4.40 ND

Automotive-Lift date: 11/2009
Manual date: 20.11.2009
Valid since: SN: 307260

Operating Instruction and Documentation

Serial-number:.....

Retailer address / phone

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 long 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.

Otto 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

Automotive Lift date: 11/2009 / Manual date: 20.11.2009

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 4000 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

Nussbaum

Konformitätserklärung

Declaration of Conformity

Déclaration de conformité

Declaración de conformidad

Dichiarazione di conformità

gemäß Maschinenrichtlinie 98/37/EG Anhang II.

CE

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

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

Typ: 4.40 ND

(Zchn: 440ND00001)

Seriennummer: _____

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

98/37EG	Maschinenrichtlinie / *Machinery Directive*
2006/95/EG	EG Niederspannungs- Richtlinie / *Low voltage directive (LVD)*
2004/108/EG	EMV Richtlinie / *Electromagnetic Compatibility (EMC)*
EN 1493: 1998	Fahrzeug- Hebebühnen / *Automotive Lifts*
EN 60204 -1	Sicherheit von Maschinen – Elektrische Antriebe / *Safety of machinery*
EN 61000-6-2,-4	Elektromagnetische Verträglichkeit / *Electromagnetic compatibility (EMC)*

Diese Erklärung verliert ihre Gültigkeit, wenn die bezeichnete Maschine wesentlich verändert wird!

Kehl- Bodersweier, 14.05.2009

Otto Nußbaum GmbH & Co. KG
Korker Straße 24
77694 Kehl-Bodersweier
Tel. 07 85 53 / 99-0

i.A. Thomas Hassler

3. Technical Information

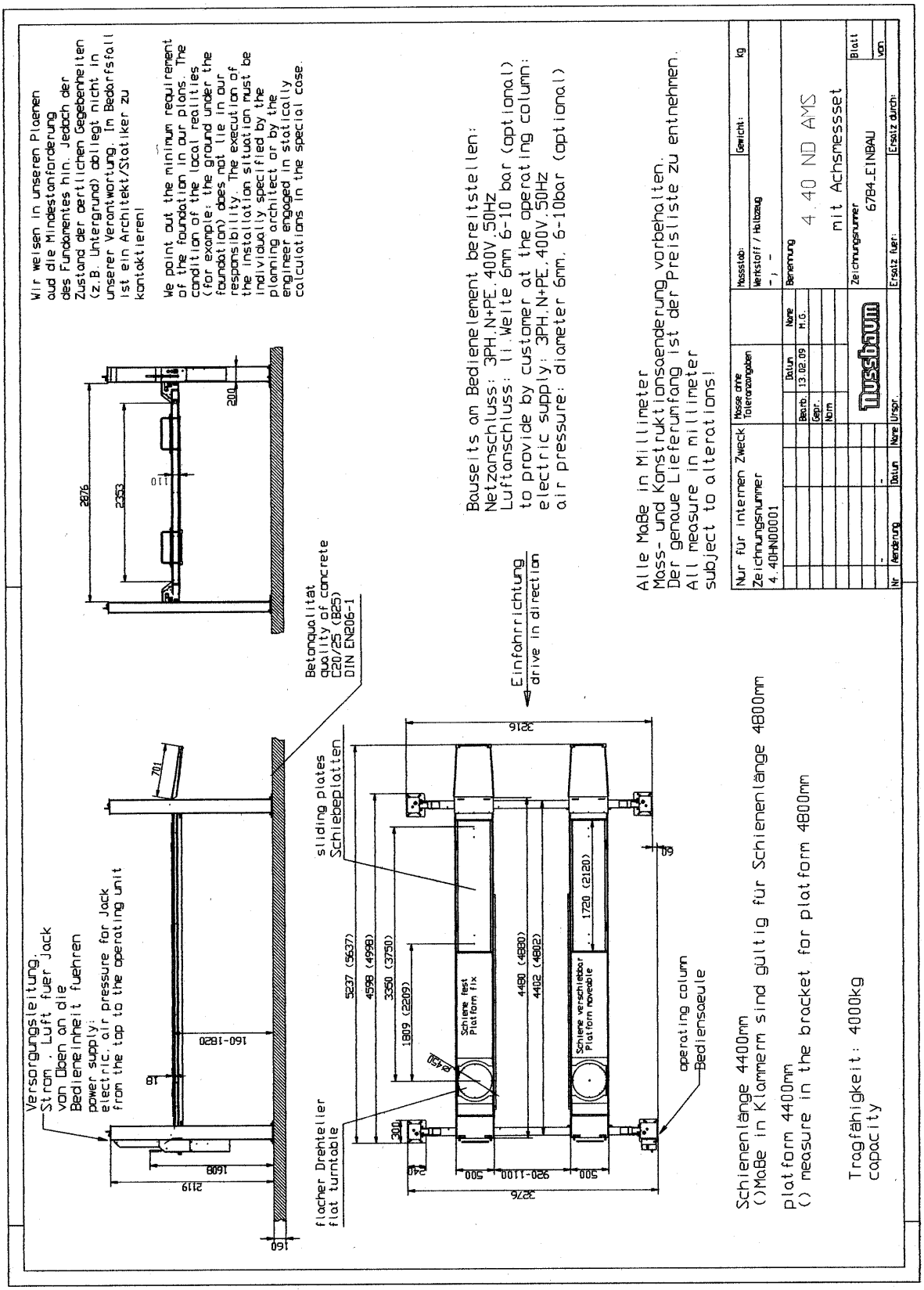
3.1 Technical ratings

Capacity:	4000 kg
Load distribution:	max. 2:1 in or against the drive on direction
Lifting time:	approx. 43 sec. with 4000 kg Load
Lowering time:	approx. 20 sec. with 4000 kg Load
Lifting height:	max. 1810 mm
Line Volthage:	3 x 400 Volt , 50Hz
Power rating:	1,5 kW (991033)
Motor rotation:	1490 rotation/min
Pump capacity:	4,2 cm^3/rotation (1BK7D6,7Q)
Hydraulic pressure:	approx. 270 bar
Pressure relief valve:	approx. 285 bar
Oil Tank:	approx. 10 Litre
Hydraulic oil:	recommended 32 cst.
Sound level:	≤ 75 dB(A)
Connection by customer	3~/N+PE, 400V, 50 Hz fuse T16A (time-lag fuse) observe your regulations of your country

3.2 Safety device

1. Safety ratchet
   Safety device against unintentional lowering.
2. Holding valve
   Safety device against unintentional lowering.
3. Pressure relief valve
   Overpressure safety of the hydraulic system
3. Lockable main switch
   Safety device against unauthorised operation
4. Safety device at the platform against rolling.
   Safety device against falling down, in case the hand brake is not fasten.
5. Safety switch / safety device at the cylinder
   Safety device against unintentional lowering in case a rope is slack or torn.

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 4000 kg for the automotive lift.
  Load distribution max. 2:1 in or against the drive on direction.
- 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.
- While working with the lift the operating instructions must be followed.
- 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.
- 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.
- 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.
- During lifting or lowering the operator must observe the vehicle to ensure that the vehicle and the lift are functioning correctly.
- Installation of the standard-mobile column lift in hazardous or dangerous locations such as washing bays is dangerous and is not allowed.

5. Operating Instructions

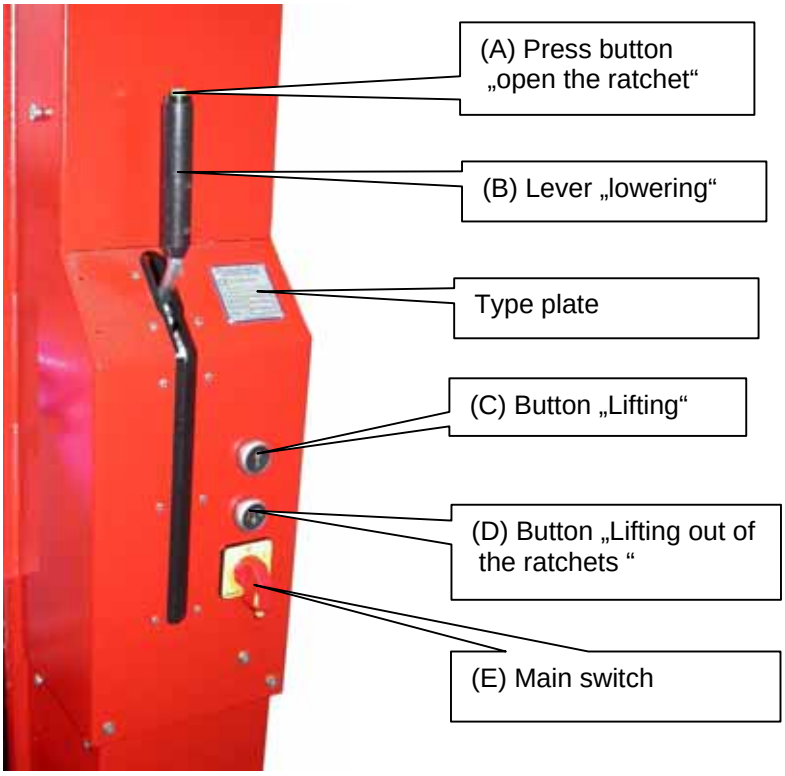
The Safety Regulations must be observed and adhered to while working with the automotive lift. Read the safety regulations in chapter 4 carefully before working with the lift!

5.1 Lifting the vehicle

- The sliding plate and the turn table must be locked if the vehicle is driving on the platform.
- 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“ .
- Observe the complete process.
- Turn off the main switch if you don’t use the lift.



5.2 Lowering the vehicle

- Check all danger points of the lift and be sure that there are no objects or people in the working area (danger area) around the lift or on the lift.
- Press the button (A). All ratchets will be unlocked.
- Press the lever slowly downwards. The lowering movement can be adjusted with the hand lever.
- The lowering process starts.
- In case the lift is in the safety ratchets, raise the lift a few millimetres. Press the button “C” and “D” simultaneously. Repeat the lowering process, again.
- Lower the lift to the required working height or to its lowest position. Observe the complete lowering process.
- Drive the vehicle off the lift if it is in the lowest position.

5.3 Lowering into the ratchet strip

- Do not push the button (A). Press the lever slowly downwards. The lowering movement can be adjusted with the hand lever.
- Raise the lift out of the safety ratchets, press the button „C“ and „“ simultaneously.

5.4 Adjusting the platform

- It is possible to adjust the rail of the different wheelbase. That is necessary to reach the different wheelbases of the vehicles. One platform is only movable without load. (See the measure at the data sheet)
- Remove the load and raise the lift on approx.1000 mm height. The platform is movable on the chosen position without high force.

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.

Problem: Motor does not start!	
Potential causes:	solution:
No power supply	*examine the power supply*
Main switch is not engaged	*examine the main switch*
The main switch is defective	*examine the main switch*
The main fuse defective	*examine the Fuse*
The feed line is cut	*examine the complete cable*
Thermal switch in the motor is active	*Let motor cool down*
Motor is defective	*Phone the technical service*
Button "Lifting" defective	*examine the switch*
Rope is torn	*Switch off the main switch and phone the technical service*

Problem: Motor starts, lift does not lift!	
Potential causes:	solution:
The vehicle is too heavy	*unload the vehicle*
Level of the oil is too low	*check the oil level, fill with hydraulic oil as required*
Hydraulic valve is defective	*Phone the technical service*
Gear pump is defective	*Phone the technical service*

Problem: the lift does not lower!	
Potential causes:	solution:
An obstacle is restricting the lift from being lowered	*(see chapter 6.1)*
Fuse is defective	*Check the fuse*
The ratchets are locked or defective	*Phone the technical service*
The ratchets magnetic is defective	*Phone the technical service*
Button "unlocking the ratchets" is defective	*See chapter 5.2*
Wrong sequence when operation	*Phone the technical service*
Ball valve is defective	*Phone the technical service*

6.1 Lowering onto an obstacle

- In case the lift is lowering onto an obstacle, only the ropes becomes flabby (slack) which are in the near area of the obstacle. Under the rail at the hydraulic cylinder is a safety device, which switches the lifting platform off as soon as a rope becomes flabby or tears. During this procedure by spring action a sliding element on the piston rod is pushed onto a limit switch.
  The lift switched off and the lowering procedure stops.
- In case the ropes are slack, press only the button “lifting” (A) and the button (C) simultaneously and raise the lift until the obstacle can be removed.

6.2 Emergency lowering

A emergency lowering is an intervention into the controls of the lift and can be done only by experienced expert.
The emergency lowering must be carried in this order. Otherwise a malfunction may lead to damage to equipment, injury or even death.

Every kind of external leakage must be removed. This is particularly necessary before an emergency lowering.
The emergency lowering may only be done by persons who are trained in using the lift.

- It is possible to open the hydraulic valve manually to lower the lift into the lowest position.
- In case the lift is locked in the safety ratchets, every ratchet must pull back manually.
  First, raise the crossbeam with a help of a jack until the tooth of the ratchet is movable.
  Fasten the ratchet with suitable support (wire), so the ratchet tooth of the ratchet can not engage in ratchet-strip any more.
  Repeat this process at all four ratchets.
- Check all danger points of the lift and be sure that there are no objects or people in the working area (danger area) around the lift or on the lift.
- Press the lever slowly downwards. The lowering movement can be adjusted with the hand lever.
- Observe the complete lowering procedure. With danger let go off the hand lever.
- Lower the lift in the lowest position and remove the vehicle.
- Switch off the main switch and secure it against unauthorised operation until the defective pieces or valves have been replaced.
  Phone your service partner.

Do not work with the lift until the defective parts are changed.

After the emergency-lowering process, remove the wire at the ratchets; otherwise the safety device is out of function.

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.

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.
- Clean and check the stripper of the cylinder.
- Clean the piston-rod using compressed air and examine for damages.
- Examine the energy chain. Clean it and examine the supply lines and the chain for damages.
- Check the condition of ropes. If torn wires are discovered, the complete rope set must be changed.
- Check all pulleys, bolts and bearings for wear.
- Check the condition of the electrical parts. (electrical button, main switch, lighting, cables, plugs, electrical magnet.
- Check the condition of the plastic energy chain at the operating column.
- Clean and lubricate the moving parts and all lubricate nipples of the lift (hinge bolts, sliding pieces, sliding surfaces) grease with a multipurpose liquid (e.g: Auto Top 2000 LTD. Agip).
- Clean and check the function of the ratchet, ratchet strip and the function and condition of the magnetic. Grease the ratchet surface with a multipurpose lipid.
- 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.
- Examine the function and the condition of the ramps and the plastic roles.
- Examine the function and the condition roll over safety.

- Examine the function and the condition off the sliding plates, the turntables and the fixing pin.

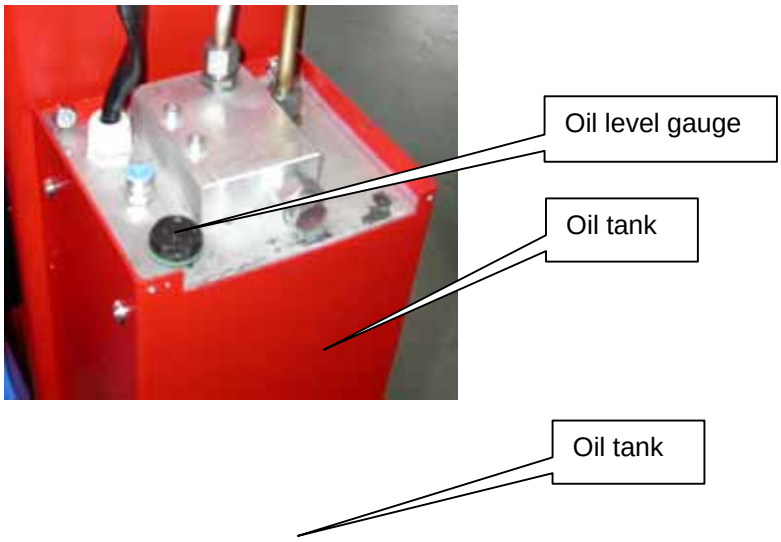
- Version with wheel alignment set: Check the condition and function of the turn table and sliding plates. Loosen the spring under the platform before removing the plates. Clean all the parts. Before installing do not lubricate with fat. Because dirt can accumulate below the plates and the movements impair. Use an oil Spray to oil the surface.

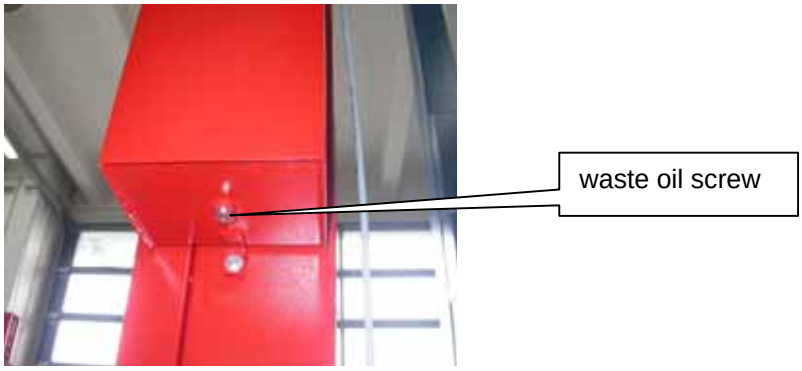
- Check all surfaces and repair if necessary.

- 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).

- The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into its lowest position. Empty the oil tank and fill in clean oil, approx. (see chapter 3.) is needed.
  Use an ATF-Suffix hydraulic-oil (OEST Company) if the ambient temperature is under 5 degrees centigrade. After filling, the hydraulic oil must be between the upper and lower markings of the oil level gauge or 2 cm under the filler neck.
  Remove the old oil according to the appropriate regulations.





- Check the hydraulic tubes for leakage.

- Durability of the hydraulic hoses:
  The use duration of the hose lines should not exceed six years, including a storage time of at most two years.

- Check that all screws and bolts are correctly torque (turning moments, see the list)

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.

8. 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"

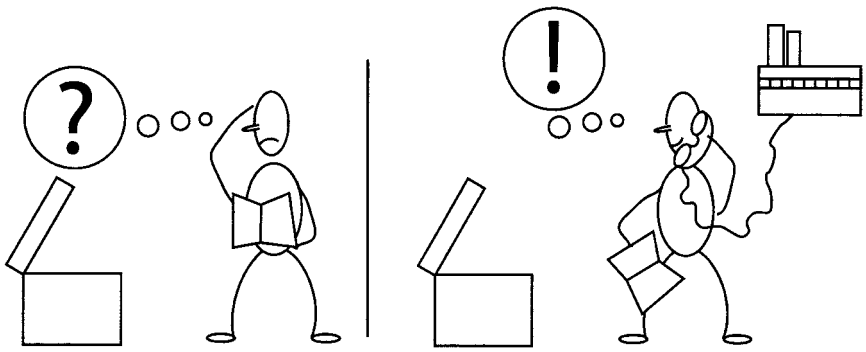
3. Every time the construction of that particular lift has been changed.
   Use the form "Extraordinary security check"

☞ ***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.

9. Handing over and Initiation



9.1 Regulations

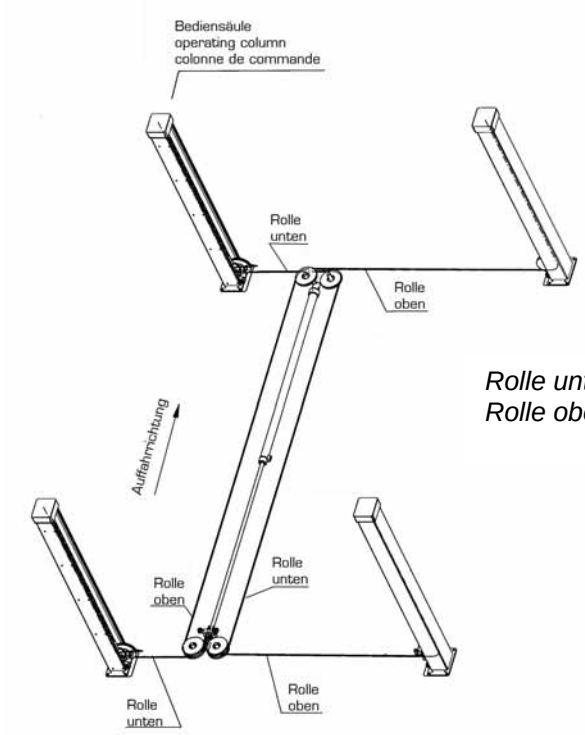
- The installation of the lift is performed by trained technicians of the manufacturer or one of its distribution partners. If the operator can provide trained mechanics, he can install the lift by himself. The installation has to be done according to this regulation.
- Installing the standard-automotive 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 electrical supply 3~/N+PE, 400 V, 50 Hz must be provided.
  The supply line must be protected with a time-lag fuse T16Ampere (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.

9.2 Erection and doweling of the lift

It is necessary to dowel every columns at 4 points. For this a concrete floor without reinforcement, thickness of min.160 mm and quality C20/25 (B25) and a normal armouring is needed. In case of doubt a test drill is necessary and a dowel is to put in. Afterwards the dowels (anchor) (German Dowel manufacturer) are to fasten with a demand torque moment. If the necessary torque is too low or if there are cracks in the concrete floor, a foundation in accordance with the sheet ”foundation plan” is to erected. As well it must be paid attention that the installation place is even to guarantee a horizontal erection of the lift.

- Put runways on two erection trestles at installation place, pay attention of exactly difference between the runways (refer to data sheet)
- Position the Traverses on the face of the runways, and put the plugs together.
- Lay out the ropes into right position (see Pic.)
- Fasten the crossbeam at the rail. Connect the plugs (optional: lighting, CE-Stop switch).
- Pull the ropes through the crossbeam.
- Pull cables (power supply, electrical cable etc.) through the crossbeam and connect.
- Position the columns at the end of the crossbeams.

- Adjust the columns with a water bubble.
- Bore holes to fix the dowels through the borings of the base plates. Clean holes with pressure air. Put in safety dowels with washers in borings. The manufacturer recommended safety dowels (e.g. from LIEBIG, Fischer or Hilti) or equal dowels of another manufacturer (with allowance) but observe their regulations! Before doweling check concrete floor with quality C20/25 if the concrete floor goes to the top edge of the floor. In this case the dowels have to be chosen according to picture 7 (Liebig anchor). If the ground is covered with floor tiles, the dowels have to be chosen according to picture 8 (Liebig anchor).
- Tighten the dowels a little bit.
- Fasten the ropes at the top of the column.



Rolle unten = role down
Rolle oben = role above

pic. position of the ropes

- Check the position of the columns again.
- Connect the electrical power supply.
- Fasten the crossbeam at the rail one more time.
- Fill in the hydraulic oil. (Litre ? see chapter 3.)

In case of operation the automotive-lift, the chapter " Safety regulations" and "Operating instruction" must be observed.

- Raise the lift until the supports can be removed. Press the button "lifting"
- Remove the supports.
- Lower the lift into the lowest position. (See chapter 5.2). Fasten the ratchet-strip.
- Raise the lift and hang the spring into ratchet strip. If necessary remove the sliding block of the ratchet strip from the cross beam.

Pic 6: Hang up the spring into the ratchet-strip

- Lower the lift into the ratchet. (press the button „A“ and push the hand lever (B) downwards).
- Adjust the columns again with a water bubble.
- Fasten the dowels with a torque key.
- Fasten the ramps and the safety device at the end of the rails.
- Adjust the sliding guidance at the crossbeam (approx. 4-5 mm movement between the sliding guidance and the column).
- Adjust regular height of the rails at all of the four columns by moving the nuts, which fix the carrying ropes in the head plate. For demanded measuring accuracy of all important vehicle manufacturer it is necessary to install the lift very exactly and to line it up.
- Lift the automotive lift to eye level and lower it down in the ratchet (refer to operating instructions).

9.3 Change of lift location

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

- Remove the spring at the ratchet-strip.
- Lower the lift in the lowest position
- Loosen and remove the ratchet-strip. If necessary, pull back the ratchet manually.
- Raise the lift on a working height. Press the button „lifting“
- Lower the lift until the rails are on the erection trestles.
- Remove the cover of the Oil tank and remove the hydraulic oil.
- Disconnect the power supply.
- Disconnect the hydraulic hoses.
- Loosen the ropes at the columns
- Loosen and remove the dowels and remove the columns
- Loosen and remove the screws of the crossbeam. Keep an eye on the ropes. Lay the ropes not into the dirt.
- Transport the automotive-lift to the new location.
- Install the lift in accordance with chapter 9 “ Installation and Initiation”.

Use new masonry-bolts, the used bolts can not be used again.

A security check must be performed before reinitiating by a competent person. Use form “Regular security check”

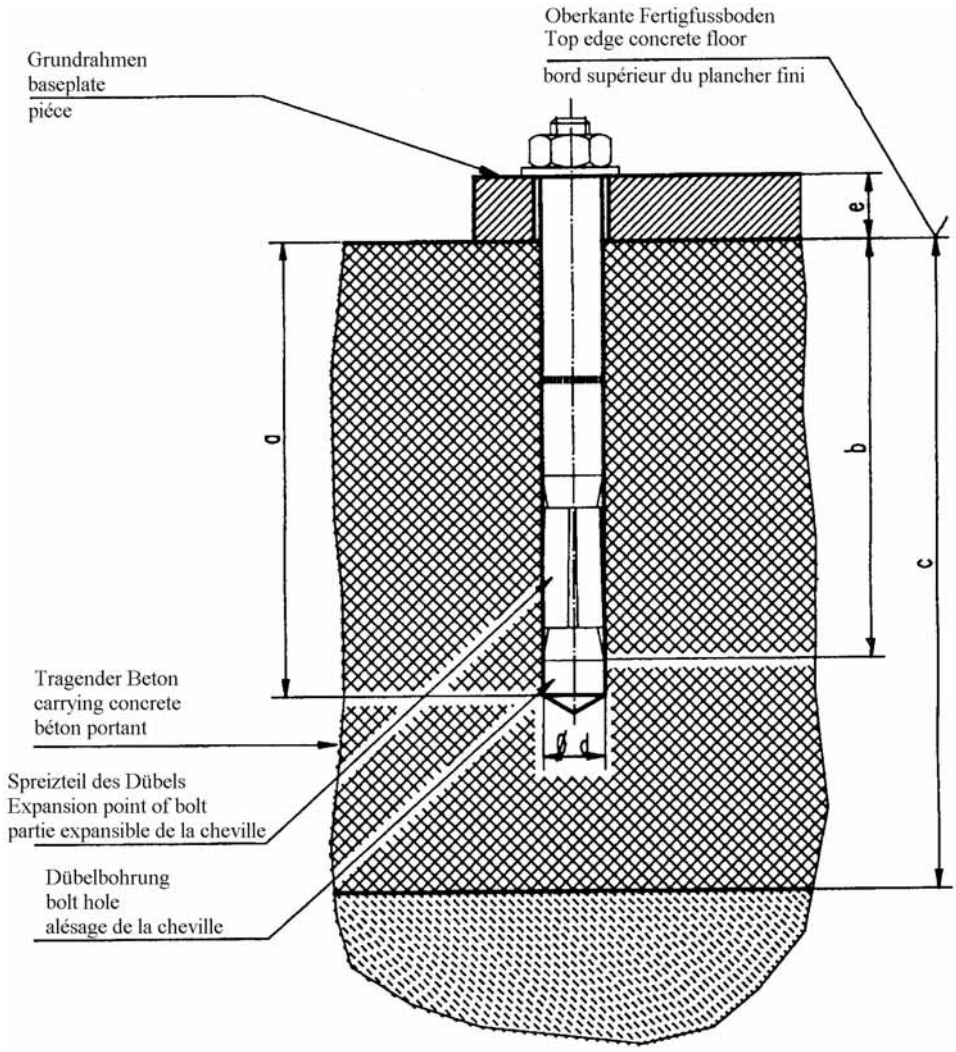
9.4 Initiation

☞ ***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.***

Pic 7: choice of the dowel length without floor pavement or tile surface

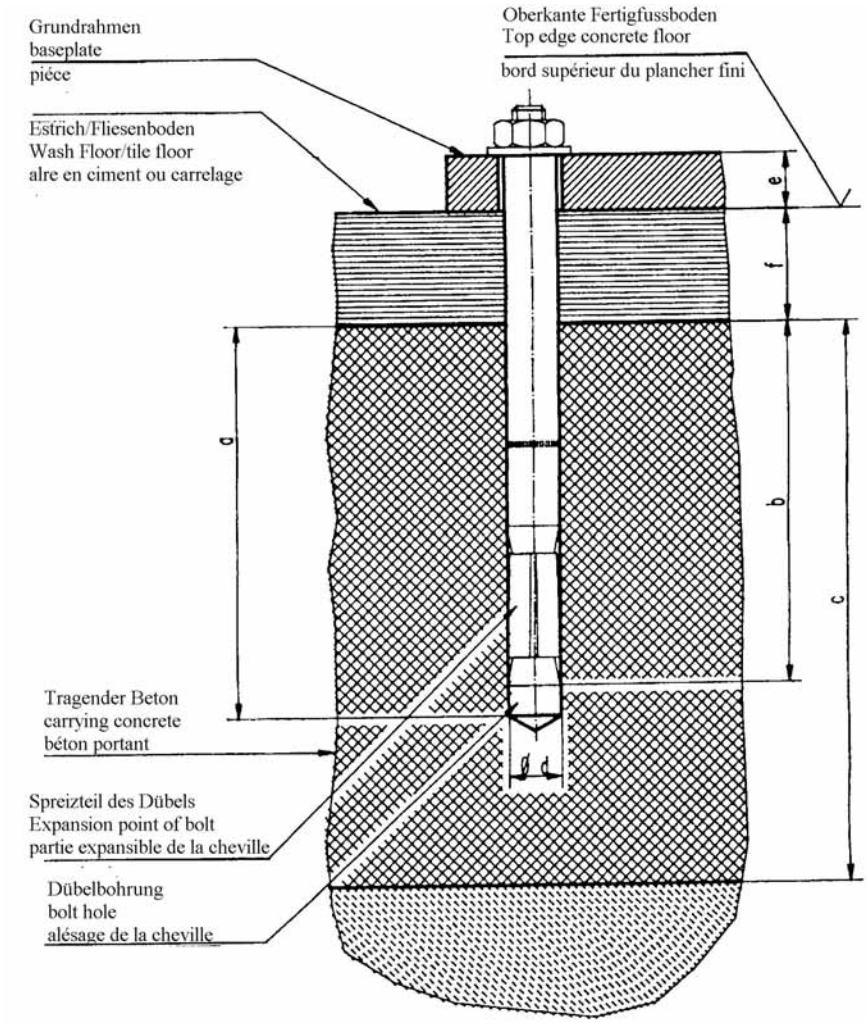


Liebig-dowels		
Dowel type		BM10-/70/40
Drilling depth (mm)	a	85
Min. anchorage depth (mm)	b	70
Thickness of concrete (mm)	c	min.140(*)
Diameter of bore (mm)	d	15
Thickness of the lift-pieces (mm)	e	0-40
Number of dowels		16
Starting torque		40

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

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

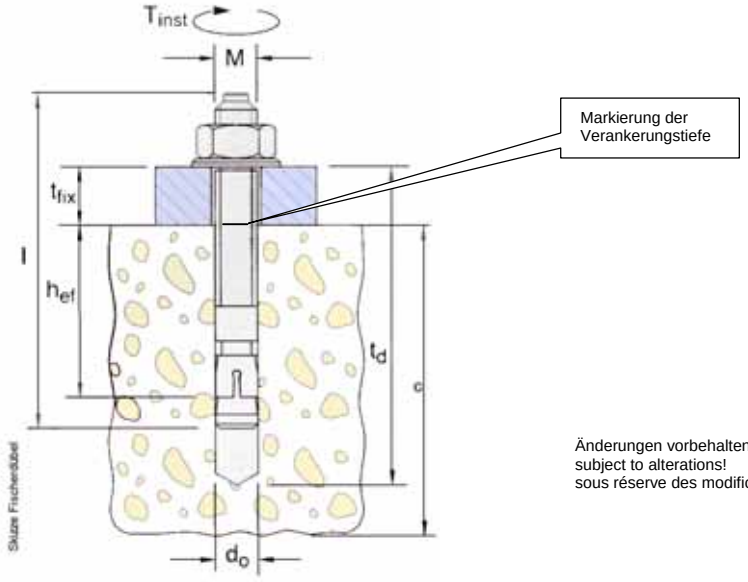
Pic 8: choice of the dowel length with floor pavement or tile surface



Liebig-dowels				
Dowel type		BM10-15/70/65	BM10-15/0/100	BM10-15/70/140
Drilling depth (mm)	a	85	85	85
Min. anchorage depth (mm)	b	70	70	70
Thickness of concrete (mm)	c	min.140(*)	min.140(*)	min.140(*)
Diameter of bore (mm)	d	15	15	15
Thickness of the lift-pieces (mm)	e	40-65	65-100	100-140
Number of dowels		16	16	16
Starting torque (Nm)		40 Nm	40Nm	40Nm

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

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

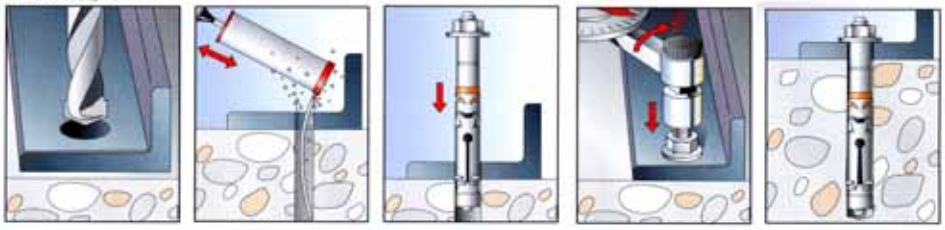


Änderungen vorbehalten!
subject to alterations!
sous réserve des modifications!

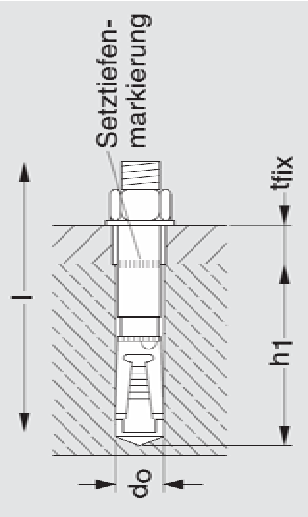
fischer-Dübel		**4.40 ND** [e]		
Dübel typ of dowel type de cheville		FH 15/50 B	FH 18 x 100/100 B	FH 24/100 B
Bohrteife drilling depth Profondeur de l'alésage	t_d	145	230	255
Mindestverankerungstiefe min.anchorage depth Profondeur minimale dáncrage	h_{ef}	70	100	125
Betonstärke thickness of concrete 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

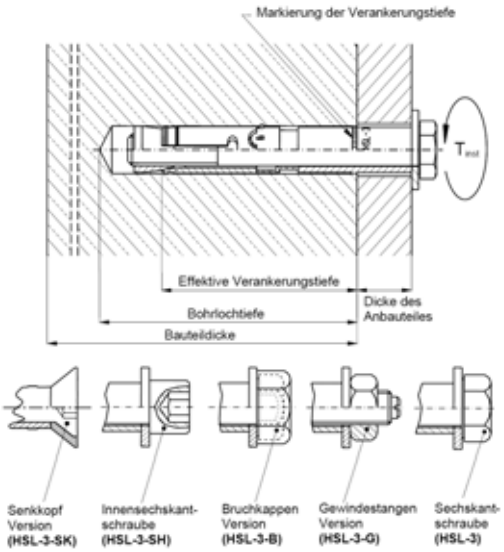
Stückzahl piece number nombre des pièces	a	4
	b	8
	c	10
	d	12
	e	16
	f	20

Montage



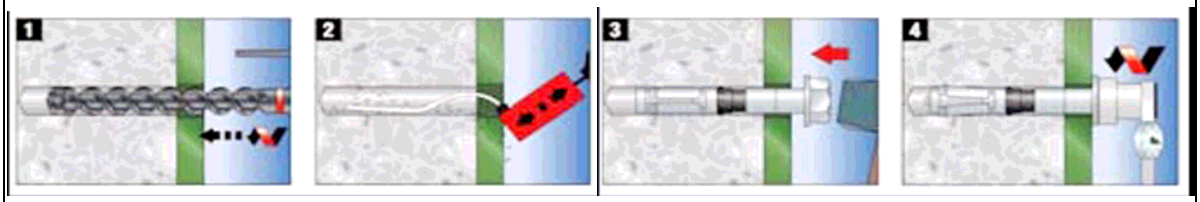
Es können auch gleichwertige Sicherheitsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden.
It is possible to use equivalent safety-dowels (with license) of other manufacturer but observe their regulations.
Des chevilles des autres marques (autorisées) peuvent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





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

Hilti-Dübel			**4.40 ND** †	**4.40 ND** †		
Bodenbelag (Estrich, Fliesen)		**ohne Bodenbelag**	**ohne Bodenbelag**	**mit Bodenbelag**	**ohne Bodenbelag**	**mit Bodenbelag**
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	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Short operating instruction	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function hand lever „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Function, Condition „ramps and plastic roles”	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Function, Condition sliding plate and turntable	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cables and plugs	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	.....
Warning designation	☐	☐	☐	.....
Sticker max. capacity	☐	☐	☐	.....
Designation lifting/lowering	☐	☐	☐	.....
Detailed operating instruction	☐	☐	☐	.....
Lockable main switch	☐	☐	☐	.....
Condition, Function Button „Lifting“	☐	☐	☐	.....
Condition, Function Button „Lowering „	☐	☐	☐	.....
Function Button „unlocking ratchet“	☐	☐	☐	.....
Function „Lowering into the ratchet“	☐	☐	☐	.....
Condition „roll over safety device“	☐	☐	☐	.....
Condition Cover	☐	☐	☐	.....
Condition ratchet and ratchet strip	☐	☐	☐	.....
Condition automotive-lift	☐	☐	☐	.....
Condition bolts and bearings	☐	☐	☐	.....
Construction (deformation, cracking)	☐	☐	☐	.....
Function movable rail	☐	☐	☐	.....
Condition welding	☐	☐	☐	.....
Torque moment of screws and dowels	☐	☐	☐	.....
Condition hydraulic unit	☐	☐	☐	.....
Condition colour	☐	☐	☐	.....
Condition ropes and fastening	☐	☐	☐	.....
Condition piston rod	☐	☐	☐	.....
Closeness of the hydraulic system	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic hoses	☐	☐	☐	.....
Condition electrical cable	☐	☐	☐	.....
Condition concrete	☐	☐	☐	.....
Function test with vehicle	☐	☐	☐	.....
Function lighting (optional)	☐	☐	☐	.....

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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!)

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	☐	☐	☐	
Warning designation	☐	☐	☐	
Sticker max. capacity	☐	☐	☐	
Designation lifting/lowering	☐	☐	☐	
Detailed operating instruction	☐	☐	☐	
Lockable main switch	☐	☐	☐	
Condition, Function Button „Lifting“	☐	☐	☐	
Condition, Function Button „Lowering „	☐	☐	☐	
Function Button „unlocking ratchet“	☐	☐	☐	
Function „Lowering into the ratchet“	☐	☐	☐	
Condition „roll over safety device“	☐	☐	☐	
Condition Cover	☐	☐	☐	
Condition ratchet and ratchet strip	☐	☐	☐	
Condition automotive-lift	☐	☐	☐	
Condition bolts and bearings	☐	☐	☐	
Construction (deformation, cracking)	☐	☐	☐	
Function movable rail	☐	☐	☐	
Condition welding	☐	☐	☐	
Torque moment of screws and dowels	☐	☐	☐	
Condition hydraulic unit	☐	☐	☐	
Condition colour	☐	☐	☐	
Condition ropes and fastening	☐	☐	☐	
Condition piston rod	☐	☐	☐	
Closeness of the hydraulic system	☐	☐	☐	
Level of hydraulic oil	☐	☐	☐	
Condition hydraulic hoses	☐	☐	☐	
Condition electrical cable	☐	☐	☐	
Condition concrete	☐	☐	☐	
Function test with vehicle	☐	☐	☐	
Function lighting (optional)	☐	☐	☐	

(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

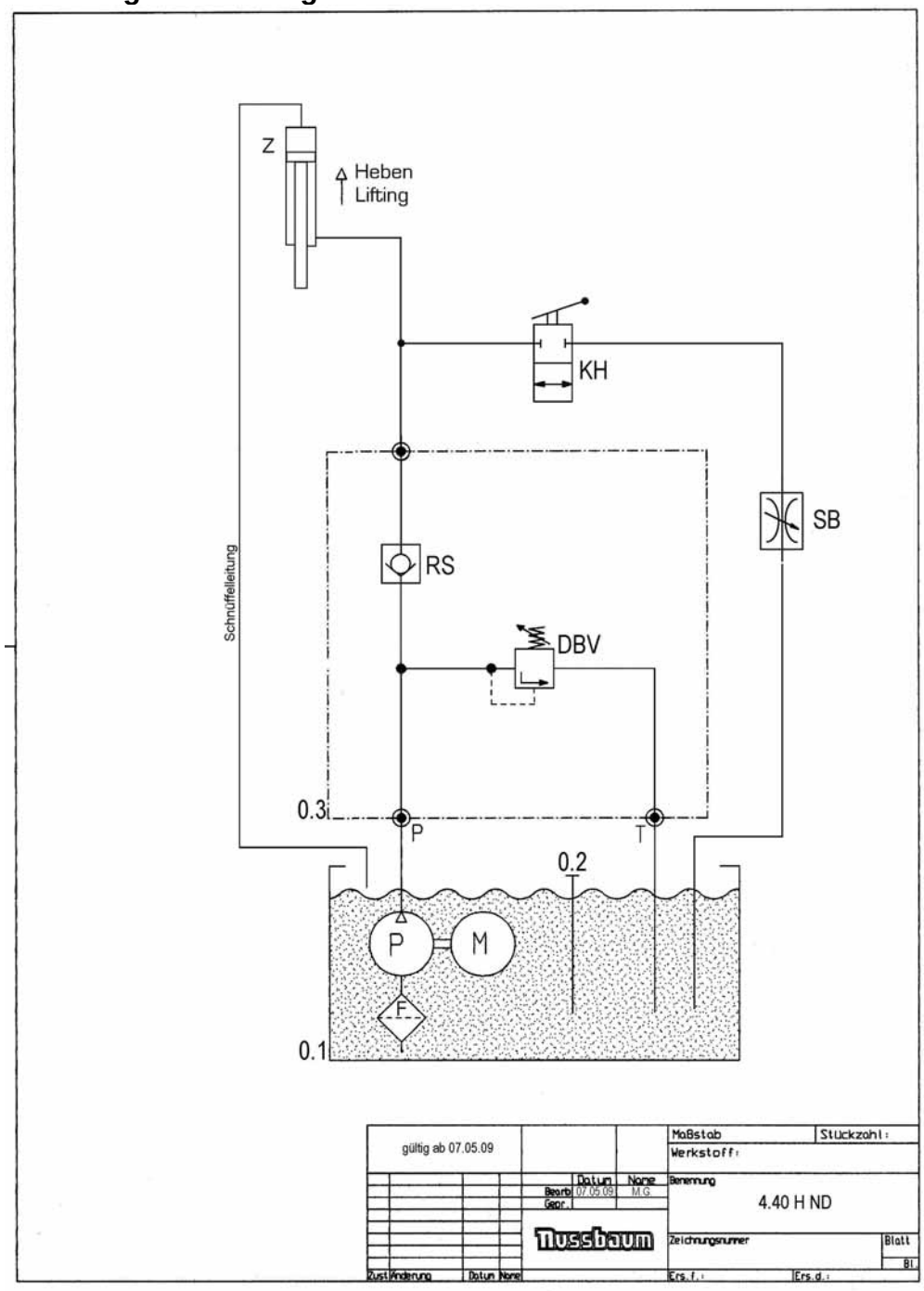
If failures must be repaired:

Failures repaired at: ....

signature of the operator

(Use another form for verification!)

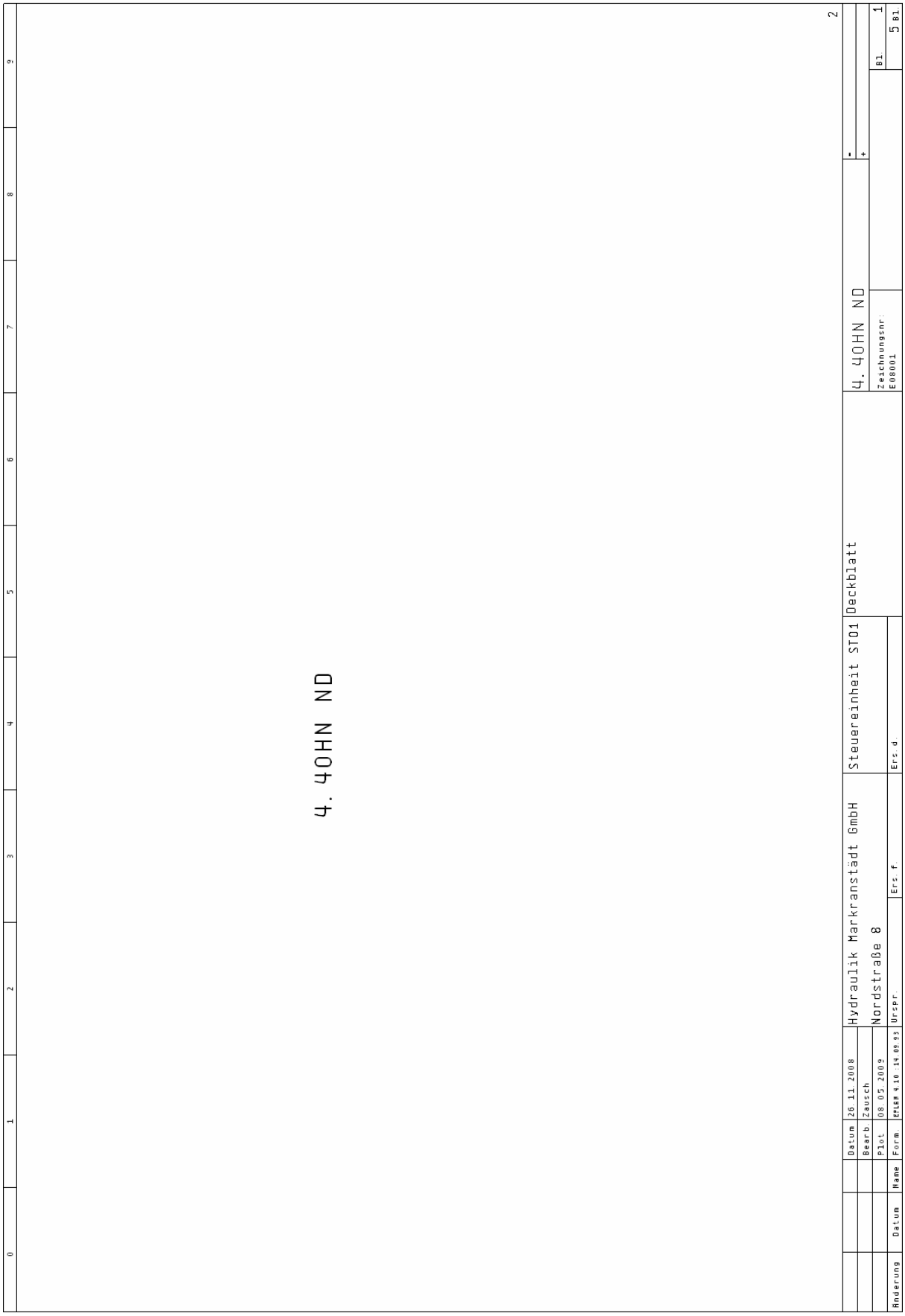
Hydraulic diagram drawing



Hydraulic parts list

0.1	Oil tank	240SPL01121
0.2	Oil level gauge	980011
0.3	Hydraulic block	440HN02037
M	sub oil motor 1,5 kW	991033
P	gear pump 4,2 cm³	980332 (1BK7D6,7)
F	Oil filter	980012
DBV	pressure relief valve	232NSTL02082
KH	ball valve	980513
SB	lowering valve	981063
Z	Cylinder complete	440HN02000

Electrical diagram drawing (Standard Version)



Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet ESSJ0100

Änderung	Datum	Name		
			Datum	03.11.2008
			Bearb.	Zausch
			Plot	08.05.2009
			Form.	EPLAN 4.10 : 14.09.93

Hydraulik Markranstädt GmbH
Nordstraße 8
Urspr. | Ers. f. | Ers. d.

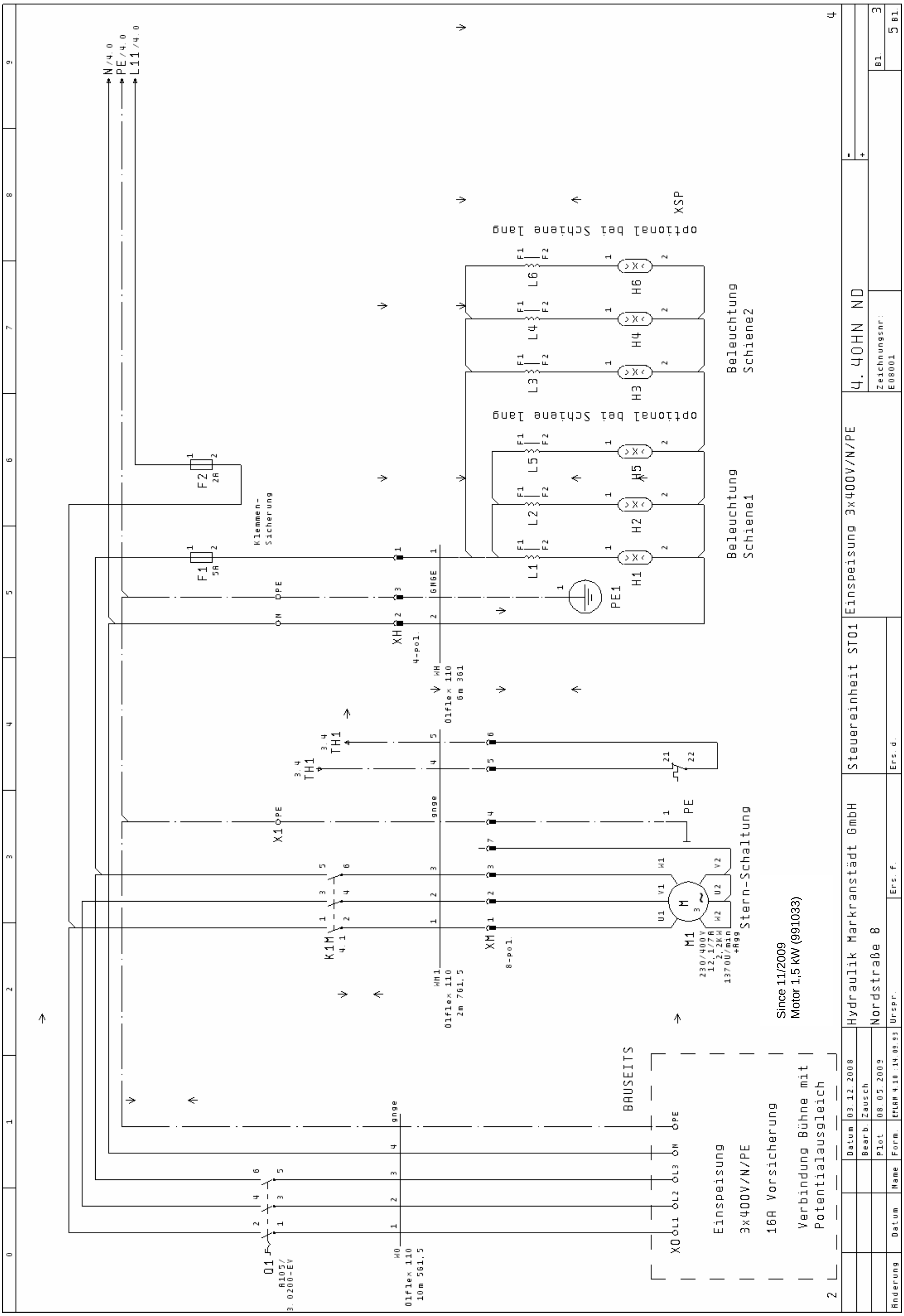
Steuereinheit ST01

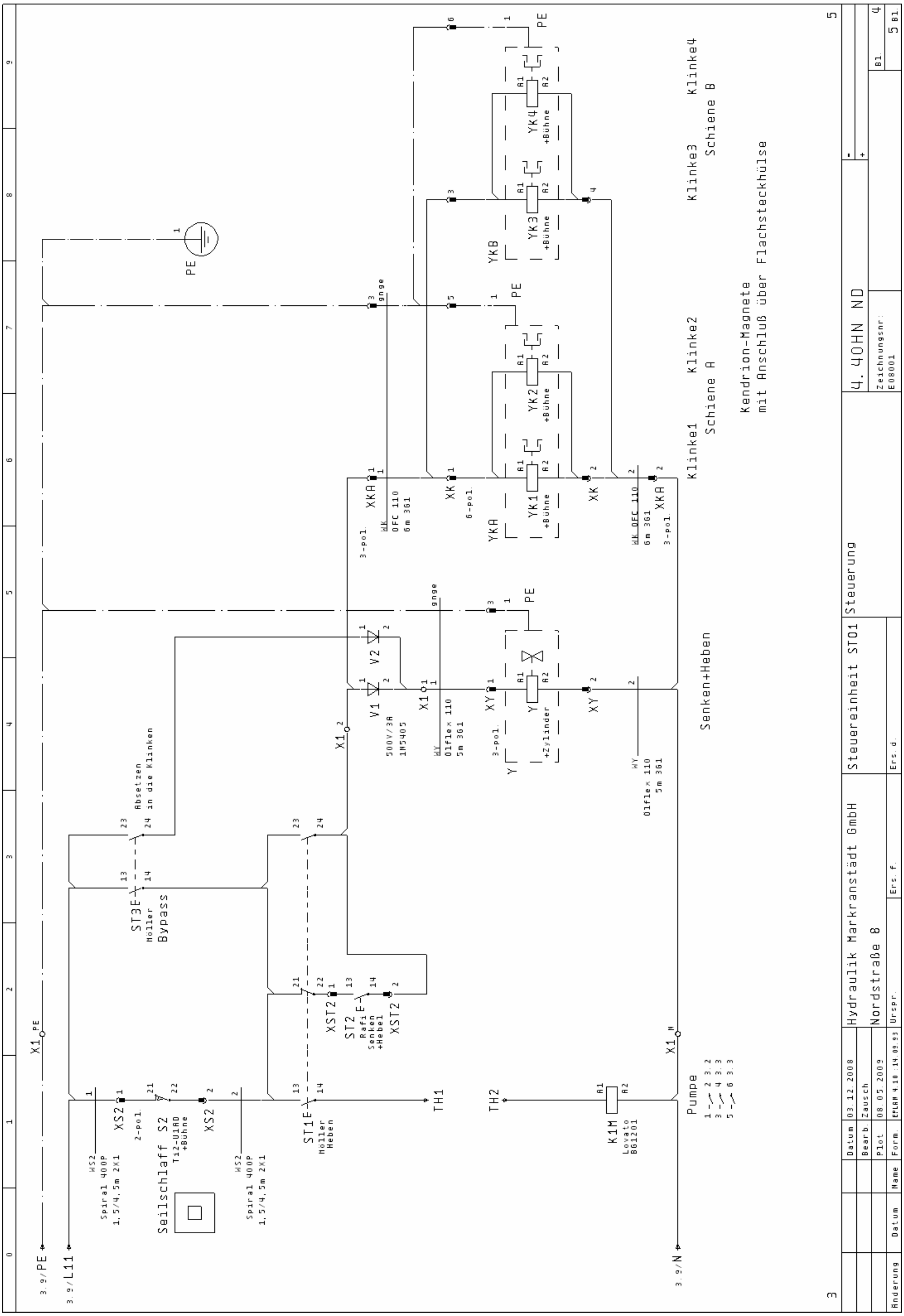
Inhaltsverzeichnis

4.40HN ND

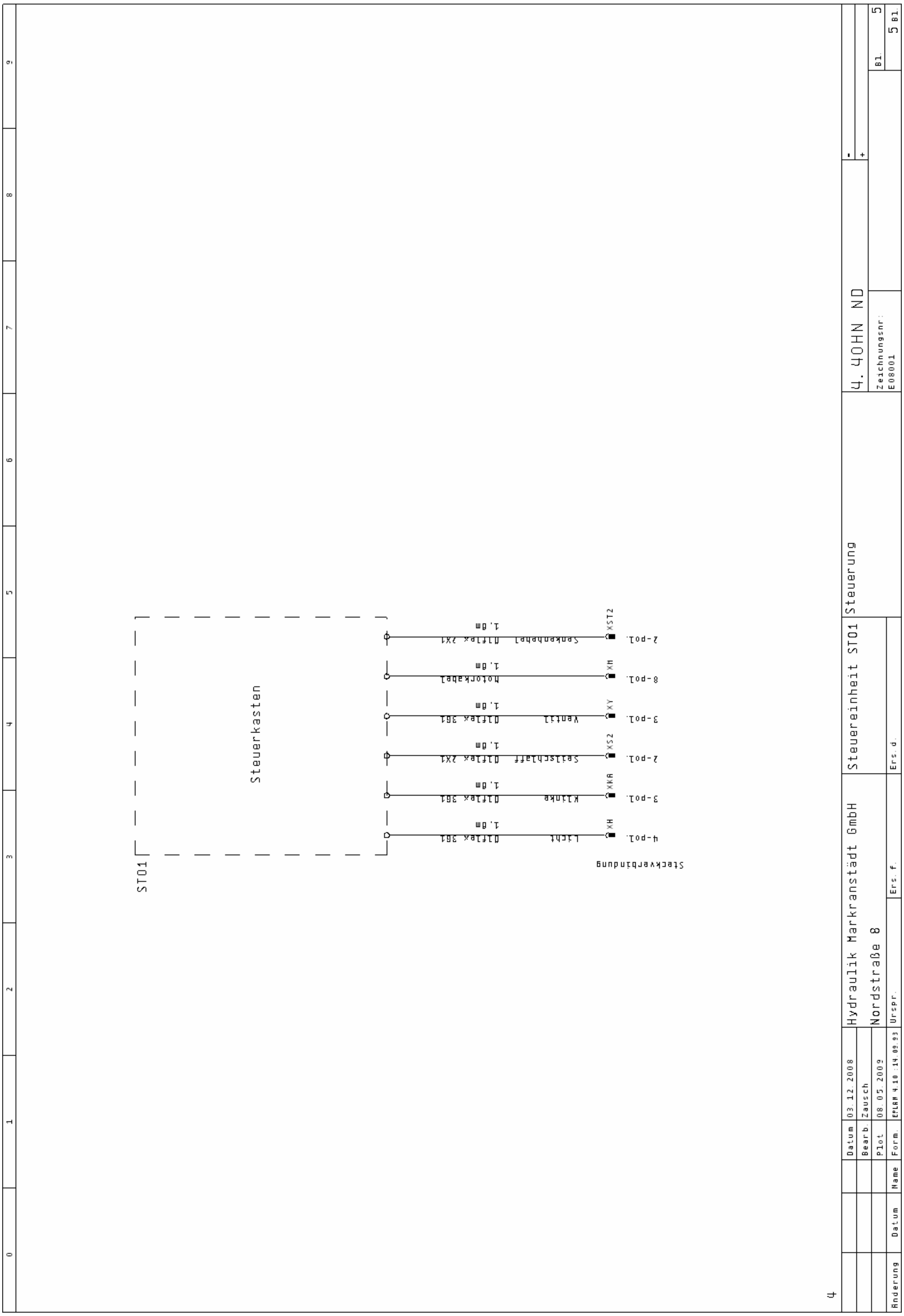
Zeichnungsnr: E08001

Bl. 2
5 Bl.

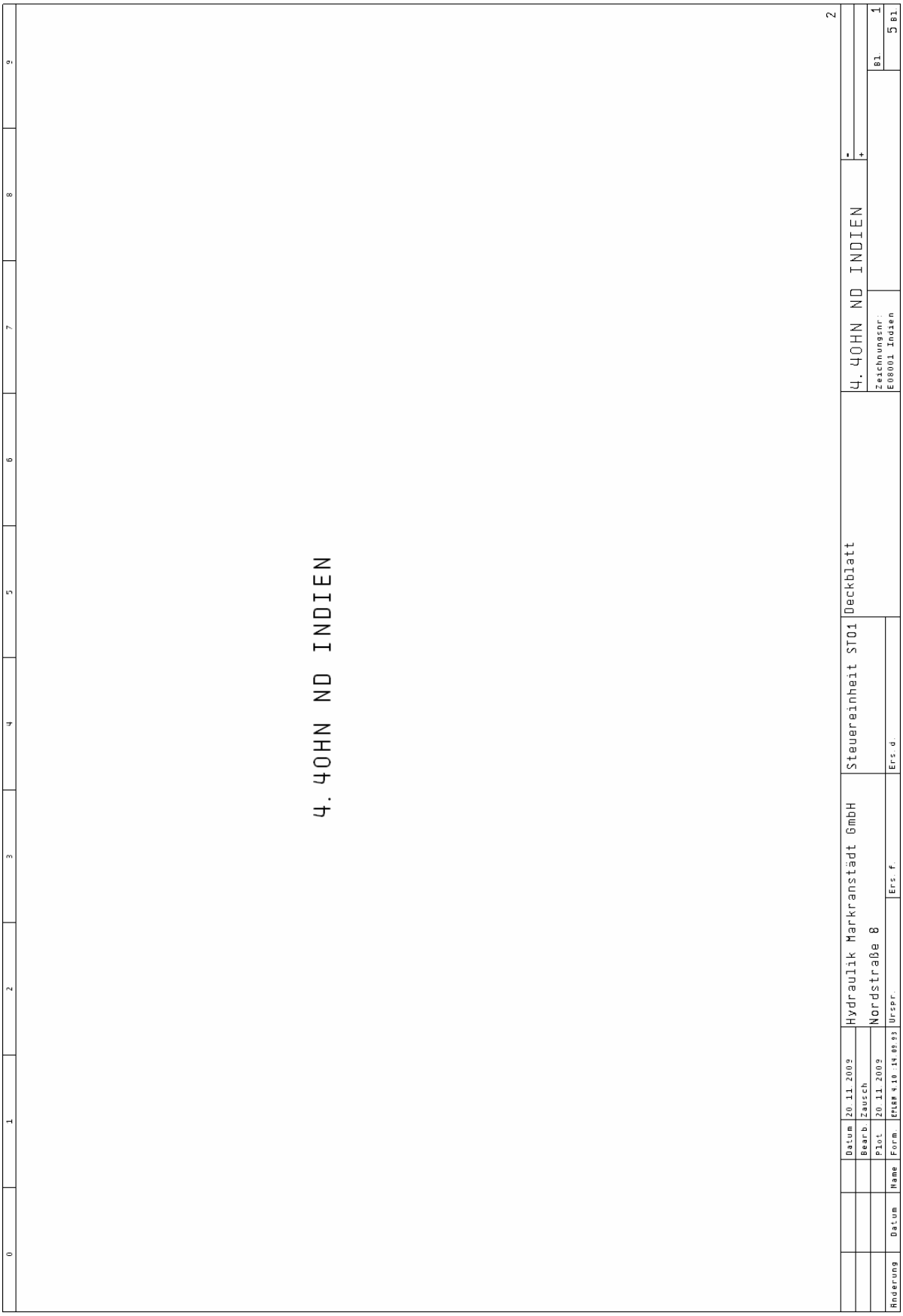

Beleuchtung Schiene2
Beleuchtung Schiene1
optional bei Schiene lang
Klemmen-Sicherung
Stern-Schaltung
Since 11/2009
Motor 1,5 kW (991033)
BAUSEITS
Einspeisung 3x400V/N/PE
16A Vorsicherung
Verbindung Bühne mit Potentialausgleich
Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01
Einspeisung 3x400V/N/PE
4.40HN ND
Zeichnungsnr: E08001



Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01
Steuerung
4.40HN ND
E08001
Datum 03.12.2008
Bearb. Zausch
Plot 08.05.2009
Senken+Heben
Kendrion-Magnete
mit Anschluß über Flachsteckhülse
Klinke1
Klinke2
Klinke3
Klinke4
Schiene A
Schiene B
Seilschlaff S2
Pumpe
K1M
Lovato
BG1201
ST1E
Höller
Heben
ST3E
Höller
Bypass
Absetzen
in die Klinken
ST2
Rafi
Senken
+Hebel
YK1
YK2
YK3
YK4
+Bühne
+Zylinder
V1
V2
500V/3A
1N5405
Olflex 110
5m 3G1
TH1
TH2
PE


Steuerkasten
ST01
Senkenhebel
Motorkabel
Ventil
Seilschlaff
Klinke
Licht
Steckverbindung
Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01
Steuerung
4.40HN ND
E08001

Electrical diagram drawing (Version India)



Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet ESSJ0100

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		26. Nov. 2008	Zausch	
2	Inhaltsverzeichnis		03. Dez. 2008	Zausch	x
3	Einspeisung 3x400V/N/PE		14. Jan. 2009	Zausch	
4	Steuerung		14. Jan. 2009	Zausch	
5	Steuerung		14. Jan. 2009	Zausch	

Änderung	Datum	Name	Form.	EPLAN 4.10 : 14.09.93
			Datum	20.11.2009
			Bearb.	Zausch
			Plot	20.11.2009

Hydraulik Markranstädt GmbH
Nordstraße 8
Urspr. | Ers. f. | Ers. d.

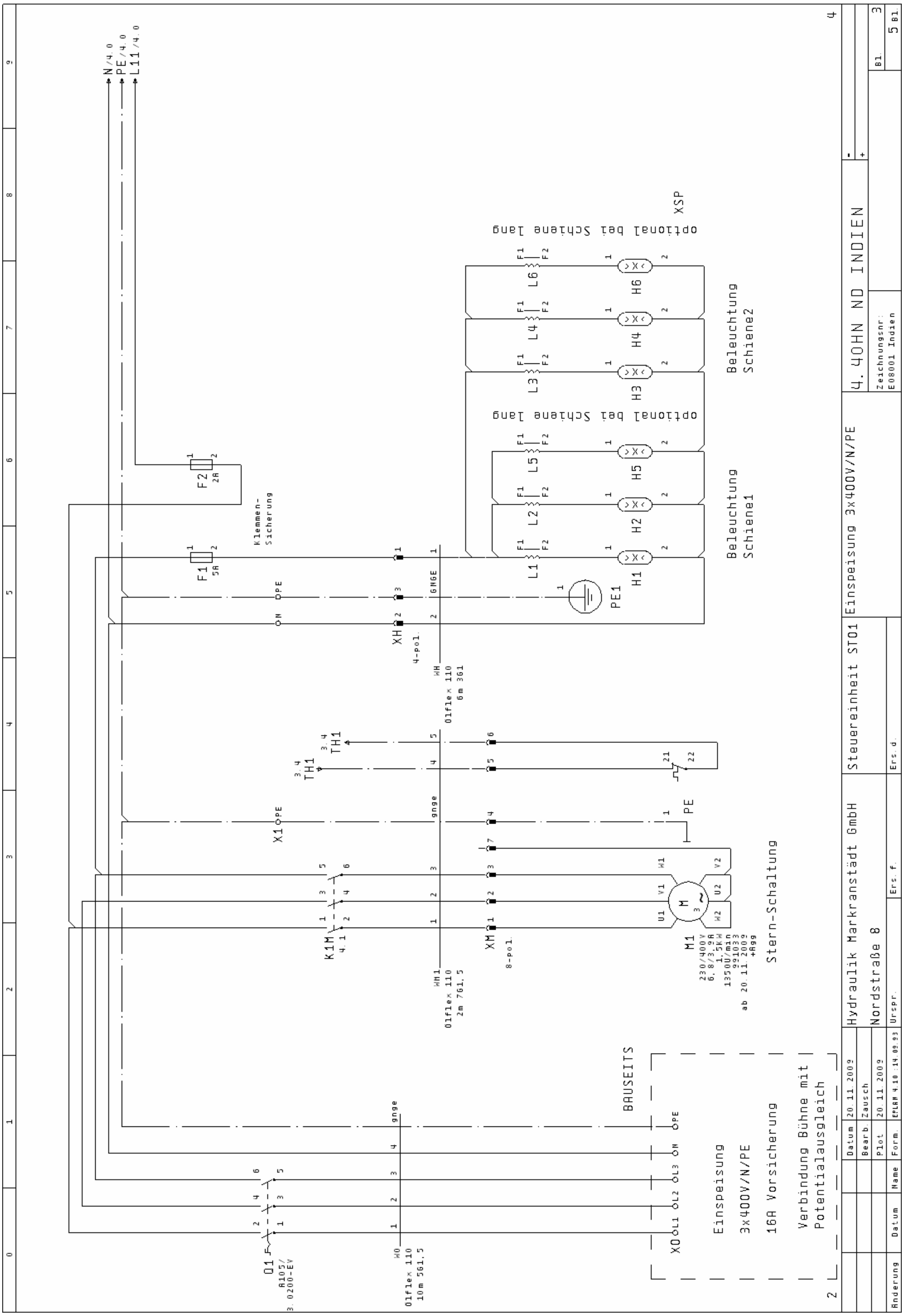
Steuereinheit ST01

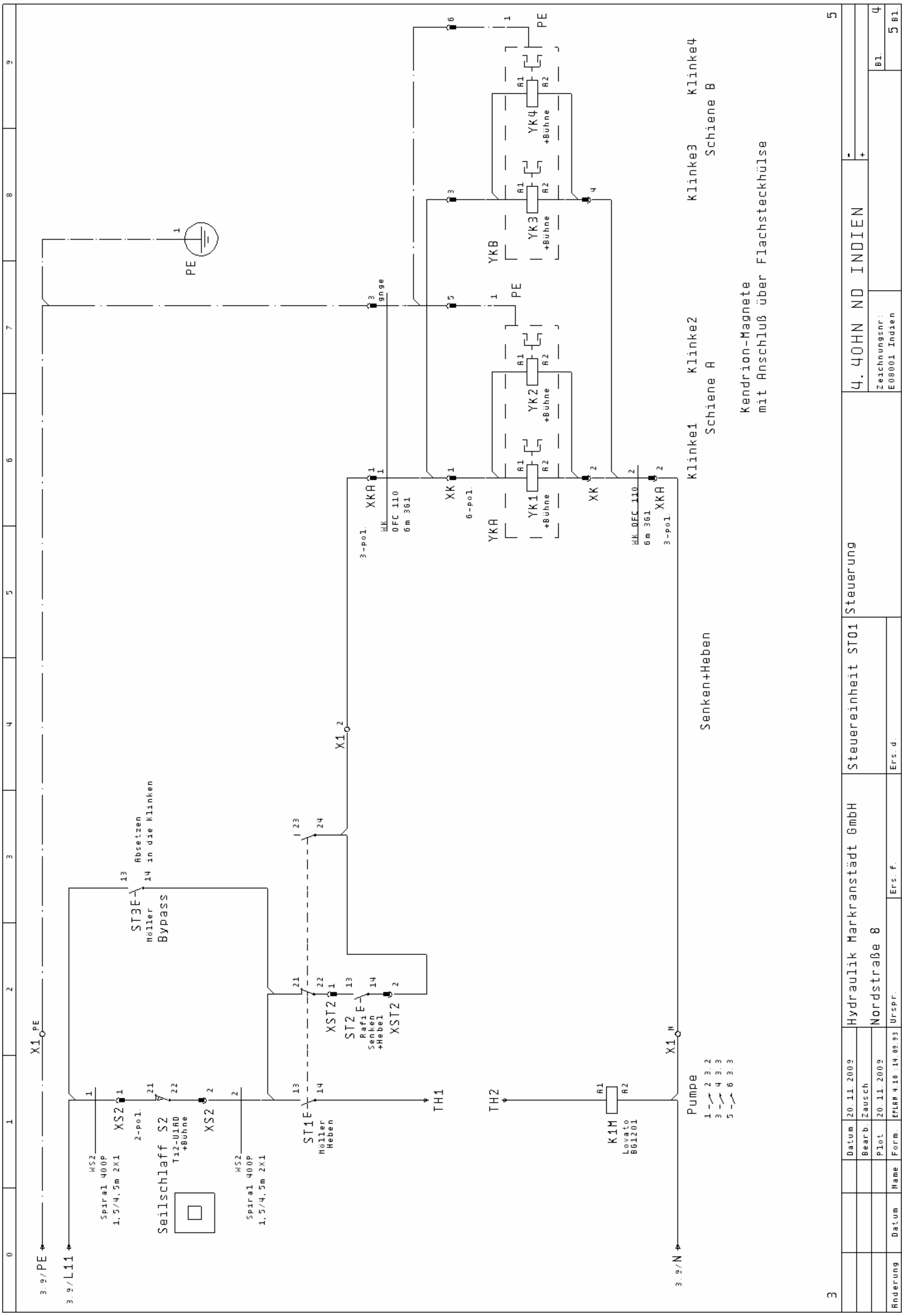
Inhaltsverzeichnis

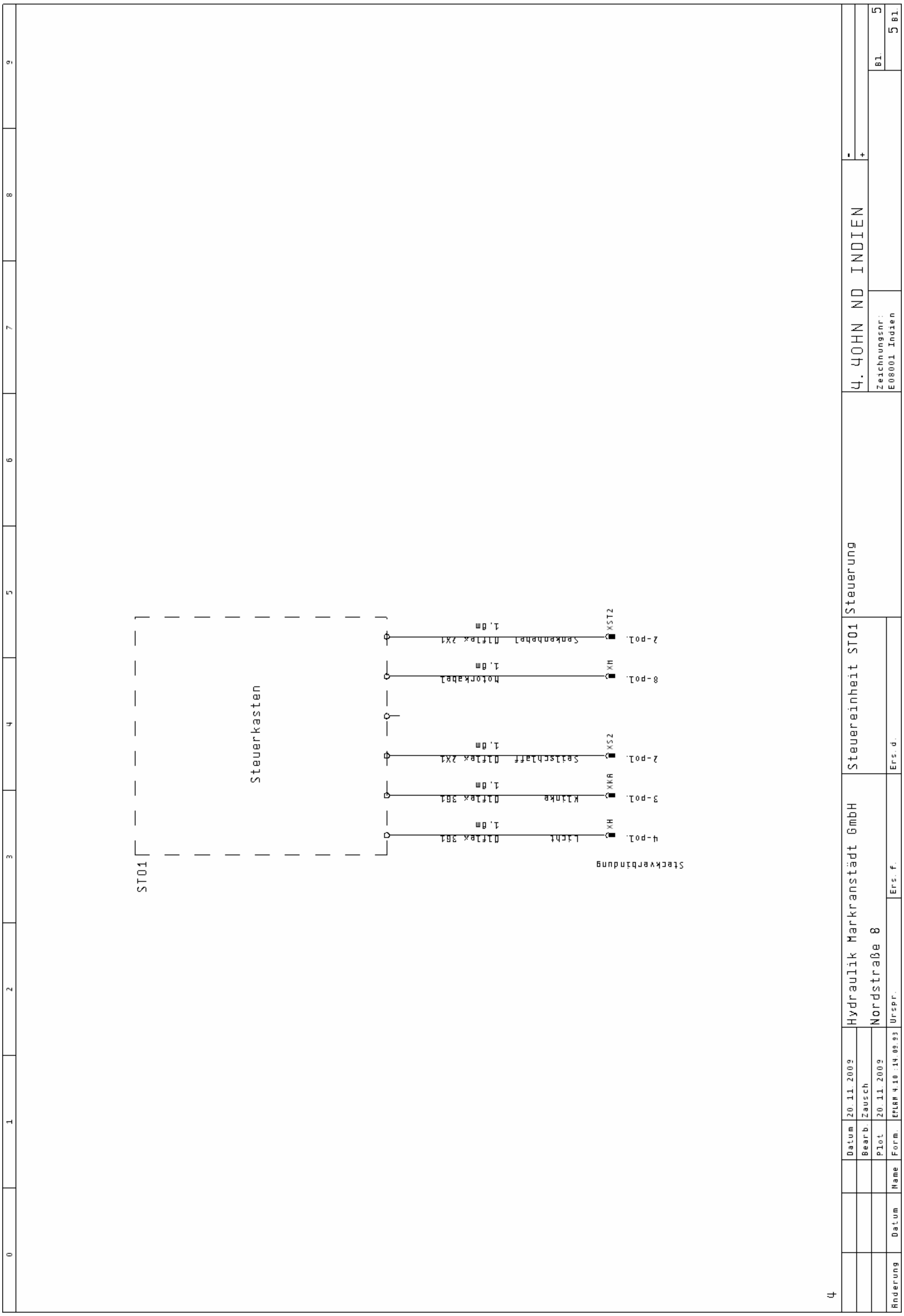
4.40HN ND INDIEN

Zeichnungsnr: E08001 Indien

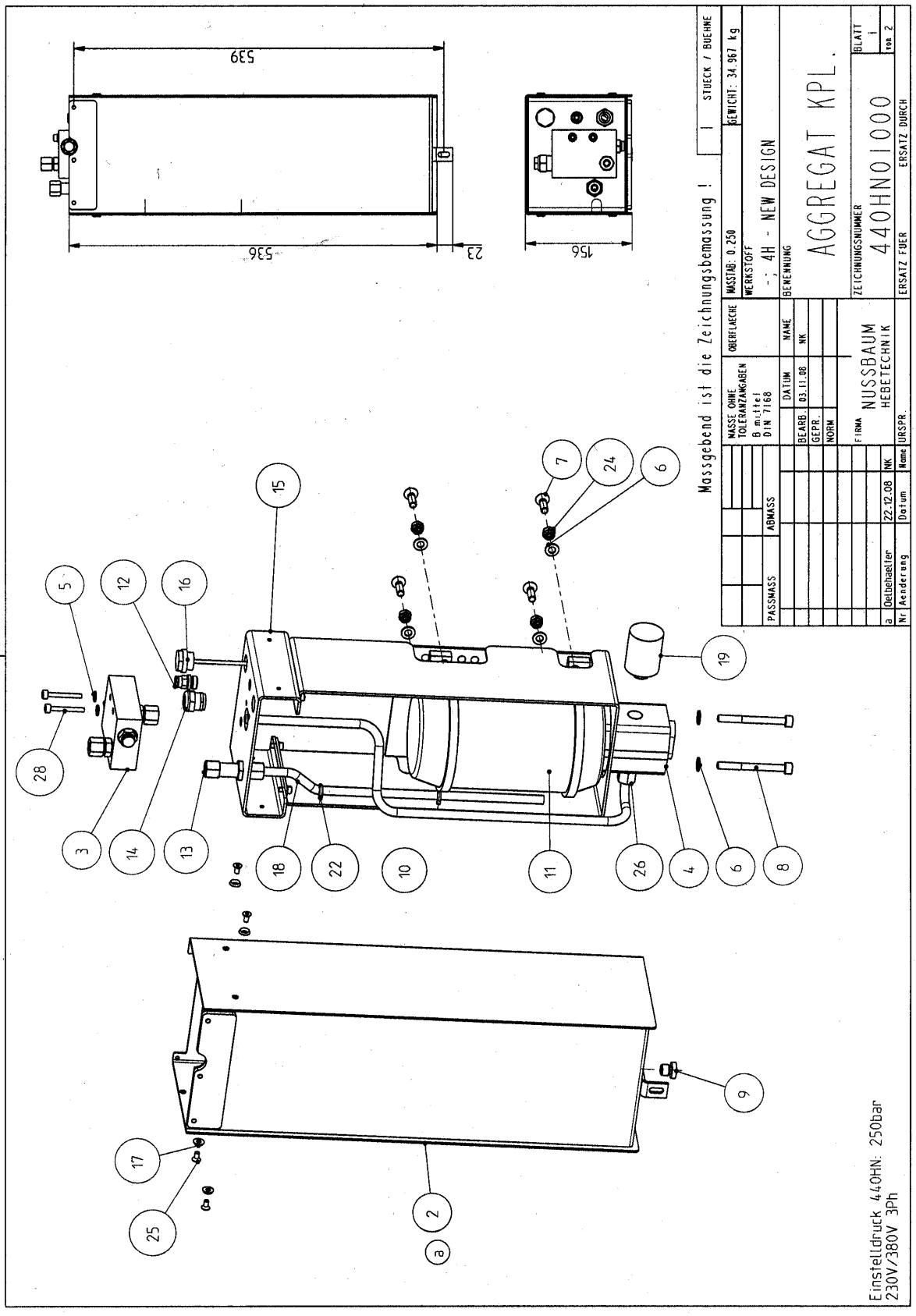
Bl. 2
5 Bl.


optional bei Schiene lang
XSP
Beleuchtung
Schiene2
Beleuchtung
Schiene1
Klemmen-
Sicherung
Stern-Schaltung
BAUSEITS
Einspeisung
3x400V/N/PE
16A Vorsicherung
Verbindung Bühne mit
Potentialausgleich
Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01
Einspeisung 3x400V/N/PE
4.40HN ND INDIEN


Seilschlaff S2
Bypass
Senken+Heben
Kendrion-Magnete
mit Anschluß über Flachsteckhülse
Klinke1
Klinke2
Klinke3
Klinke4
Schiene A
Schiene B
Pumpe
TH1
TH2
K1M
YKA
YKB
YK1
YK2
YK3
YK4
PE
Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01 Steuerung
4.40HN ND INDIEN
Zeichnungsnr.:
E08001 Indien


ST01
Steuerkasten
Senkenhebel
Motorkabel
Seilschlaff
Klinke
Licht
1,0m
XST2
XM
XS2
XKA
XH
2-pol.
8-pol.
2-pol.
3-pol.
4-pol.
Steckverbindung
Hydraulik Markranstädt GmbH
Nordstraße 8
Steuereinheit ST01
Steuerung
4.40HN ND INDIEN
Zeichnungsnr:
E08001 Indien
Datum
20.11.2002
Bearb.
Zausch
Plot
20.11.2002
Änderung
Datum
Name
Form
Urspr.
Ers. f.
Ers. d.

Spare Parts List

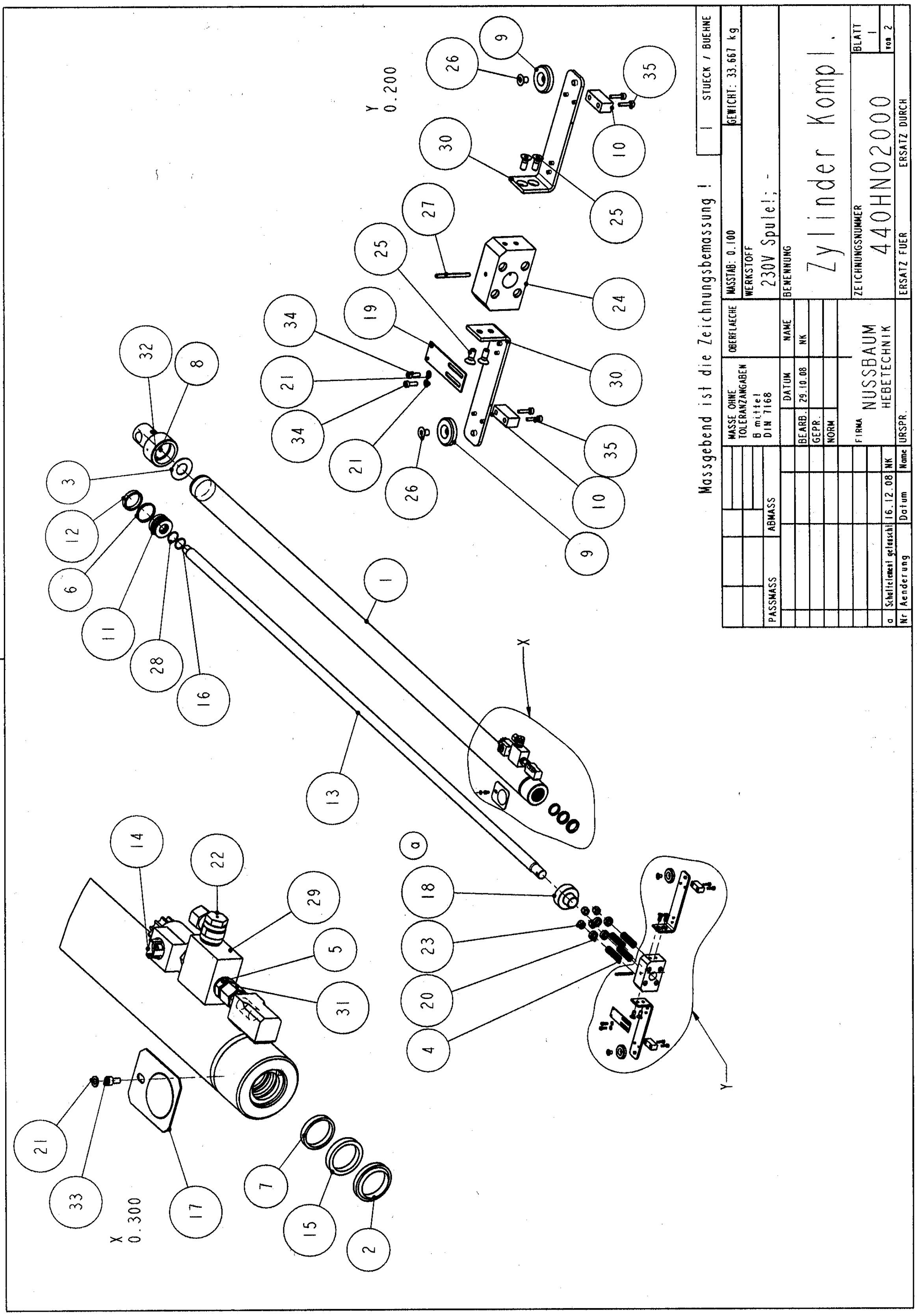


Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	232HL01023-MK	Aufnahmeblech Schwt.	- / -
2	1	BG	240SPL01123	Oelbehaelter Schwt.	- / -
3	1	BG	440HN02037	Steuerblock 4H/SPL - BL	- / -
4	1	ET	9801370	Zahnradpumpe	1BK7D6.7Q Marzocchi / 4.2ccm (neu 160544)
5	2	ET	9125_1-A6_4	Scheibe	- / DIN 125 6.4 zn
6	6	ET	9125_1-A8_4	Scheibe	- / DIN125-A8.4Zn
7	4	ET	97991-M8X25	SENKSCHRAUBE	- / DIN 7991 - M 8 X 25
8	2	ET	9912-M8X80	Zylinderschraube	- / DIN 912 - M 8 x 80
9	1	ET	9VSTI-R-1-4-ED	-	- / -
10	1	ET	440HN01067	Druckrohr	ST37-4 DIN2391/c / 10x1.5x615
11	1	ET	991033	E-Motor	Since 11/09 1,5kW
12	1	ET	960161	Einschraubverbinder	- / R 1/4"
13	1	ET	SV10-PL	Gerade Schottverschraubung	- / SV 10-PL
14	1	ET	9951937	Kabelverschraubung	- / M20x1.5 o. Zugentlastung
15	1	ET	440HN01029	Motorhalterung	S355MC / BL. 3x142x298
16	1	ET	980011_1	Oelpeilstab	- / mit Entlueftung
17	4	ET	970010	Rosette	4136 / M5
18	1	ET	440HN01070	Ruecklaufrohr	St37-4 DIN2391/c / 10x1.5x357
19	1	ET	980012	Saugfilter	RD 40x50lang / M18
20	4	ET	9125M04ZN	Scheibe	DIN125 A4.3 /
21	4	ET	9125_5_3ZN	Scheibe DIN 125	- / DIN 125 M5 zn
22	2	ET	245SPL01029	Schelle	S235JR / Rd.4x48
23	4	ET	9934M4ZN	Sechskantmutter	- / Sechskantmutter
24	4	ET	9985M8ZN	Sechskantmutter	- / M8ZN
25	4	ET	97991M005X010ZN	Senkschraube	- / DIN 7991 M5X10
26	1	ET	GE10PLM-ED	Verschraubung	- / GE 10-PLM-ED
27	4	ET	9912M05X006ZN	Zylinderschraube	- / M5x10
28	2	ET	9912M6X40ZN	Zylinderschraube	Jäger / DIN 912 M6x40 ZN

Massgebend ist die Zeichnungsbemassung !

1	STUECK / BUEHNE
MASSE OHNE TOLERANZANGABEN B mittel DIN 7168	OBERFLAECHE
MASSTAB: 0.250	GEWICHT: 34.967 kg
WERKSTOFF	-; 4H - NEW DESIGN
PASSMASS	ABMASS
BEARB. 03.11.08	NK
GEPR.	
NORM	
BENENNUNG	AGGREGAT KPL.
FIRMA	NUSSBAUM HEBETECHNIK
ZEICHNUNGSNUMMER	440HN01000
BLATT	2 von 2
a Oelbehaelter	22.12.08 NK
Nr Aenderung	Datum Name
URSPR.	ERSATZ FUER / ERSATZ DURCH


Massgebend ist die Zeichnungsbemassung !
1 STUECK / BUEHNE
GEWICHT: 33.667 kg
MASSTAB: 0.100
WERKSTOFF
230V Spule!; -
BENENNUNG
Zylinder Kompl.
ZEICHNUNGSNUMMER
440HN02000
BLATT 1 von 2
ERSATZ FUER
ERSATZ DURCH
OBERFLAECHE
MASSE OHNE TOLERANZANGABEN B mittel DIN 7168
DATUM
NAME
BEARB. 29.10.08 NK
GEPR.
NORM
FIRMA
NUSSBAUM HEBETECHNIK
PASSMASS
ABMASS
a Schaltelement geloescht 16.12.08 NK
Nr Aenderung Datum Name
URSPR.
X 0.300
Y 0.200

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	435H02003	Zylinderr. Schwt.	- / -
2	1	ET	980504	Abstreifer	- / ASA-30-40-5/8-N
3	1	ET	986125	Dichtung	Frenzelit / Dm 70x35x2
4	4	ET	9DFD-251ZN_	Druckfeder	Federstahl / 2x16x98x12.5
5	1	ET	9EGE10-PLR-ED	Einschraubstutzen 1/4"	St / EGE 10-PLR-ED
6	1	ET	985280	Fuehrungband	- / 55x60x5.6x2.5 PTFE
7	1	ET	980572	Fuehrungsband	- / 30x35x5.6
8	1	ET	9914M4X10	GEWINDESTIFT	- / DIN914-M4x10
9	2	ET	435HN02025	Gleitstueck	PA6 / Rd40x8
10	2	ET	440HN02025	Gleitstueck	PA6 / Fl.20x15x40
11	1	ET	435H02009	Kolben	C45k / Rd.60*30lg.
12	1	ET	986253	Kolbendichtung	- / 60x50x11Typ601
13	1	ET	435H02011_1	Kolbenstange	18MnV5 / Rd.30*2000;DIN 668
14	1	ET	9WS08W01MCN230AG	Magnetventil 2/2-Wegesitzventil	Art.Nr.3043367 HYDAC / 230VAC,?A
15	1	ET	985529	Nutring	- / T20-30x38x6.3/5.7
16	1	ET	90R29_83X2_62	O-Ring	NBR70 / 29,83x2,62
17	1	ET	435H02033	Oelauffangschale	DX51 / BL1.5x60x75
18	1	ET	440HN02047	Schaltelement	PA6.6 / Rd.70*50 (a)
19	1	ET	435H02030	Schalterhalter	StW22 Zn / Bl.2*30*100
20	4	ET	435H02018	Scheibe	C45k / Rd.25*10
21	3	ET	9125_5_3ZN	Scheibe DIN 125	- / DIN 125 M5 zn
22	1	ET	9SWVE10-PLR	Schwenkverschraubung	- / -
23	4	ET	9982-M12	SECHSKANTMUTTER	- / DIN982-M12
24	1	ET	440HN02015	Seiladapterplatte	S152-3 / Bl.40*62*100
25	4	ET	97991-M8X20	SENKSCHRAUBE	- / DIN7991-M8x20Zn

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

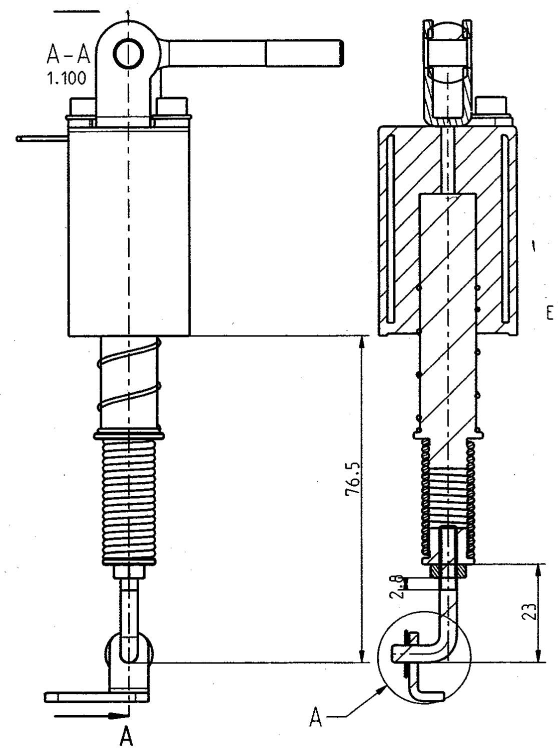
1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
26	2	ET	97991M008X012ZN	Senkschraube	- / DIN 7991 M8x12
27	1	ET	91481-5X60	Spannstift	DIN 1481 / 5x60
28	1	ET	980505	Stuetzring ungeschlitzt	- / 30x34x1.4
29	1	ET	99-330-10-01-5	Unterplatte	AlCuMgPb / -
30	2	ET	440HN02022	Verdrehsicherung	S235JR / Bl.5x40x230
31	1	ET	GE10PLR-ED	Verschraubung	- / GE 10-PLR-ED
32	1	ET	435H02013	Zylinderboden	C45k / Rd.90*130
33	1	ET	9912M05X006ZN	Zylinderschraube	- / M5x10
34	2	ET	9912M5X16ZN	Zylinderschraube	- / M5x16ZN
35	4	ET	9912M5X20ZN	Zylinderschraube	- / DIN 912 M5x20

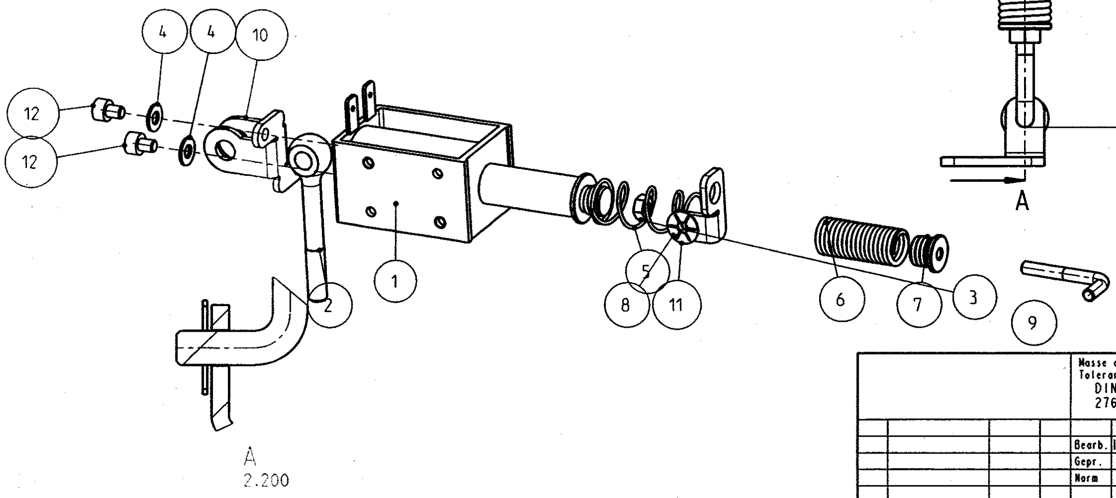
Massgebend ist die Zeichnungsbemassung ! | 1 STUECK / BUEHNE

				MASSE OHNE TOLERANZANGABEN B mittel DIN 7168	OBERFLAECHE	MASSTAB: 0.200	GEWICHT: 33.667 kg
PASSMASS		ABMASS				WERKSTOFF 230V Spule!; -	
					DATUM	NAME	BENENNUNG
				BEARB.	29.10.08	NK	Zylinder Kompl.
				GEPR.			
				NORM			
				FIRMA NUSSBAUM HEBETECHNIK		ZEICHNUNGSNUMMER 440HN02000	BLATT 2 von 2
a	Schaltelement gefunschl	16.12.08	NK				
Nr	Aenderung	Datum	Name	URSPR.		ERSATZ FUER	ERSATZ DURCH

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

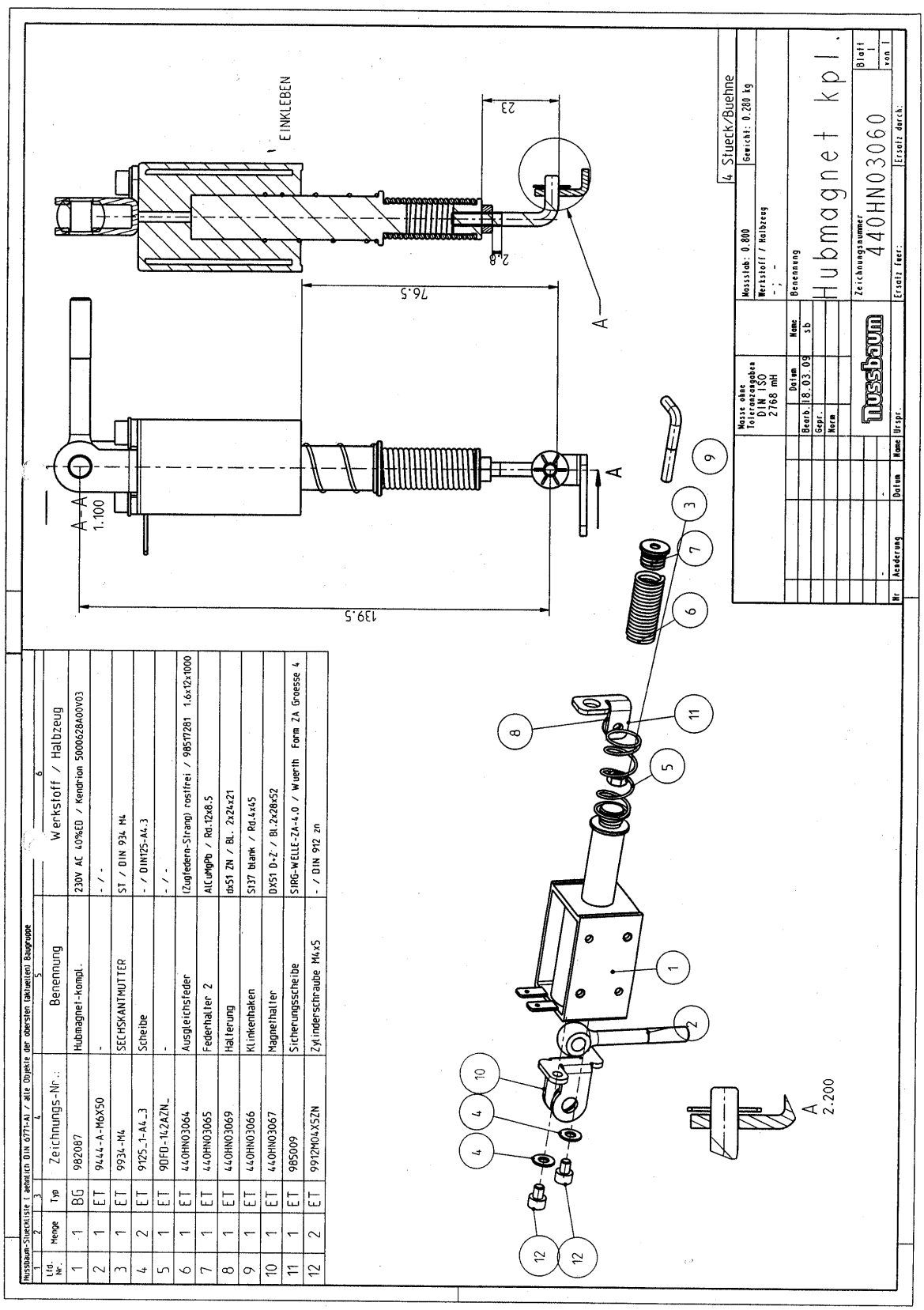
Lfd. Nr. (1)	Menge (2)	Typ (3)	Zeichnungs-Nr. (4)	Benennung (5)	Werkstoff / Halbzeug (6)
1	1	BG	982087	Hubmagnet-kompl.	230V AC 40%ED / Kendrion 5000628A00V03
2	1	ET	9444-A-M6X50	-	- / -
3	1	ET	9934-M4	SECHSKANTMUTTER	ST / DIN 934 M4
4	2	ET	9125_1-A4_3	Scheibe	- / DIN125-A4.3
5	1	ET	9DFD-142AZN_	-	- / -
6	1	ET	440HN03064	Ausgleichsfeder	(Zugfedern-Strang) rostfrei / 98517281 1.6x12x1000
7	1	ET	440HN03065	Federhalter 2	AlCuMgPb / Rd.12x8.5
8	1	ET	440HN03069	Halterung	dx51 ZN / BL. 2x24x21
9	1	ET	440HN03066	Klinkenhaken	St37 blank / Rd.4x45
10	1	ET	440HN03067	Magnethalter	DX51 D+Z / Bl.2x28x52
11	1	ET	985009	Sicherungsscheibe	SIRG-WELLE-ZA-4.0 / Wuerth Form ZA Groesse 4
12	2	ET	9912M04X5ZN	Zylinderschraube M4x5	- / DIN 912 zn



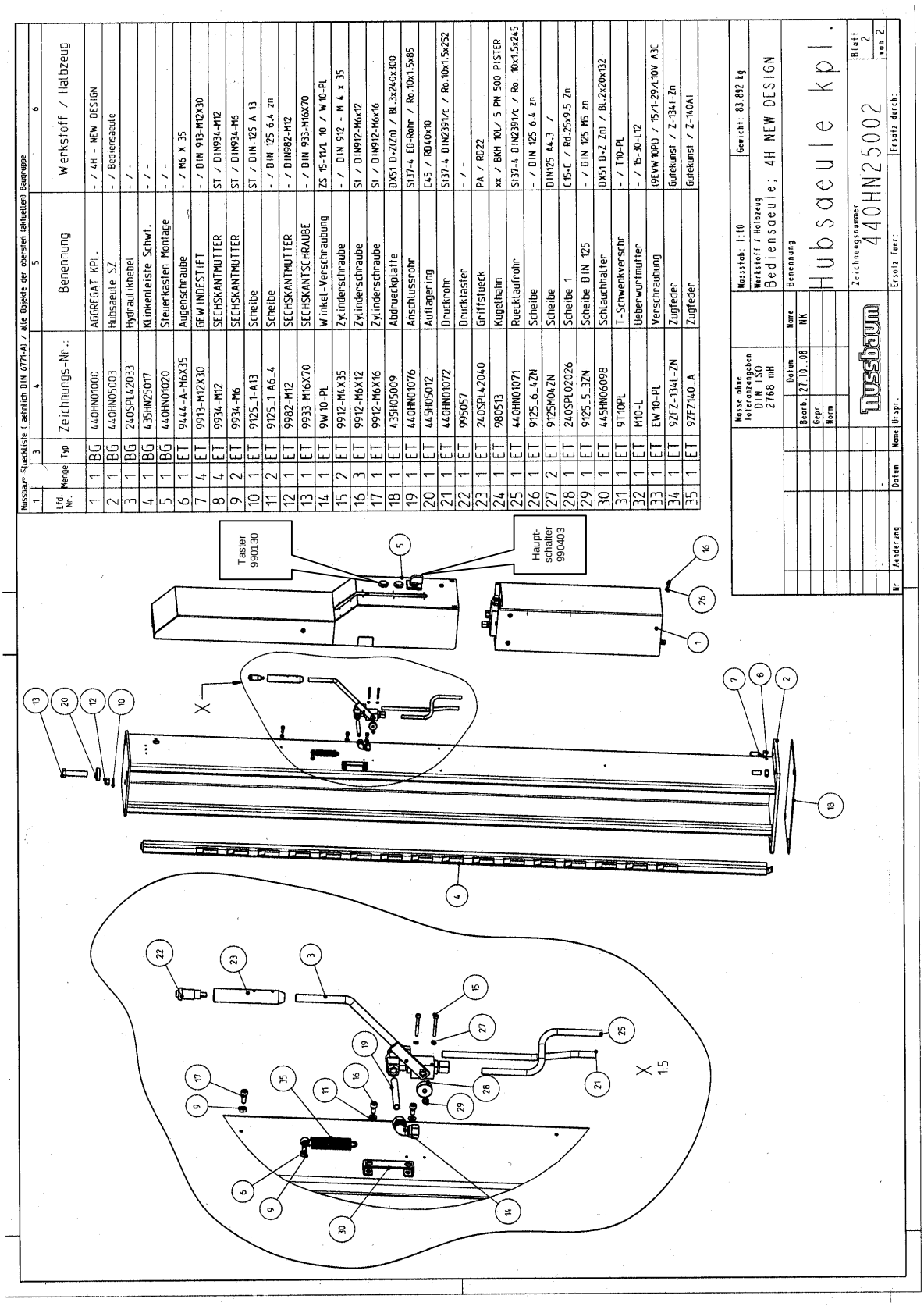


4 Stueck/Buehne

Masse ohne Toleranzangaben DIN ISO 2768 mH	Massstab: 0.800 — Gewicht: 0.280 kg
	Werkstoff / Halbzeug: - ; -
Bearb.: 18.03.09, sb	Benennung: Hubmagnet kpl.
Gepr.	
Norm	
Nussbaum	Zeichnungsnummer: 440HN03160 — Blatt 1 von 1
Nr / Aenderung / Datum / Name / Urspr.	Ersatz fuer: — Ersatz durch:



Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	982087	Hubmagnet-kompl.	230V AC 40%ED / Kendrion 500062BA00V03
2	1	ET	9444-A-M6X50	-	- / -
3	1	ET	9934-M4	SECHSKANTMUTTER	ST / DIN 934 M4
4	2	ET	9125_1-A4_3	Scheibe	- / DIN125-A4.3
5	1	ET	9DFD-142AZN_	-	- / -
6	1	ET	440HN03064	Ausgleichsfeder	(Zugfedern-Strang) rostfrei / 98517281 1.6x12x1000
7	1	ET	440HN03065	Federhalter 2	AlCuMgPb / Rd.12x8.5
8	1	ET	440HN03069	Halterung	dx51 ZN / Bl. 2x24x21
9	1	ET	440HN03066	Klinkenhaken	S137 blank / Rd.4x45
10	1	ET	440HN03067	Magnethalter	DX51 D+Z / Bl.2x28x52
11	1	ET	985009	Sicherungsscheibe	SIRG-WELLE-ZA-4.0 / Wuerth Form ZA Groesse 4
12	2	ET	9912M04X5ZN	Zylinderschraube M4x5	- / DIN 912 zn



Nussbaum Stückliste (gemäß DIN 6771-A1) / alte Objekte der obersten (aktuellen) Baugruppe						
1	2	3	4	5		6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung		Werkstoff / Halbzeug
1	1	BG	440HN01000	AGGREGAT KPL.		- / 4H - NEW DESIGN
2	1	BG	440HN05003	Hubsaeule SZ		- / Bediensaeule
3	1	BG	240SPL42033	Hydraulikhebel		- / -
4	1	BG	435HN25017	Klinkenleiste Schwt.		- / -
5	1	BG	440HN01020	Steuerkasten Montage		- / -
6	1	ET	9444-A-M6X35	Augenschraube		- / M6 X 35
7	4	ET	9913-M12X30	GEW INDESTIFT		- / DIN 913-M12X30
8	4	ET	9934-M12	SECHSKANTMUTTER		ST / DIN934-M12
9	2	ET	9934-M6	SECHSKANTMUTTER		ST / DIN934-M6
10	1	ET	9125_1-A13	Scheibe		ST / DIN 125 A 13
11	2	ET	9125_1-A6_4	Scheibe		- / DIN 125 6.4 zn
12	1	ET	9982-M12	SECHSKANTMUTTER		- / DIN982-M12
13	1	ET	9933-M16X70	SECHSKANTSCHRAUBE		- / DIN 933-M16X70
14	1	ET	9W10-PL	Winkel-Verschraubung		ZS 15-11/L 10 / W10-PL
15	2	ET	9912-M4X35	Zylinderschraube		- / DIN 912 - M 4 x 35
16	3	ET	9912-M6X12	Zylinderschraube		SI / DIN912-M6x12
17	1	ET	9912-M6X16	Zylinderschraube		SI / DIN912-M6x16
18	1	ET	435H05009	Abdruckplatte		DX51 D+ZiZn) / Bl.3x240x300
19	1	ET	440HN01076	Anschlussrohr		S137-4 EG-Rohr / Ro.10x1.5x85
20	1	ET	445H05012	Auflagering		C45 / RD40x10
21	1	ET	440HN01072	Druckrohr		S137-4 DIN2391/c / Ro.10x1.5x252
22	1	ET	995057	Drucktaster		- / -
23	1	ET	240SPL42040	Griffstueck		PA / RD22
24	1	ET	980513	Kugelhahn		xx / BKH 10L/ 5 PN 500 PISTER
25	1	ET	440HN01071	Rueckla ufrohr		S137-4 DIN2391/c / Ro. 10x1.5x245
26	1	ET	9125_6_4ZN	Scheibe		- / DIN 125 6.4 zn
27	2	ET	9125M04ZN	Scheibe		DIN125 A4.3 /
28	1	ET	240SPL02026	Scheibe 1		C15-C / Rd.25x9.5 Zn
29	1	ET	9125_5_3ZN	Scheibe DIN 125		- / DIN 125 M5 zn
30	1	ET	445HN06098	Schlauchhalter		DX51 D+Z Zn) / Bl.2x20x132
31	1	ET	9T10PL	T-Schwenkverschr		- / T10-PL
32	1	ET	M10-L	Ueberwurfmutter		- / 15-30-L12
33	1	ET	EW10-PL	Verschraubung		(9EVW 10Pl) / 15/1-29/L10V A3C
34	1	ET	92FZ-1341_ZN	Zugfeder		Gutekunst / Z-1341-Zn
35	1	ET	92FZ140_A	Zugfeder		Gutekunst / Z-140A1

Masse ohne Toleranzangaben DIN ISO 2768 mH

Massstab: 1:10 | Gewicht: 83.892 kg
Werkstoff / Halbzeug
Bedienseaeule; 4H NEW DESIGN

	Datum	Name
Bearb.	27.10.08	NK
Gepr.		
Norm		

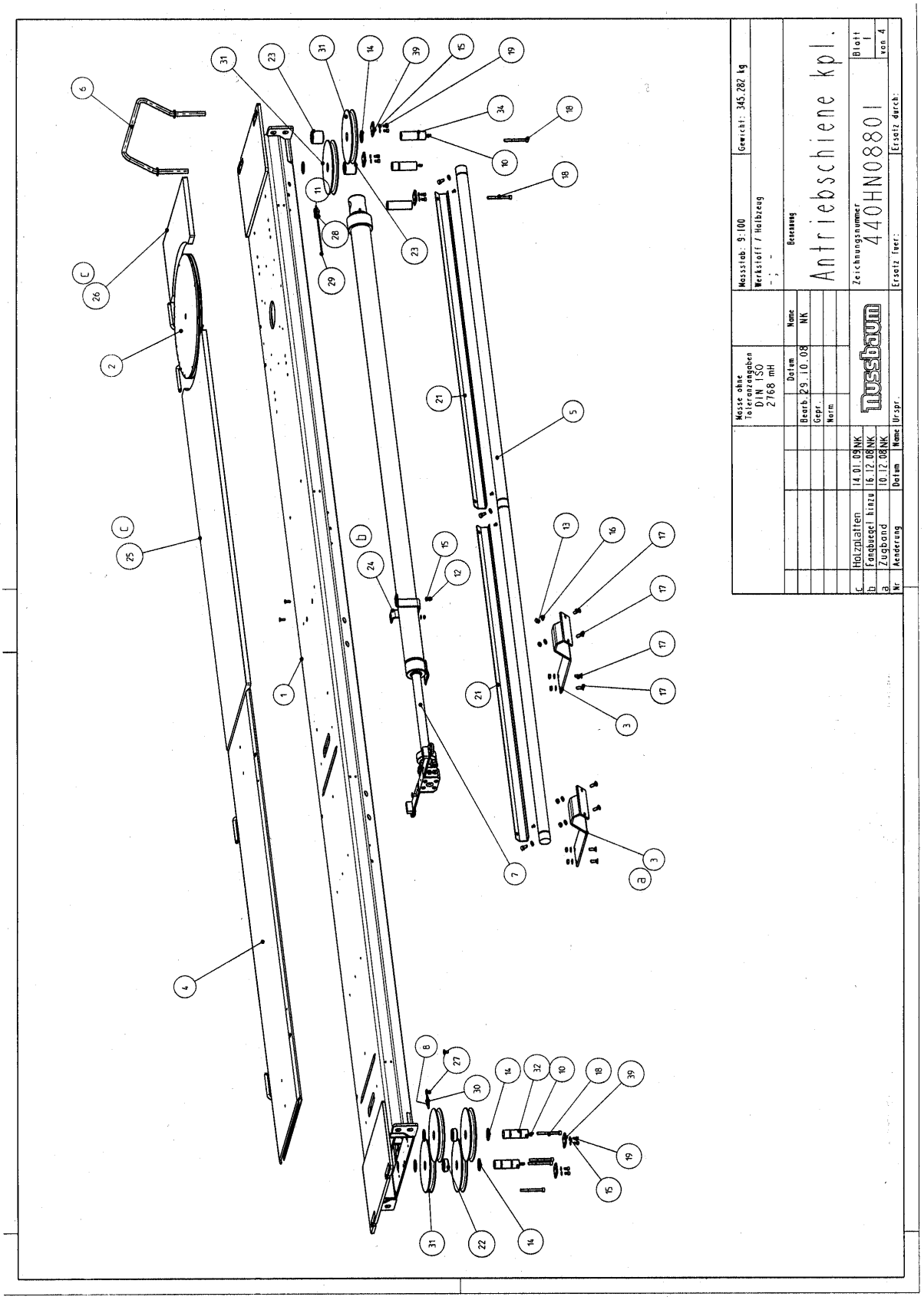
Benennung: Hubsaeule kpl.

Nussbaum

Zeichnungsnummer: 440HN25002

Blatt 2 von 2

Nr.	Aenderung	Datum	Name	Urspr.	Ersatz fuer:	Ersatz durch:


Massstab: 9:100
Gewicht: 345,282 kg
Werkstoff / Halbzeug
- ; -
Benennung
Antriebschiene kpl.
Zeichnungsnummer
440HN0880I
Blatt 1
von 4
Masse ohne Toleranzangaben DIN ISO 2768 mH
Name
Datum
Bearb. 29.10.08 NK
Gepr.
Norm
Nussbaum
Ersatz für:
Ersatz durch:
c Holzplatten 14.01.09 NK
b Fangbügel hinzu 16.12.08 NK
a Zugband 10.12.08 NK
Nr. Änderung Datum Name Ursprr.

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1 Lfd. Nr.	2 Menge	3 Typ	4 Zeichnungs-Nr.:	5 Benennung	6 Werkstoff / Halbzeug
1	1	BG	440HN08803	Antriebschiene SZ	- / -
2	1	BG	440HN08851	Drehteller Ø450	- / -
3	2	BG	440HN08013	Mittelband SZ	- / -
4	1	BG	440HN08828	Schiebeplatte Kpl.	- / -
5	1	BG	435HN03302	Stablampe Komplett	- / -
6	1	BG	435HN08633	Ueberrollbuegel Schwi.	- / -
7	1	BG	440HN02000	Zylinder Kompl.	230V Spule / -
8	1	ET	9444-A-M6X30	Augenschraube	- / M6 X 30
9	1	ET	9913-M4X6	GEWINDESTIFT	- / DIN913-M4x6
10	4	ET	971412-AM6	KEGELSCHMIERNIPPEL	- / DIn71412-AM6
11	1	ET	9934-M10	SECHSKANTMUTTER	ST / DIN934-M10
12	2	ET	9934-M6	SECHSKANTMUTTER	ST / DIN934-M6
13	8	ET	9934-M8	SECHSKANTMUTTER	ST / DIN934-M8
14	24	ET	9988-30X42X1	PASSSCHEIBE	- / DIN 988-30X42X1
15	12	ET	9125_1-A6_4	Scheibe	- / DIN 125 6.4 zn
16	11	ET	9125_1-A8_4	Scheibe	- / DIN125-A8.4Zn
17	8	ET	97991-M8X25	SENKSCHRAUBE	- / DIN 7991 - M 8 X 25
18	6	ET	9912-M8X80	Zylinderschraube	- / DIN 912 - M 8 x 80
19	10	ET	9912-M6X12	Zylinderschraube	St / DIN912-M6x12
20	3	ET	9912-M8X16	Zylinderschraube	St / DIN 912 M8x16
21	2	ET	440HN03308	Blende	DX51 D+Z (Zn) / Bl.1.5x75x1320
22	2	ET	435H04011	Distanz	PA6 / Rd.45*14
23	2	ET	435HN04211	Distanz	PA6 / Rd.45*38
24	1	ET	440HN08694	Fangbuegel	QSt37-2 / Fl30x6
25	1	ET	440HN08840	Holzplatte	Siebdruck / 17x470x1490
26	1	ET	440HN08846	Holzplatte	Siebdruck / 17x250x470
27	1	ET	970341	Kausche	- / NG 2.0
28	1	ET	035UL05044	Schraube f. Bowdenzug	8.8 / M10*30 DIN933
29	1	ET	970291	SeilID2/ADmax3	- / -

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1 Lfd. Nr.	2 Menge	3 Typ	4 Zeichnungs-Nr.:	5 Benennung	6 Werkstoff / Halbzeug
30	1	ET	970369	Seilklemme	- / -
31	6	ET	435H44005	Seilrolle	Lamigamid 319 / Rd.200X22
32	2	ET	435H16021	Seilrollenbolzen	42CrMo4V / Rd.30*90
33	1	ET	435HN08627	Seilrollenbolzen	42CrMo4V / Rd.30*90
34	1	ET	435HN08623	Seilrollenbolzen 1	42CrMo4V / Rd.30*90
35	1	ET	435HN08625	Seilrollenbolzen 2	42CrMo4V / Rd.30*90
36	4	ET	97991M005X010ZN	Senkschraube	- / DIN 7991 M5X10
37	2	ET	97991M006X020ZN	Senkschraube	- / DIN 7991 M6X20
38	2	ET	97991M008X016ZN	Senkschraube	- / DIN 7991 M8x12
39	5	ET	435HN08616	Sicherungsblech	S235JR Zn / Fl.40x5x40

Nr	Aenderung	Datum	Name
b	Fangbuegel	16.12.08	NK

Masse ohne Toleranzangaben DIN ISO 2768 mH

	Datum	Name
Bearb.	29.10.08	NK
Gepr.		
Norm		

Urspr.

Massstab: 3:50 | Gewicht: 345.282 kg

Werkstoff / Halbzeug: - ; -

Benennung: Antriebschiene kpl.

Zeichnungsnummer: 440HN08801 | Blatt 2 von 4

Ersatz fuer: | Ersatz durch:

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe					
1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	440HN08851	Drehteller Ø450	- / -
2	1	BG	440HN08903	Folgeschiene SZ	- / -
3	1	BG	440HN08828	Schiebeplatte Kpl.	- / -
4	1	BG	435HN03302	Stablampe Komplett	- / -
5	1	BG	435HN08633	Ueberrollbuegel Schwl.	- / -
6	1	ET	9444-A-M6X30	Augenschraube	- / M6 X 30
7	1	ET	9934-M10	SECHSKANTMUTTER	ST / DIN934-M10
8	3	ET	9125_1-A8_4	Scheibe	- / DIN125-A8.4Zn
9	3	ET	9912-M8X16	Zylinderschraube	St / DIN 912 M8x16
10	2	ET	440HN03308	Blende	DX51 D+Z (Zn) / BL.1.5x75x1320
11	4	ET	9GS913M16X060ZN	Gewindestift	8.8 zn / M 16x60 DIN913
12	1	ET	440HN08840	Holzplatte	Siebdruck / 17x470x1490
13	1	ET	440HN08846	Holzplatte	Siebdruck / 17x250x470
14	1	ET	035UL05044	Schraube f. Bowdenzug	8.8 / M10x30 DIN933
15	1	ET	970291	SeilID2/ADmax3	- / -
16	1	ET	970369	Seilklemme	- / -
17	4	ET	97991M005X010ZN	Senkschraube	- / DIN 7991 M5X10
18	2	ET	97991M008X016ZN	Senkschraube	- / DIN 7991 M8x12

Masse ohne Toleranzangaben DIN ISO 2768 mH	Massstab: 1:20	Gewicht: 531 kg
	Werkstoff / Halbzeug - / -	

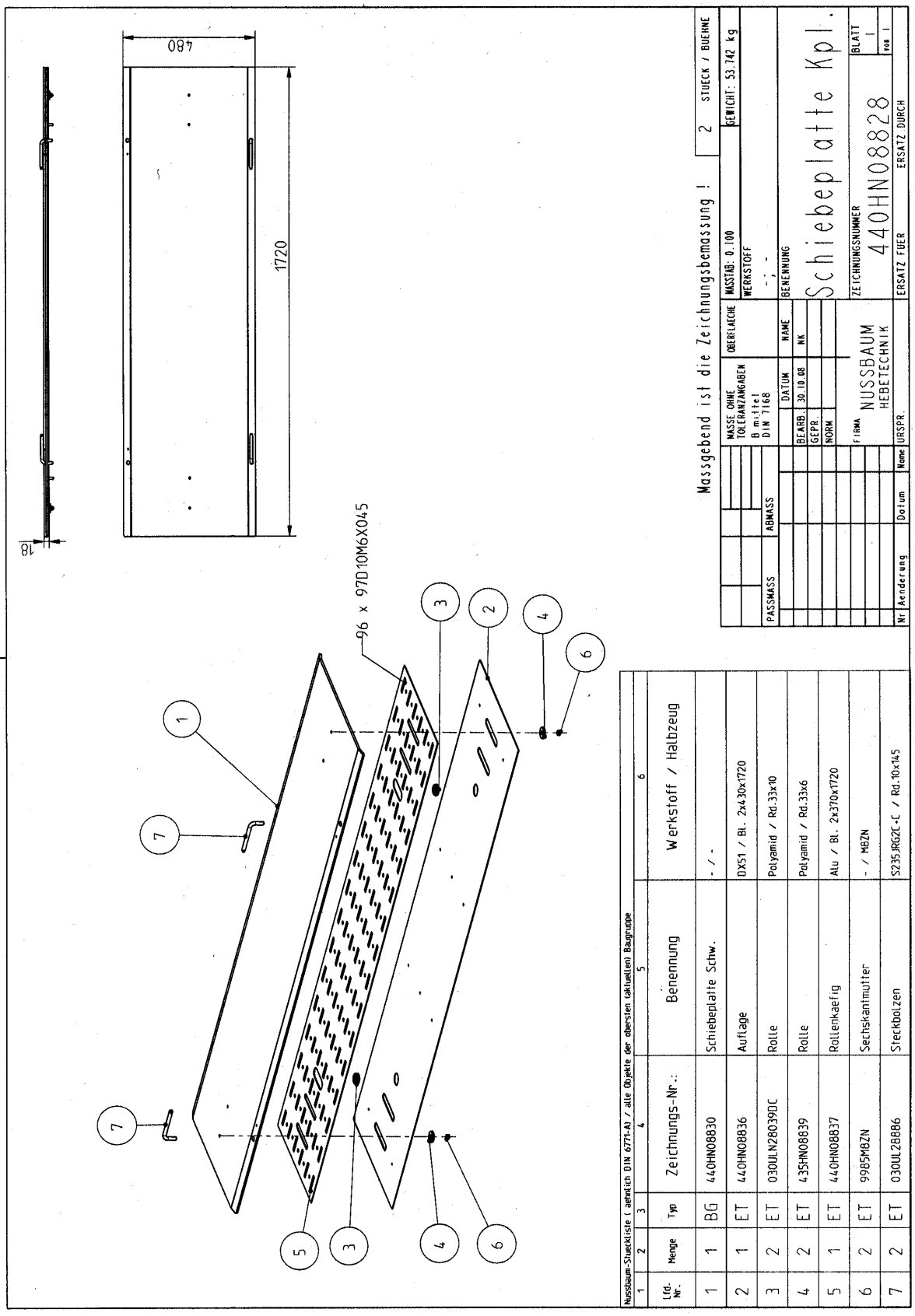
	Datum	Name
Bearb.	29.10.08	NK
Gepr.		
Norm		

Benennung: Folgeschiene kpl.

Zeichnungsnummer: 440HN08901

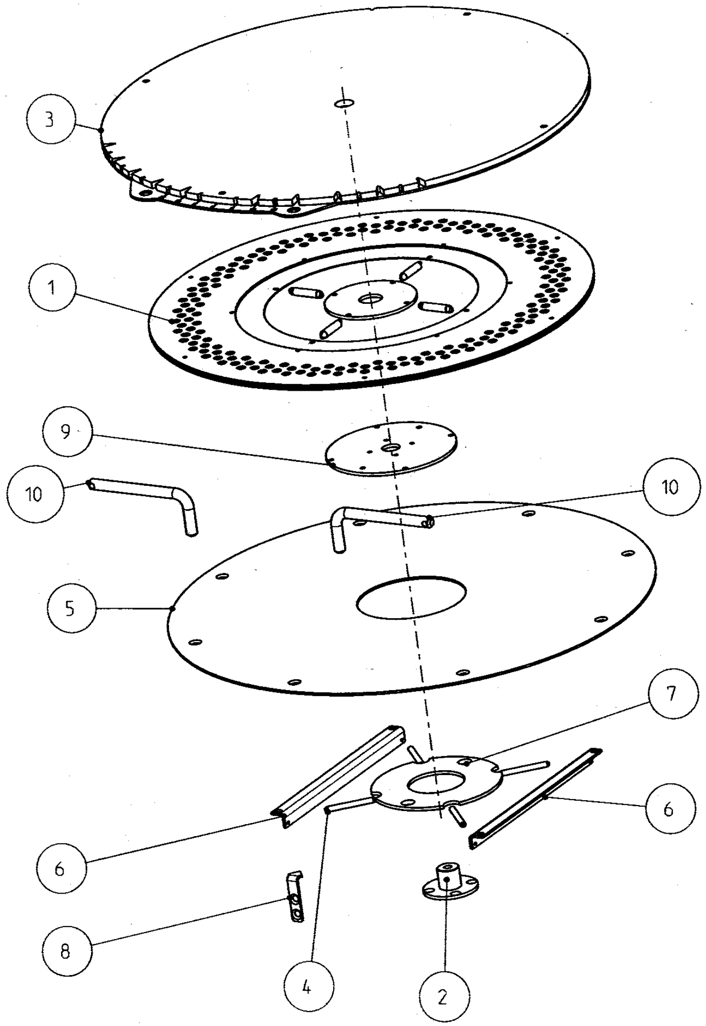
Blatt 1 von 1

Nr	Aenderung	Datum	Name	Urspr.	Ersatz fuer:	Ersatz durch:
a	Holzplatten	14.01.09	NK	Nussbaum		



Nussbaum-Stueckliste (aehnlich DIN 6771-A1 / alte Objekte der obersten (aktuellen) Baugruppe

1 Lfd. Nr.	2 Menge	3 Typ	4 Zeichnungs-Nr.:	5 Benennung	6 Werkstoff / Halbzeug
1	1	BG	440HN08830	Schiebeplatte Schw.	- / -
2	1	ET	440HN08836	Auflage	DX51 / Bl. 2x430x1720
3	2	ET	030UL N28039DC	Rolle	Polyamid / Rd.33x10
4	2	ET	435HN08839	Rolle	Polyamid / Rd.33x6
5	1	ET	440HN08837	Rollenkaefig	Alu / Bl. 2x370x1720
6	2	ET	9985M6ZN	Sechskantmutter	- / M6ZN
7	2	ET	030UL28886	Steckbolzen	S235JRG2C-C / Rd.10x145



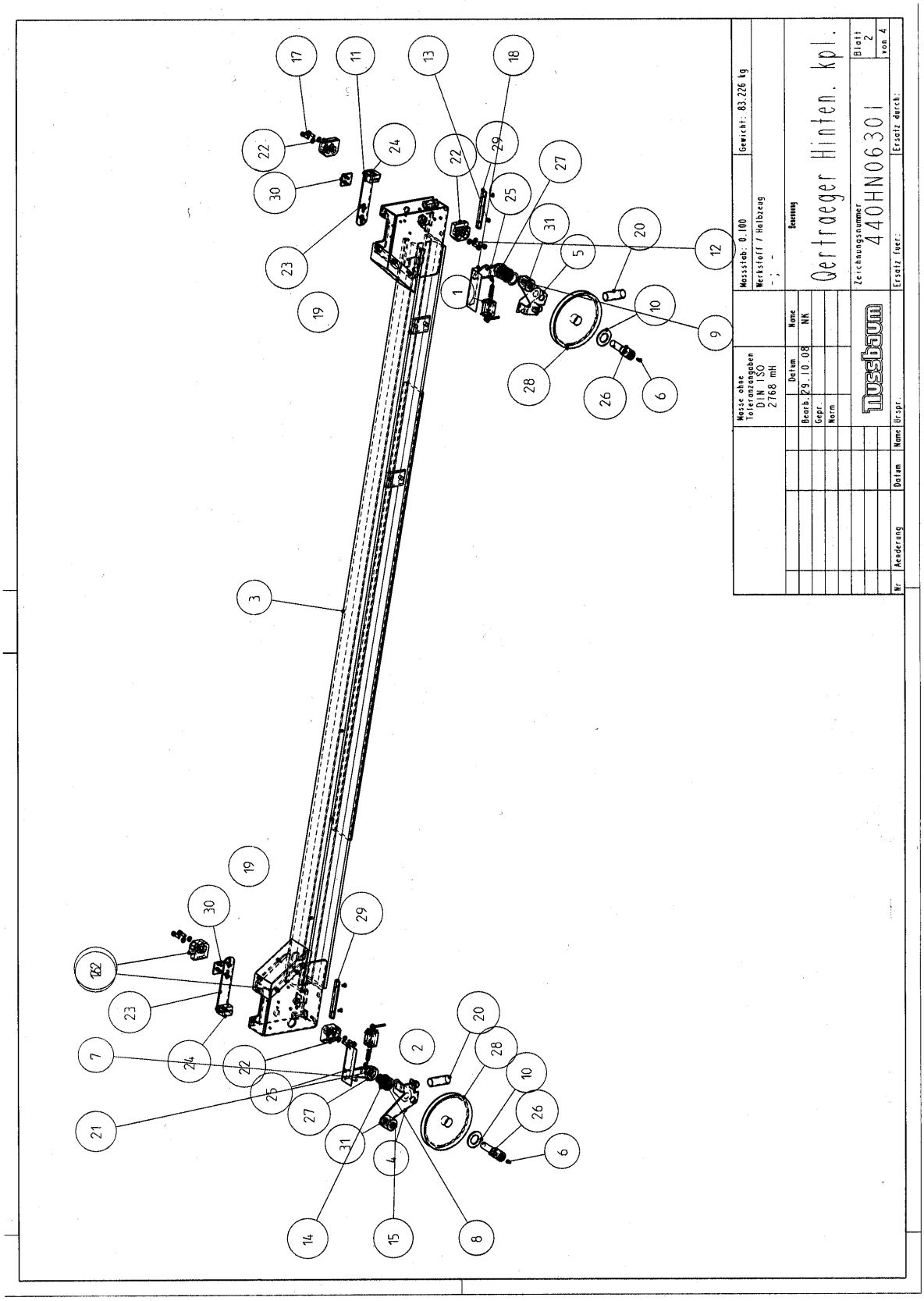
Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	440HN08860	Käfig mont	- / -
2	1	BG	435HN08886	Mitnehmerbolzen Schwt.	- / -
3	1	BG	440HN08873	Teller Oberteil	- / -
4	4	ET	9Z_066UI	-	- / -
5	1	ET	440HN08855	Blech	75Cr1 / Bl. 2x450
6	2	ET	435HN08883	Federeinhaengung	DX51 / Bl. 2x24x210
7	1	ET	435HN08884	Gleitstueck	PA 6 / Bl. 3x120
8	1	ET	440HN08890	Pfeil	DX51 / Bl.2x15x55
9	1	ET	435HN08881	Ring unten	AL / Bl. 3x120
10	2	ET	030UL28886	Steckbolzen	S235JRG2C+C / Rd.10x145

Massgebend ist die Zeichnungsbemassung !

2 STUECK / BUEHNE

PASSMASS	ABMASS	MASSE OHNE TOLERANZANGABEN B mittel DIN 7168	OBERFLAECHE
MASSTAB: 0.250	GEWICHT: 16.263 kg	WERKSTOFF -; -	
	DATUM	NAME	
BEARB.	23.10.08	NK	
GEPR.			
NORM			
FIRMA NUSSBAUM HEBETECHNIK	BENENNUNG Drehteller Ø 450	ZEICHNUNGSNUMMER 440HN08851	BLATT 1 von 1
Nr Aenderung	Datum	Name	URSPR.
ERSATZ FUER	ERSATZ DURCH		


Nussbaum
Zeichnungsnummer
40HN06301
Blatt 2 von 4
Gewicht: 83.226 kg
Massstab: 0.100
Werkstoff / Halbzeug
Bezeichnung
Oertraeger Hinten. kpl.
Masse ohne Toleranzangaben
DIN ISO
2768 mH
Name
Datum
Bearb. 29.10.08 NK
Gepr.
Norm
Ersatz fuer:
Ersatz durch:
Urspr.
Aenderung
Nr

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	440HN03060	Hubmagnet kpl.	- / -
2	1	BG	440HN03160	Hubmagnet kpl.	- / -
3	1	BG	440HN06303	Quertraeger Schwt.	- / -
4	1	BG	432H06080	Seilabtastung Schwt.	/
5	1	BG	432H06081	Seilabtastung Schwt.	/
6	2	ET	971412-AM6	KEGELSCHMIERNIPPEL	- / DIn71412-AM6
7	10	ET	9988-20X28X1	PASSSCHEIBE	- / DIN 988-20X28X1
8	6	ET	9988-30X42X1	PASSSCHEIBE	- / DIN 988-30X42X1
9	4	ET	9125_1-A10_5	Scheibe	- / DIN 125 - A 10.5
10	2	ET	9125_1-A31	Scheibe	- / DIN125-A31
11	20	ET	9125_1-A6_4	Scheibe	- / DIN 125 6.4 zn
12	8	ET	9125_1-A8_4	Scheibe	- / DIN125-A8.4Zn
13	4	ET	97991-M6X12	SENKSCHRAUBE	- / DIN 7991-M6x12zn
14	2	ET	96799-24	SICHERUNGSSCHEIBE	- / DIN6799-24
15	2	ET	994-2-18	Splint	- / DIN94-2-18
16	20	ET	9912-M6X16	Zylinderschraube	St / DIN912-M6x16
17	8	ET	9912-M8X25	Zylinderschraube	St / DIN912-M8x25
18	2	ET	440HN06012	Abdeckung	Macrolon / BL. 2x130x84
19	2	ET	440HN09318	Abdeckung	DD11 / 1.5x174x223
20	2	ET	9DFD-271ZN	Druckfeder	D-271ZN / Federstahldraht DIN 2076-D
21	2	ET	9PAP202310P10	Du-Buchse	P10 / 20x23x10
22	4	ET	435H26024	Gleitschuh	PA6G / 30*55*55
23	2	ET	435HN06115	Halteblech	S235JR / BL. 5x40x195
24	2	ET	435HN26098	KL-Fuehrung	PA6 / 27*34*40
25	2	ET	435HN10006	Klinke	S355MC0 / BL.8*56*123.5
26	2	ET	435HN06215	QT-Bolzen	42CrMoV4 / Rd.30x102
27	2	ET	445H26096	Rolle	PA6 / 45x10
28	2	ET	435H44005	Seilrolle	Lamigamid 319 / Rd.200X22
29	2	ET	435HN26099	Seilsicher.	PA6 / 20x10x130

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
30	2	ET	435HN08616	Sicherungsblech	S235JR Zn / FL.40x5x40
31	2	ET	435H26092	Tastrolle	PA6.0 / Rd.40x38

Masse ohne Toleranzangaben DIN ISO 2768 mH

Massstab: 0.110 | Gewicht: 83.226 kg

Werkstoff / Halbzeug
- ; -

	Datum	Name
Bearb.	29.10.08	NK
Gepr.		
Norm		

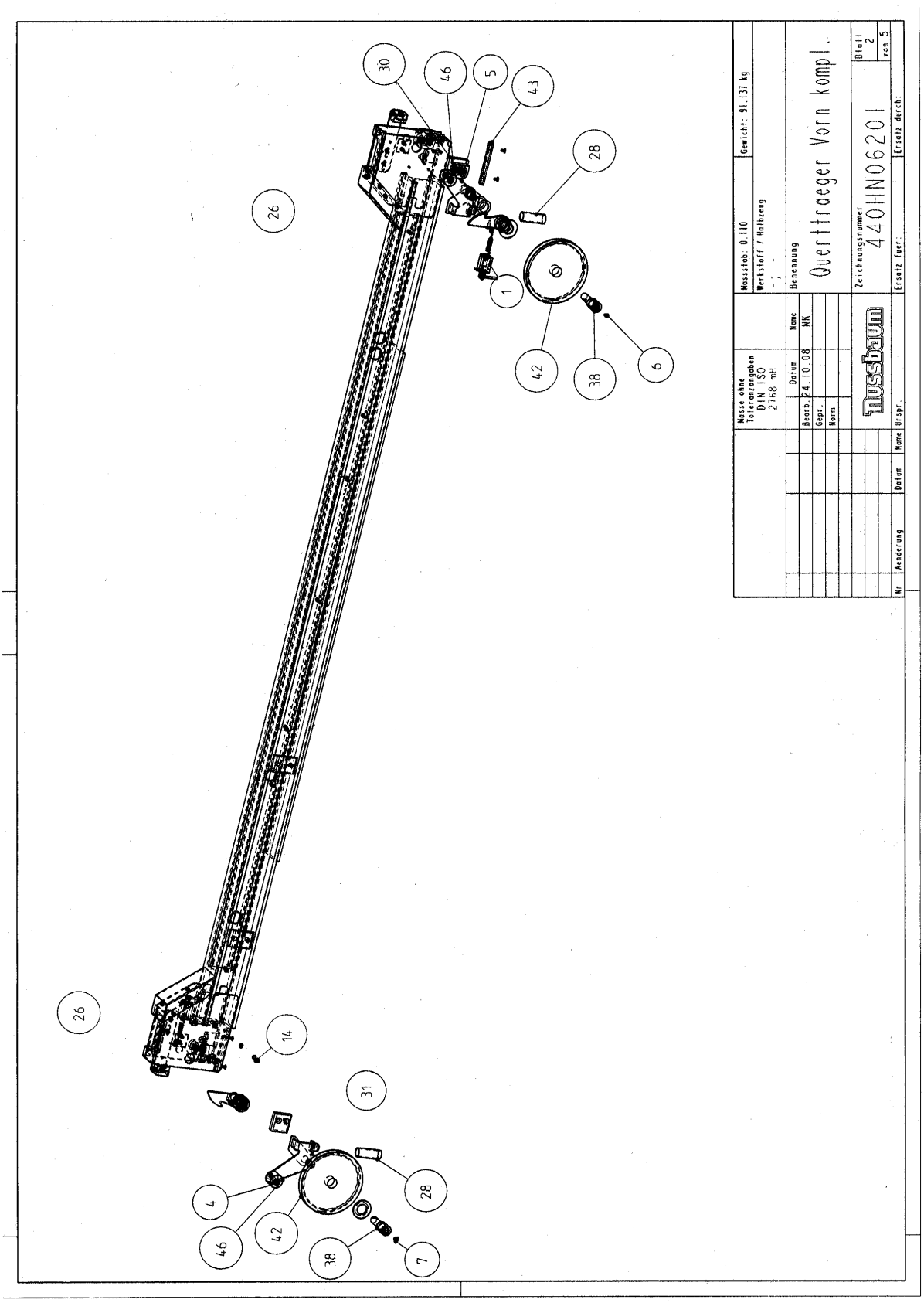
Benennung
Qertraeger Hinten. kpl.

Zeichnungsnummer
440HN06301

Blatt 3 von 4

Nr	Aenderung	Datum	Name	Urspr.

Ersatz fuer: | Ersatz durch:


30
46
5
43
28
26
1
42
38
6
26
14
31
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46
42
38
7
28
Massstab: 0.110
Gewicht: 91.137 kg
Werkstoff / Halbzeug
Benennung
Querträger Vorn kompl.
Zeichnungsnummer
440HN06201
Blatt 2 von 5
Masse ohne Toleranzangaben DIN ISO 2768 mH
Datum
Name
Bearb. 24.10.08 NK
Gepr.
Norm
Nussbaum
Ersatz für:
Ersatz durch:
Nr. Änderung Datum Name Urspr.

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
1	1	BG	440HN03060	Hubmagnet kpl.	- / -
2	1	BG	440HN03160	Hubmagnet kpl.	- / -
3	1	BG	440HN06203	Quertraeger Schwt.	- / -
4	1	BG	432H06080	Seilabtastung Schwt.	/
5	1	BG	432H06081	Seilabtastung Schwt.	/
6	1	ET	971412-AM6	KEGELSCHMIERNIPPEL	- / DIn71412-AM6
7	1	ET	971412-BM6	KEGELSCHMIERNIPPEL	- / din71412-BM6
8	12	ET	9988-20X28X1	PASSSCHEIBE	- / DIN 988-20X28X1
9	6	ET	9988-30X42X1	PASSSCHEIBE	- / DIN 988-30X42X1
10	4	ET	9125_1-A10_5	Scheibe	- / DIN 125 - A 10.5
11	2	ET	9125_1-A31	Scheibe	- / DIN125-A31
12	29	ET	9125_1-A6_4	Scheibe	- / DIN 125 6.4 zn
13	6	ET	9125_1-A8_4	Scheibe	- / DIN125-A8.4Zn
14	1	ET	9982-M6	SECHSKANTMUTTER	- / DIN 982 - M6
15	10	ET	97991-M4X10	SENKSCHRAUBE	- / DIN 7991 - M 4 X 10
16	4	ET	97991-M6X12	SENKSCHRAUBE	- / DIN 7991-M6x12zn
17	2	ET	97991-M8X20	SENKSCHRAUBE	- / DIN7991-M8x20Zn
18	2	ET	96799-24	SICHERUNGSSCHEIBE	- / DIN6799-24
19	2	ET	994-2-18	Splint	- / DIN94-2-18
20	12	ET	9912-M6X10	Zylinderschraube	St / DIN912-M6x10
21	1	ET	9912-M6X12	Zylinderschraube	St / DIN912-M6x12
22	17	ET	9912-M6X16	Zylinderschraube	St / DIN912-M6x16
23	6	ET	9912-M8X25	Zylinderschraube	St / DIN912-M8x25
24	1	ET	435HN09018	Abdeckung	DX51 D+Z(Zn) / BL.1.5x103x2375
25	2	ET	440HN06012	Abdeckung	Macrolon / BL. 2x130x84
26	2	ET	440HN09318	Abdeckung	DD11 / 1.5x174x223
27	1	ET	445HN09205	Aufbaublech	DD11 / BL. ZN 2x800x50
28	2	ET	9DFD-271ZN	Druckfeder	D-271ZN / Federstahldraht DIN 2076-D
29	2	ET	9PAP202310P10	Du-Buchse	P10 / 20x23x10

				Masse ohne Toleranzangaben DIN ISO 2768 mH		Massstab: 0.250	Gewicht: 91.137 kg
						Werkstoff / Halbzeug - ; -	
					Datum	Name	Benennung
				Bearb.	24.10.08	NK	Querttraeger Vorn kompl.
				Gepr.			
				Norm			
				Nussbaum		Zeichnungsnummer 440HN06201	Blatt 4 von 5
Nr	Aenderung	Datum	Name	Urspr.		Ersatz fuer:	Ersatz durch:

Nussbaum-Stueckliste (aehnlich DIN 6771-A) / alle Objekte der obersten (aktuellen) Baugruppe

1	2	3	4	5	6
Lfd. Nr.	Menge	Typ	Zeichnungs-Nr.:	Benennung	Werkstoff / Halbzeug
30	3	ET	435H26024	Gleitschuh	PA6G / 30*55*55
31	1	ET	440HN26024	Gleitschuh	PA6G / 17*55*55
32	1	ET	435HN06115	Halteblech	S235JR / Bl. 5x40x195
33	1	ET	435HN06117	Halteblech	S235JR / Bl. 5x40x195
34	1	ET	440HN09017	Kabelfuehrung	DX51 D+Z(Zn) / Bl.1.5x160x2375
35	1	ET	440HN06096	Kettenhalter	S355MC / Bl.6x80x15
36	2	ET	435HN26098	KL-Fuehrung	PA6 / 27*34*40
37	2	ET	435HN10006	Klinke	S355MC0 / Bl.8x56x123
38	2	ET	435HN06215	QT-Bolzen	42Crmo/4 Rd.30x102
39	2	ET	445H26096	Rolle	PA6 / 45x10
40	3	ET	9125_6_4ZN	Scheibe	- / DIN 125 64 zn
41	1	ET	445HN06098	Schlauchhalter	DX51 D+Z ZN) / Bl.2x20x132
42	2	ET	435H44005	Seilrolle	Lamigamid 319 / Rd.200X22
43	2	ET	435HN26099	Seilsicher.	PA6 / 20x10x130
44	1	ET	97991M006X016ZN	Senkschraube	- / DIN 7991 M6x16
45	2	ET	435HN08616	Sicherungshalter	S235JR Zn / FL.40x5x40
46	2	ET	435H26092	Tastrolle	PA6.0 / Rd.40x38

Masse ohne Toleranzangaben DIN ISO 2768 mH

Massstab: 0.700 | Gewicht: 91.137 kg

Werkstoff / Halbzeug
-; -

	Datum	Name
Bearb.	24.10.08	NK
Gepr.		
Norm		

Benennung
Querttraeger Vorn kompl.

Zeichnungsnummer
440HN06201

Blatt 5 von 5

Nr	Aenderung	Datum	Name	Urspr.

Ersatz fuer: | Ersatz durch: