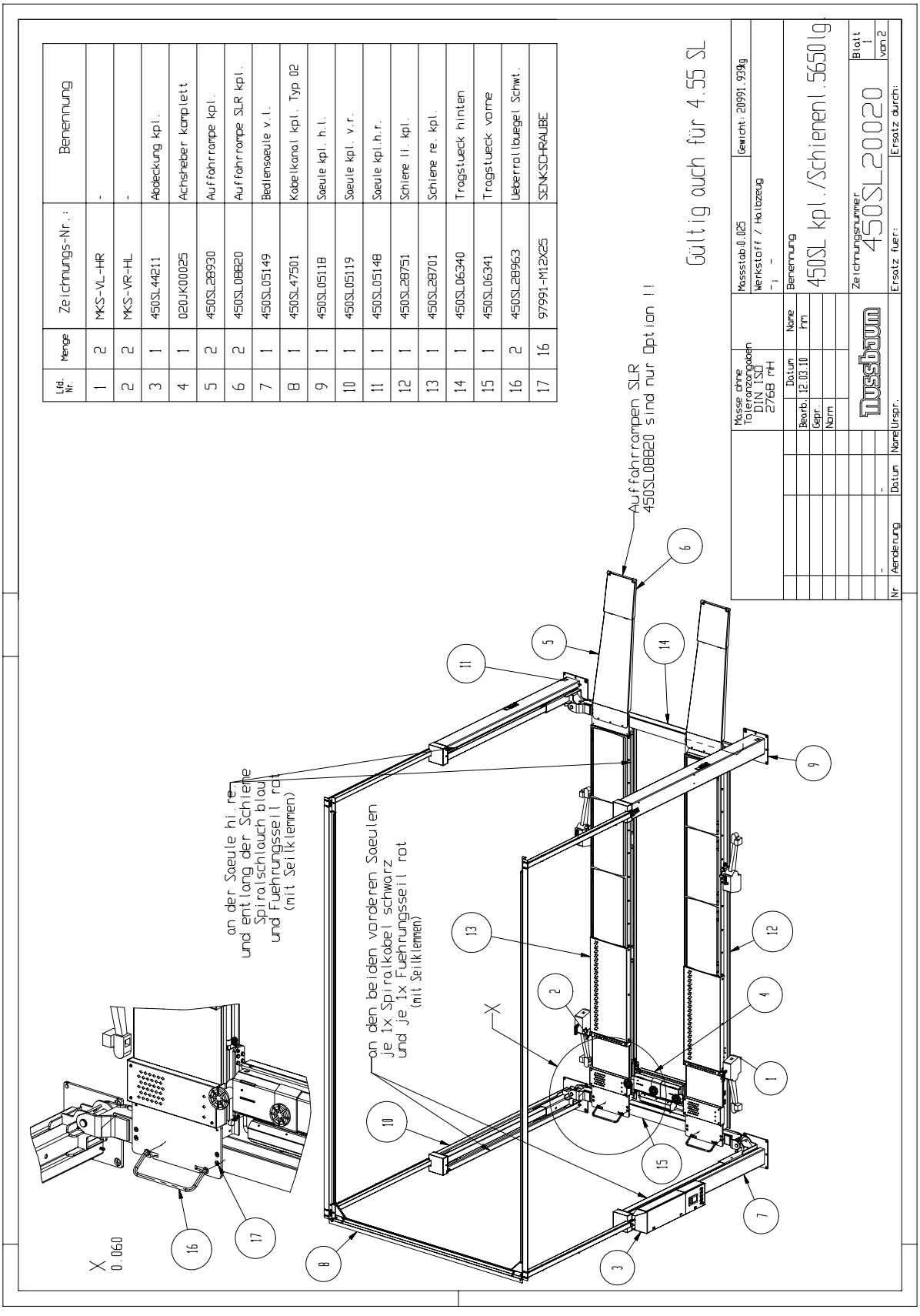
			Datum	10.08.10	Nussbaum Hebetechnik GmbH & Co.KG Kehler Straße 29 D-77694 Kehl - Bodersweier Tel.:+49(0)7853/899-0 Fax.:+49(0)7853/8787	4.XX SL Achsmess	-	
			Bearb.	BOE			+	
			Gepr.	20.06.13			Stückliste	Bl. 24
Änderung	Datum	Name	Norm		Urspr.	Ers.f.	Ers.d.	24 Bl.

Spare parts


Lfd. Nr. | Menge | Zeichnungs-Nr.: | Benennung
1 | 2 | MKS-VL-HR | -
2 | 2 | MKS-VR-HL | -
3 | 1 | 450SL44211 | Abdeckung kpl.
4 | 1 | 020JK00025 | Achsheber komplett
5 | 2 | 450SL28930 | Auffahrrampe kpl.
6 | 2 | 450SL08820 | Auffahrrampe SLR kpl.
7 | 1 | 450SL05149 | Bedienseaule v.l.
8 | 1 | 450SL47501 | Kabelkanal kpl. Typ 02
9 | 1 | 450SL05118 | Saeule kpl. h.l.
10 | 1 | 450SL05119 | Saeule kpl. v.r.
11 | 1 | 450SL05148 | Saeule kpl.h.r.
12 | 1 | 450SL28751 | Schiene li. kpl.
13 | 1 | 450SL28701 | Schiene re. kpl.
14 | 1 | 450SL06340 | Tragstueck hinten
15 | 1 | 450SL06341 | Tragstueck vorne
16 | 2 | 450SL28963 | Ueberrollbuegel Schwt.
17 | 16 | 97991-M12X25 | SENKSCHRAUBE
Gültig auch für 4.55 SL
Auffahrrampen SLR
450SL08820 sind nur Option !!
an der Saeule hi. re.
und entlang der Schiene
Spiralschlauch blau
und Fuehrungsseil rot
(mit Seilklemmen)
an den beiden vorderen Saeulen
je 1x Spiralkabel schwarz
und je 1x Fuehrungsseil rot
(mit Seilklemmen)
X
0.060
Masse ohne Toleranzangaben DIN ISO 2768 mH
Massstab:0.025
Gewicht: 20991.939g
Werkstoff / Halbzeug
- / -
Benennung
450SL kpl./Schienenl.5650lg
Zeichnungsnummer
450SL20020
Blatt 1 von 2
Bearb. 12.03.10
Name
Nussbaum
Ersatz fuer:
Ersatz durch:
Nr | Aenderung | Datum | Name | Urspr.
- | - | - | - | -