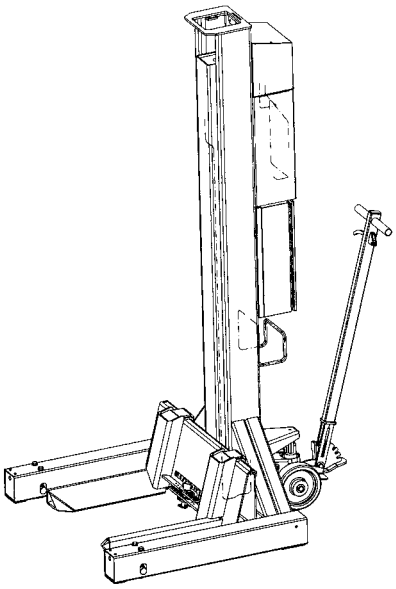
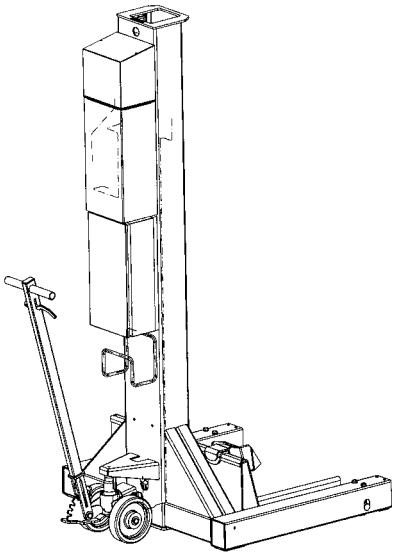
MCS 12000 ND (Compact)

Date 07/2010
Manual date: 09.07.2010





Operating Instruction and Documentation

Serial number:.....

Retailer address / phone

Made in Germany

Otto Nußbaum GmbH & Co.KG//Korker Straße 24//D-77694 Kehl-Bodersweier
Tel: +49(0)7853/8990 Fax: +49(0)7853/8787
E-mail: info@nussbaum-lifts.de//http://www.nussbaum-lifts.de

Contents

Foreword

Nußbaum lifting systems are the result of a long time 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.

The 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.

Record of handing over

The Mobile column lift with the

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

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

the safety was checked and the lift was started.

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

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

Your customer service:.....

1.Introduction

The document **"Operating Instructions and Documentation"** contains important information about installation, operation and maintenance of the lift.
To furnish proof of **installation of the automotive lift** the form "Record of Installation" must be signed and returned to the manufacturer.
To furnish proof of the singular, felt this documentation contains forms. The forms should be used to document the checks. They should not be removed from this documentation.
Every **Changes to the construction** and **displacement** of the automotive lift must be registered in the **"Master document"** of the lift.

1.1 Installation and check of the automotive lift

Only specialist staff is allowed to do work concerning safety and to do the safety checks of the lift. They are called experts and competent person in this document.

Experts are persons (for example self-employed engineers, experts) which have received instruction and have experience to check and to test automotive lifts. They know the relevant labour and accidents prevention regulations.

Competent person are persons who have acquired adequate knowledge and experience with automotive lifts. They took part in training from the lift-manufacturer (servicing technicians of the manufacturer or dealer, are competent)

1.2 Information of Warning

To show danger and to show important information the three symbols below are used. Pay attention to those passages, which are marked with these symbols.

Danger! This sign indicates danger to life. Inexpert handling of the described operation may be dangerous to life.

Caution! This sign cautions against possible damage to the automotive lift or other material defects in case of inexpert handling .

Attention! This sign indicates for an important function or other important notes.

2.Master document of the MCS 12000

2.1 Lift–manufacturer

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

2.2 Application

The mobile column lift is a lifting device for raising heavy vehicles (Truck, Bus...)
The maximum capacity of one mobile column lift is 12000 lbs (5500 kg).
It's not allowed to install the standard-automotive lift in a hazardous location or washing bays.

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 Page for notice

3.Technical Information

3.1 Technical ratings

Capacity of one mobile column lift	12000 lbs (5500 kg)
Lifting time	approx. 70 sec. with load
Lowering time	approx. 55 sec. with load
Lifting height	66.14” (1680 mm)
Line voltage	208 – 240 volt, 60 Hz, single phase
Control rating	24 V
Power rating	2.01 HP (1,5 kW)
Motor speed	1490 rpm
Pump capacity	2,1 cm³ /rotation (1BK7S3,3)
Hydraulic pressure	approx. 3144 PSI (220 bar) with load
Pressure relief valve	approx. 3573 PSI (250 bar) with load
Pressure relief valve (safety device)	approx. max. 35 bar
Oil tank	approx. 17 Liter/tank
Sound level L_{pA}:	≤ 70 dB
Connection by customer	1~/N+PE, 230V, 60 Hz (standard version) With fuse 22,5 Ampere (time lag) for 4 mobile columns (Pay attention to the voltage of your country)

3.2 Safety device

1. Pressure relief valve
   Overprint-safety of the hydraulic system
2. Holding valve
   safety device against unintentional lowering
3. Lockable main switch
   safety device against unauthorised operation
4. CE-STOP
   Safety device against squeeze
5. Hydraulically unlocking safety-system at the cylinder
   Safety device against unintentional lowering
6. Safety Star System (SST)

- The SST observed the complete Process of the Lift during „Lifting“ and „Lowering“.
- The lift will be lowering during the normal work with 0,05 Meter per sec.
  If the lift descends noticeable faster there may be a problem with the hydraulic system. The computer-control-system recognizes the problem and switch off the hydraulic supply for the cylinder.
  The Safety-star system locks and the lift stopped.
- Switch off the main switch.
- Check the complete hydraulic system. If the system is defective, call the service of your retailer.
- The lift can be repaired by an expert, the satisfactory knowledge and experiences with hydraulic lifts has.

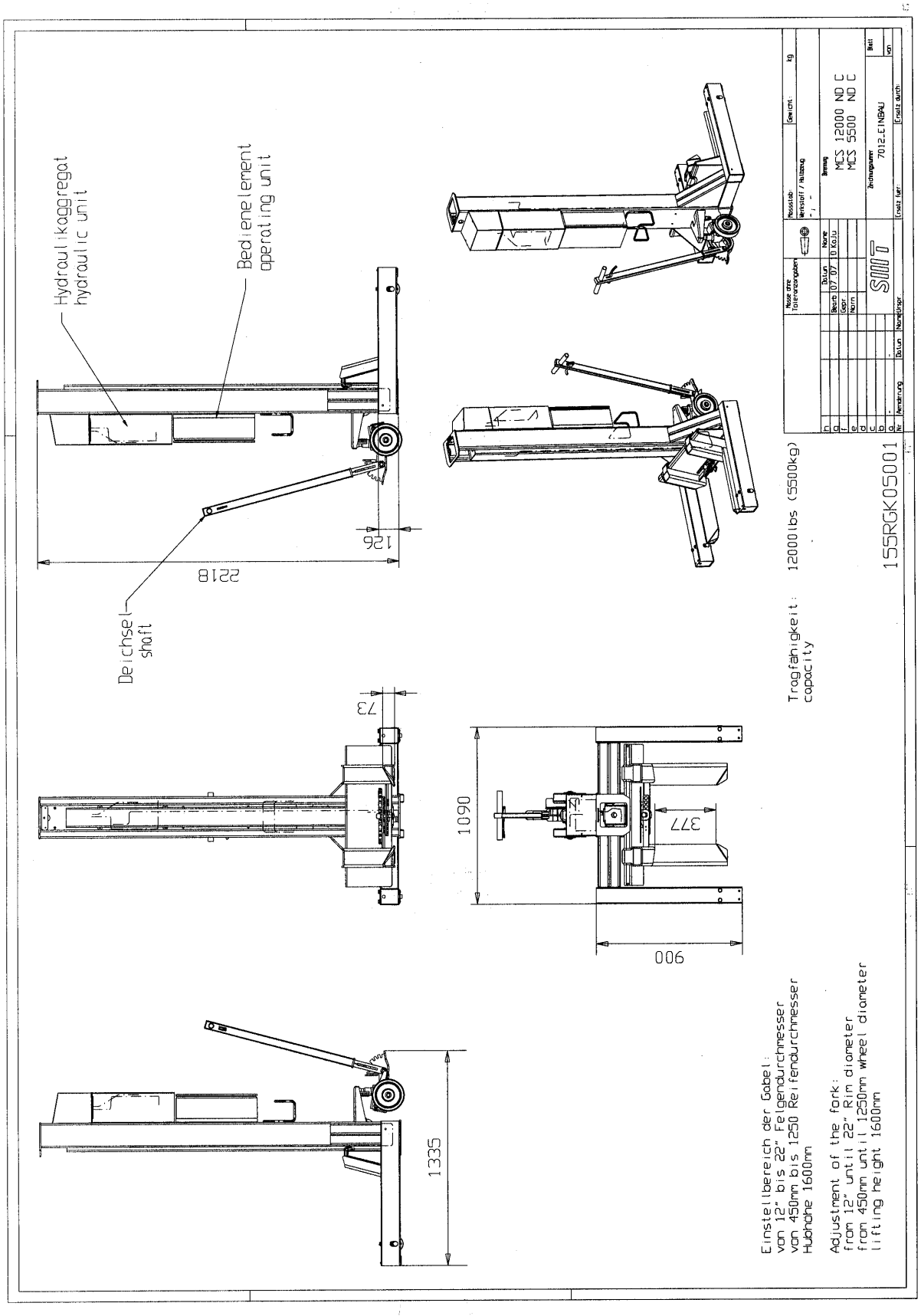
CE-STOP

- The automotive lift stops automatically approx. minimum 120 mm before the lowest position.
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- An acoustic signal is heard until the lift is in the lowest position

Top-Limit

- The Computer-control-system recognizes the top-height position of the lift and switch off.

3.3 Data sheet



4.Safety regulations

- Read all instructions.
- The total weight of the lifted vehicle must not exceed the maximum capacity of the lift.
- Lower the lift completely before driving the vehicle into the lifting position.
- Use the lift only as described by the instructions in this manual.
- Before lifting low clearance, sport vehicles, vehicles with ground effects or running boards, check carefully that no damage will occur before lifting.
- Only trained personnel 18 or older are allowed to operate the lift.
- The lift operator must observe the entire lifting and lowering process.
- Only the operator may remain under the lift while in use.
- Do not lift persons on the lift or in a vehicle on the lift.
- Do not climb onto the lift when raised.
- Keep hair, loose clothing, fingers, and all body parts away from the moving parts.
- Any changes or modifications to the lift must be checked by an expert (qualified service person).
- To reduce the risk of shock the standard lift may not be installed in a hazardous (wet) location.
- Power supply must be disconnected (main switch, plug, breaker) before any maintenance is performed on the lift.
- Care must be taken as burns can occur from touching hot parts.
- Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged until it has be examined by a qualified service person (expert).
- To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact lenses, they are not safety glasses.
- Adequate ventilation should be provided when working on operating internal combustion engines.
- Do not let a cord hang over the edge of the table, bench, or counter or come in contact with hot manifolds or moving fan blades.
- If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will nor be tripped over or pulled.
- Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
- 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.
- The mobile column lift must be checked from an expert after changes in construction.
- It’s not allowed to start with operations at the lift before the main switch is switched off.
- During lifting or lowering the operator must observe the vehicle to ensure that the vehicle and the lift are functioning correctly.
- 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.

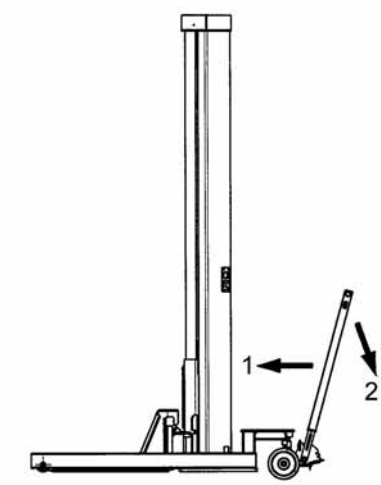
- Installation of the standard-mobile column lift in hazardous or dangerous locations such as washing bays is dangerous and is not allowed.
- Check the center of gravity of the vehicle if heavy parts are removed. Secure the load with suitable tools.
- Check the lift again, if the vehicle was raised 200 millimeter.

5.Operating instructions

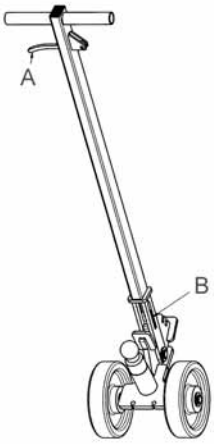
The Safety Regulations must be observed during working with the automotive lift. Read the safety regulations in chapter 4 carefully before working with the lift!

5.1 Positioning the Mobile column lift

- Every solid surface (concrete quality min C20/25) is suitable as installation-place.
- Position the shaft in arrow direction (1) under the support and lock it with the foot (c). position the lever up before lift the mobile column lift. Pull the lever (A) and unlock the safety device (B). Then position the lever up and let go off the lever again. The safety device (B) must lock again.
- The column is raising by pressing in the direction of the arrow (2) . Then the column can moved.



pic. A



pic. B

pic. C

Position the shaft, Position the lever up and press it back

Lock the shaft

Unlock after the movement and remove the shaft.

5.2 Lifting the vehicle

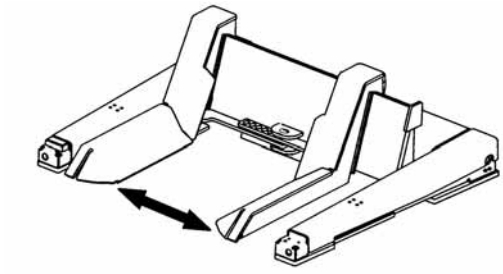
pic 3: operating unit

A - mobile column lift 1
B - mobile column lift 2
C - mobile column lift 3
D - mobile column lift 4
E - Display
F - main switch
G- Button "lifting"
H- Button "lowering"
I- connection for remote control wire
J- key switch operation at the control box or remote control wire

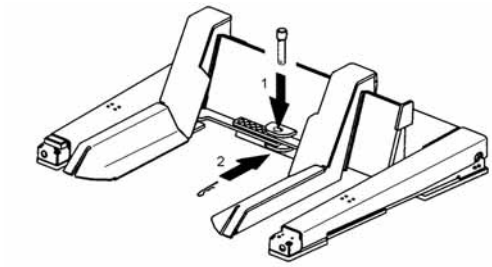
2 plug => column 2
3 plug => column 3
4 plug => column 4

Switch on every individual columns (A,B,C,D). It is possible to move each column individually, two columns opposite or two columns diagonal or all columns together.

- Block the vehicle against rolling, put into gear.
- Position the Mobile column lift to the wheels and let it down with the hand lever. If necessary use the additional supports.

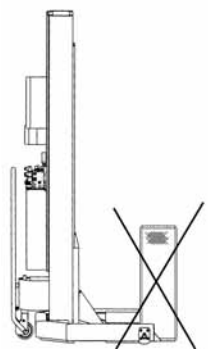


pic 4:
Rim diameter 12" –20"
Wheel diameter 450mm – 1125mm

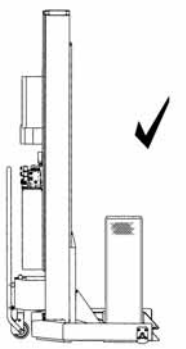


pic 5:
secure the adjustable lifting arms with bolt and clamp before working with the MCS

- Observe the position of the wheels in the mobile column lift *(see pic. 6 and 7).*



wrong



Correct

Before lifting the load, lower the mobile-column-lift in the lowest position (remove the shaft), otherwise a malfunction can lead it to damages.

- Connect or disconnect the columns (observe the sketch) only if the main switch is switched off. Otherwise a malfunction can be occur.
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the control system; Switch-on the main switch on position ”1” .
- Raise the vehicle. Use all columns. Press the buttons „1-4”, at the operating unit.
  If the column is active, the switches of the chosen columns, are lighten.
- Lift the vehicle on the working height. Press the button „lifting“ .
- In the display of the operating unit you can read the momentary height of the supports.
- Observe the complete process.

It is only allowed to lift or to lower the column lift with load. Otherwise a column lift without load can cause an unequal. After it, this column lift switch-off the complete system.
Accordingly, the number of the lifting wheels must agree with the number of the column lift. Please, switch off the column, which do you not need.

5.3 Lowering the vehicle

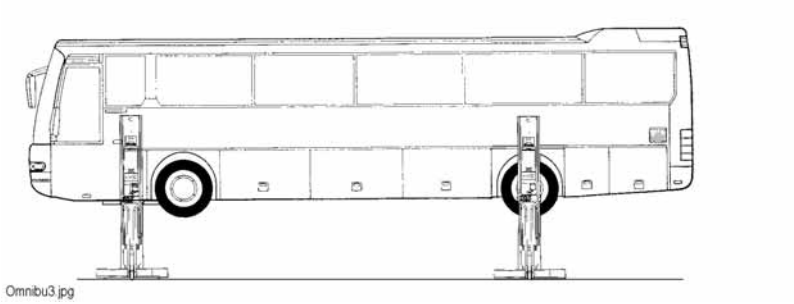
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Lower the lift at the height for working or in the lowest position. Use all columns. Press the buttons „1-4”, at the operating unit.
  If the column is active, the switches of the chosen columns, are shining.
  Press the button „lowering“ at the operating unit. The MCS 12000 raises a little bit (unlocking the safety device), before the lowering starts.
- The mobile lift stops minimum 120 mm over the floor. Control the dangerous places of the mobile lift and be sure that there are no objects or people in the immediate area of the lift or on the lift. Press the button “ lowering” again. You hear an acoustic signal until the lift reaches the lowest position.
- Observe the complete process.
- If the lifts are in the lowest position the mobile lifts can be removed. Raise the column lift with the hand lever (read chapter 5.1).

The motor is switched on approximately 6 times during the lowering, to hold the pressure of the unlocking system.

5.4 Single-Mode „Lifting“

Before dismounting heavy parts (motor, axle, set of gears) check the center of gravity. Otherwise a malfunction can lead it to damages or lead to danger for body and lives.

It is possible to move each the column lift individualy. This is necessary to reach the different levels of the pick-up points.
pic *8:*


Omnibu3.jpg

Through this measure, it is possible to raise the vehicle horizontally.

- Block the vehicle against rolling, put into gear.
- Position the column lift. Whenn necessary use the additional supports.
- Lower the column lift in the lowest position (with the handlever).
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the control system; Switch on the main switch on position ”1” .
- Choose the column. Press the button 1-4 at the operting unit.
  If the column is active, the switches of the chosen columns, are shining.
- Press the button “lifting” until each lift is reaching individualy the pick-up-points of the vehicle.
- If all the points are reached, switch on all columns.
- Now, all mobile lift are ready for the synchronous working.
- Press the button „lifting“ at one operating unit.
- Lift the vehicle on the working height
- Observe the complete process.
- Switch off the main switch if you don´t use the Mobile column lifts.

5.5 Single-Mode „Lowering“

- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on all columns.
  Lower the vehicle on the working height or the lowest position.
  Press the button „lowering“ at the operating unit. The mobile lift raises a little bit (unlocking the safety device), before the lowering starts.

- (CE-Stop) The mobile lift stops a few millimter (min. 120mm) before reaching the lowest position. Control the dangerous places of the mobile lift and be sure that there are no objects or people in the immediate area of the lift or on the lift. Press the button “lowering” again. You hear an acoustic signal until the lift reaches the lowest position.
- Observe the complete process.
- The mobile lift which are standing on a higher level, lower with the “single-mode”. Press only the switch of the column which do you need.
- If the lifts are in the lowest position the mobile columns can be removed. Raise the Mobile column lift with the hand lever (read chapter 5.1).

☞ ***The motor switches on approx. six times during the lowering procedure, to hold the pressure of the unlocking system.***

5.6 Function Microprocessor / Display-advertisement

- The automotive lift is equipped with a microprocessor. This system recognizes an unequal of the lift and regulate the hydraulic valves until the lift has the same height.
- The processor recognizes the present position of the cylinder. The lift switched off if the automotive lift reaches the top end position or the bottom end position or the position of the CE-Stop.
- The display shows the present position of the cylinder.
- this display is required also for the service-business, over a foil-keyboard.

5.7 Equalisation of the Mobile column lift

- The mobile column lift are adjusting automatically during lifting and lowering procedure. First, lower the mobile column lift always into the lowest position, this is the prerequisite for a trouble-free work. The complete system will be reset in this position.

6.Troubleshooting

If the lift does not work properly, the reason for this might be quite simple. Please check the lift for the potential reasons mentioned on the following pages. If the cause of trouble cannot be found, please call the technical service.

Problem: The Motors does not start!	
Potential causes:	**Solution:**
- *All columns are not working*	*check the plug (see the arrow)*
- *no power supply*	*check the main fuse*
- *the main switch is not switched on.*	*check the position of the main switch*
- *the fuse is defective*	*check the fuse /exchange it*
- *the feed line is cut*	*check the feed line*
- *the thermo-fuse is active*	*let it cool down approx.10 min.*
- *no column was selected*	*check the press buttons*
- *the lift is out of the rule-window of ± 50 mm*	*read chapter 6.1*

Problem: The motor starts, the lift does not lifting!	
Potential causes:	**Solution:**
- *the vehicle is too heavy*	*unload the vehicle*
- *the level of the oil is too low*	*refill oil*
- *the hydraulic valve is defective*	*call your service partner*

Problem: The Mobile lift does not lowered!	
Potential causes:	**Solution:**
- *the mobile lift is standing on a obstacle*	*single-mode operate*
- *the hydraulic valve is defective*	*call your service partner*
- *the fuse is defective*	*exchange the fuse*
- *the button „lowering“ is not pressed or defective*	*call your service partner*
- *he holding valve is defective*	*call your service partner*
- *the safety star system is always locked*	*call your service partner*

6.1 Lowering on a obstacle

The lift switched off if the lift is running onto an obstacle and out of the rule-window ± 50 mm.

6.1.1 Remove the obstacle

- Press the button “lifting” in the single-mode. (see the chapter 5.4/5.5)

Keep an eye on it, at the singles-mode, that one Mobile column lift is lifted never too high, otherwise the crash of the vehicle can occur.

6.2 Emergency lowering

A emergency lowering is an intervention into the control of the lift and can be done only by experienced expert.
The emergency lowering must be carried in this order. Otherwise a malfunction can lead it to damages or lead to danger for body and lives.

Every kind of external leakage has to be removed. This is necessary in particular before an emergency lowering.
The emergency lowering may only be done by persons which are trained in using the lift.

Reasons, that can make an emergency lowering necessary, are a defect of the electric system or disturbances of the valves, etc.

In case of power-failure or defective Valves there is the possibility through suitable tools to lower the lift in the lowest position, so that the vehicle can be driven off.

6.2.1 Procedure of the emergency lowering

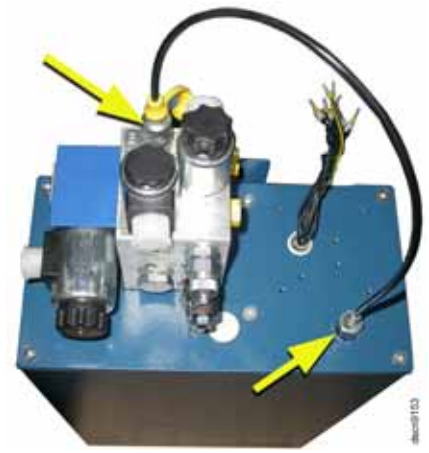
- Switch off the main switch an d safe it. (lock it)
- Remove the covers of hydraulic unit.
- Secure the dangerous place around the lift.

Pic 11

Loosen and remove the 2 lock nuts with a suitable tool in arrow direction. Carry out this process at both columns. (Key 41)

Pic 12:

The piston rod can be stuck through the dirty deposit at the top of the hole. Use the solvent and lubricating stuff (for an example WD40) to loosen the connection. The WD40 is sprayed generously between the screw thread and the bore hole (see arrow). The time of the effect follows the contamination-degree.



Pic 13:
Loosen the cap of the Minimess connection (Me3) and the cap of the tank. Fasten the Minimess hydraulic tube at the screw fitting and put the other end into the tank.

Pic 14:
Use the long screw thread-bushing and turns with a suitable tool (key-wideness 24, available with your dealer,), clockwise. Lower the lifting carriage only approx. 5cm – 10 cm. Repeat the process at the next column. Lower always 5 cm-10 cm until all lifts are in the lowest position.
Repair the defective lift. Call your service partner. After it create a Reset which is described in the operating instruction.

Attention!! Lower the automotive-lift only approx. 5cm – 10 cm.

Observe the complete emergency lowering procedure.

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

You can only work again with the automotive-lift, if it is in a safety-related perfect condition.

- After it, carry out an reset as described in the operating instruction.

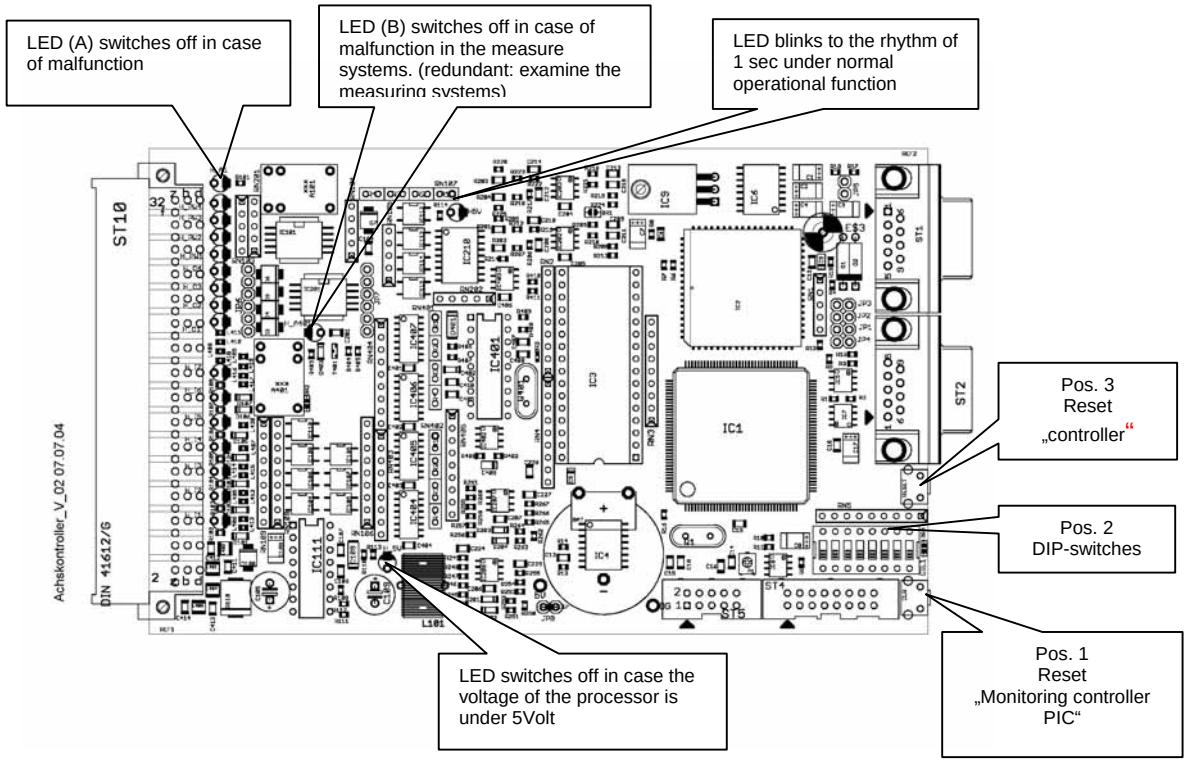
6.3 Reset the Mobile column lift after an emergency lowering

A reset of the system can be enforced, if the Mobile column lifts are in the lowest position.

An access on the DIP-Switch can take place only with a switched off main switch and only through instructed, authorized technical personnel.

a) There must not be a vehicle on the lift.
b) Remove the cover of the operating unit.
c) Open the cover of the electrical box.
d) Press the button 1 (see pic. 11) and hold it.
e) Switch-off the main switch and wait 5 sec. Hold the reset button.

f) Switch-on the main switch and wait 5 sec. Hold the reset button.
g) Let go off the reset button.
h) Press the button „ lowering“ until all lifts are in the lowest position.
i) If necessary repeat several times the steps d) until h) so that the lift is surely in the lowest position.
j) After that move the Dip-switch 7 on position „on“.
k) Dip-switch 5 stays on position „on“.
l) Repeat the steps d) until h)
m) After that, move the Dip-switch 7 on position „off“. Dip-switch 5 stays on position „on“.
n) On the computer-board must now three diodes lighten permanently. One additional diode must be blinking in the frequency of approx. 1 sec.
o) Raise and lower the automotive lift a few times without load. Observe the process.
p) Mount the covers.



pic 15: controller

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.

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

7.1 Maintenance plan of the Mobile column 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 of time**
Check the condition of the type plate, sticker, short operating instruction. Clean it and if necessary replace it.	at least once a year
In case of heavy dirt deposit clean the piston rods of the hydraulic cylinders from deposit. Remove the cover of the Mobile column lift. If necessary raise the Mobile column lift with the single-mode in the highest position. Grease the piston rods with a high capacity lipid (approx. 5 g of S2 DIN51503 KE2G of the Renolit Company.	at least once a year
Clean and check the moving parts. Lubricate the moving parts of the lift (hinge bolts, rolls, sliding surfaces) with a multipurpose lipid (example: Auto Top 2000 LTD. Agip).	at least once a year
Check the colour if necessary make a repair. Damages through outer effects are immediately to be treated after recognising. In case of not-treatment of the positions, the powder-coating can be durably damaged through infiltration of deposits of all type Grind these position (120 ryes) and after it degrease it. After it use a suitable lacquer (Observe the RAL Number). Check the zinc surface if necessary make a repair. White rust becomes through lasting moisture, bad ventilation favours. Rust is evoked by mechanical damages, wear, aggressive infiltration (salt, water ; also in connection with other environmental influences) and bad or not implemented cleaning. Grind these position (A280 ryes) and after it degrease it. After it use a suitable lacquer (Observe the RAL Number).	at least once a year
Check the hydraulic tubes for leackage.	at least once a year
Check the oil level. Fill in a clean, high quality oil (32 cst)in the tank.	at least once a year
The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into the lowest position. Empty the tank and replaced	at least once a year

clean oil, approx. 17 litres are needed. A high quality hydraulic oil is recommended, its should be 32 cst. (e.g.g. HLP 32 LTD. OEST Company) Use a ATF-Suffix hydraulic-oil (OEST Company) if the ambient temperature is under 5 degree centigrade. After the fill up, the hydraulic oil must be between the upper and low marking of the oil level gauge.	
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.	at least once a year
Check the condition and the function of the moving device.(pressure spring, bolts, roller	at least once a year
Check the safety device of the lift. (CE-STOP)	at least once a year
Check the Battery of the controller (ASC). The Battery has a working life at normal business between 4 ½ - 5 Years (manufacturers statement). To avoid a permanent data-loss through an empty battery, you must examine the battery of the controller during the regularly maintenance. The measuring can only take place at the controller which was switched-off. The measuring is possible with a commercial tensiometer. standard voltage approx. 3.2 V (no exchange necessary), but a value under 2.9 V, the controller must be exchanged. Send the controller to the Nußbaum Headquarter. Before, contact your service partner.	at least once a year
Check the function of the handlever.	at least once a year
Check condition and function of the moving device.	at least once a year
Check the condition and function of the electrical buttons, main switch, cables, plugs, CE-Stop.	at least once a year
Check the turning moment of the screws (see the list pic. 16)	at least once 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

* 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

Drehmomenttabelle 8.8-10.9 E

7.2 Cleaning of the Mobile column lift

A regular and appropriate maintenance served the preservation of the lift.
It can be a prerequisite for claims at possible corrosion.
The best protection for the lift is the regular cleaning of dirt of all manner.
- Including this:
  - de-icing salt

- sand, pebble stone, natural soil
- industrial dust of all manner
- water ; also in connection with other environmental influences
- aggressive deposit of all manner
- constant humidity by insufficient ventilation

How often must the lift be cleaned ?

This is dependent on the use, of the working with the lift, of the cleanness of the workshop and location of the lift. The degree of the dirt is dependent on the season, of the weather conditions and the ventilation of the workshop.

Under bad circumstances it is necessary to clean the lift every week, but a cleaning every month can suffice.

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

- Do not use for cleaning a steam jet cleaning
- Remove all dirt careful with a sponge if necessary with a brush.
- Pay attention that are no remains of the washing-up liquids on the lift after cleaning.
- Do not use aggressive means for cleaning the workshop floor and the automotive lift.
- A permanent contact with every kind of liquid is forbidden. Do not use any high pressure device for cleaning the lift.

8.Security check

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

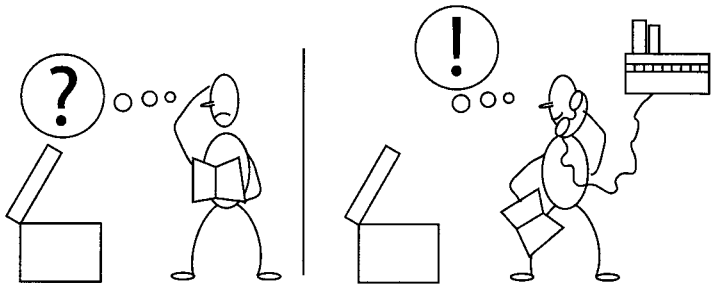
1. Before the initial operation, after the first installation
   Use the form “First security check before initiation”
2. In regular intervals after the initial operation, at least annually.
   Use the form “Regular security check at least annually”
3. Every time the construction of that particular lift has been changed.
   Use the form “Extraordinary security check”

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

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

This manual contains form with a schedule for the security checks. Please us the adequate form for the security checks. The form should remain in this manual after they have been filled out. In the following there is a short description about special safety devices.

9.Handing over and Initiation



9.1 Regulations

- It's not allowed to install the standard-automotive lift in a hazardous location or washing bays.
- Every solid surface (concrete quality min C20/25) is suitable as installation-place.
  We point out the minimum requirement of the foundation in our plans. The condition of the local realities (for example: ground under the foundation) does not lie our responsibility. If necessary an architect must be consulted.
- Standard Version: an electrical supply 1x220V 50/60 Hz has to be provided.
  In the case of supply into other countries the lifting platform is accordingly electrically prepared.

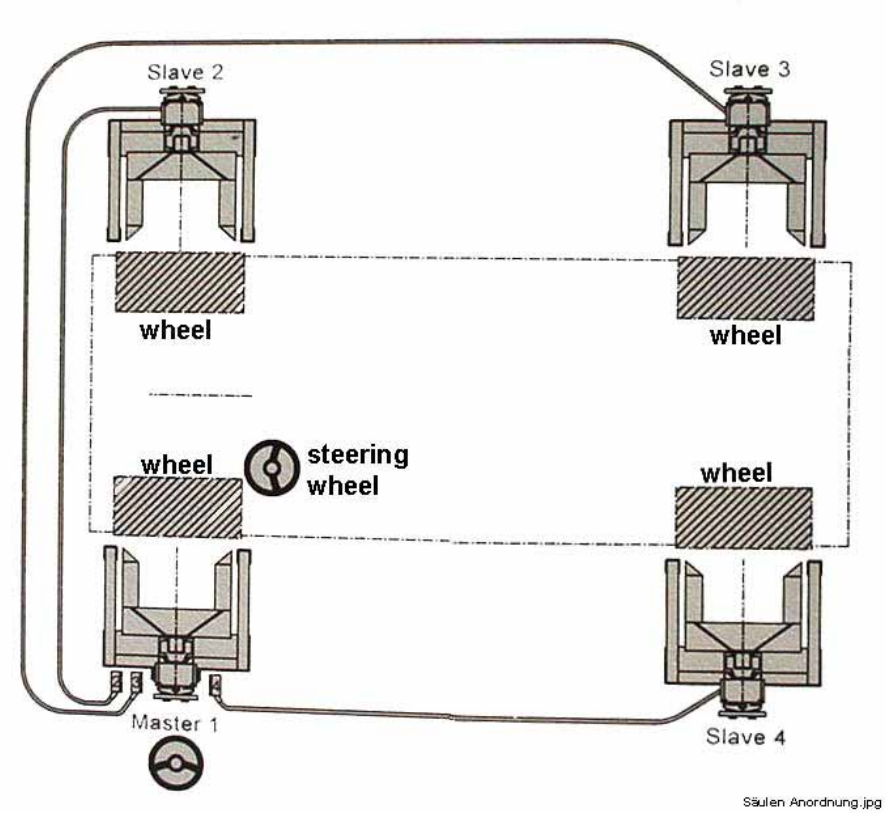
9.2 Initiation

☞ ***Before the initiation a security check must be performed. Therefore use form: First security check.***

If the lift is installed by a competent person, he will perform this security check. If the operator installs the lift by himself, he has to instruct a competent person to perform the security check.
The competent confirms the faultless function of the lift in the installation record and form for the security check and allows the lift to be used.

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

9.3 Cable connection of the Mobile column lift



Standard Version

First security check before installation

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate.....	☐	☐	☐	.....
Condition short operating instruction.....	☐	☐	☐	.....
Sticker “max. capacity” at every column….....	☐	☐	☐	.....
Warning designation.....	☐	☐	☐	.....
Function „Single-mode“.....	☐	☐	☐	.....
Condition, Function button „lifting,lowering“.....	☐	☐	☐	.....
Condition, Function button „1,2,3,4“….....	☐	☐	☐	.....
Condition, Function shaft and hand lever.....	☐	☐	☐	.....
Function safety star system.....	☐	☐	☐	.....
Condition Mobile column lift.....	☐	☐	☐	.....
Condition color.....	☐	☐	☐	.....
Condition pulleys.....	☐	☐	☐	.....
Condition bearings.....	☐	☐	☐	.....
Condition weldings.....	☐	☐	☐	.....
Construction (deformation,cracking).....	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
Condition hydraulic unit.....	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system.....	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires.....	☐	☐	☐	.....
Test Mobile column lift with a vehicle.....	☐	☐	☐	.....
Mobility of the Mobile column lift.....	☐	☐	☐	.....
Function CE-Stop.....	☐	☐	☐	.....
Function acoustic warning signal.....	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
Sticker “max. capacity” at every column	☐	☐	☐	.....
Warning designation	☐	☐	☐	.....
Function „Single-mode“	☐	☐	☐	.....
Condition, Function button „lifting,lowering“	☐	☐	☐	.....
Condition, Function button „1,2,3,4“	☐	☐	☐	.....
Condition, Function shaft and hand lever	☐	☐	☐	.....
Function safety star system	☐	☐	☐	.....
Condition Mobile column lift	☐	☐	☐	.....
Condition color	☐	☐	☐	.....
Condition pulleys	☐	☐	☐	.....
Condition bearings	☐	☐	☐	.....
Condition weldings	☐	☐	☐	.....
Construction (deformation,cracking)	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
Condition hydraulic unit	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires	☐	☐	☐	.....
Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
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Condition, Function button „1,2,3,4“	☐	☐	☐	.....
Condition, Function shaft and hand lever	☐	☐	☐	.....
Function safety star system	☐	☐	☐	.....
Condition Mobile column lift	☐	☐	☐	.....
Condition color	☐	☐	☐	.....
Condition pulleys	☐	☐	☐	.....
Condition bearings	☐	☐	☐	.....
Condition weldings	☐	☐	☐	.....
Construction (deformation,cracking)	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
Condition hydraulic unit	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires	☐	☐	☐	.....
Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate.....	☐	☐	☐	.....
Condition short operating instruction.....	☐	☐	☐	.....
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Function „Single-mode“.....	☐	☐	☐	.....
Condition, Function button „lifting,lowering“.....	☐	☐	☐	.....
Condition, Function button „1,2,3,4“….....	☐	☐	☐	.....
Condition, Function shaft and hand lever.....	☐	☐	☐	.....
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Condition Mobile column lift.....	☐	☐	☐	.....
Condition color.....	☐	☐	☐	.....
Condition pulleys.....	☐	☐	☐	.....
Condition bearings.....	☐	☐	☐	.....
Condition weldings.....	☐	☐	☐	.....
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Condition hydraulic unit.....	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system.....	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires.....	☐	☐	☐	.....
Test Mobile column lift with a vehicle.....	☐	☐	☐	.....
Mobility of the Mobile column lift.....	☐	☐	☐	.....
Function CE-Stop.....	☐	☐	☐	.....
Function acoustic warning signal.....	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
Sticker “max. capacity” at every column	☐	☐	☐	.....
Warning designation	☐	☐	☐	.....
Function „Single-mode“	☐	☐	☐	.....
Condition, Function button „lifting,lowering“	☐	☐	☐	.....
Condition, Function button „1,2,3,4“	☐	☐	☐	.....
Condition, Function shaft and hand lever	☐	☐	☐	.....
Function safety star system	☐	☐	☐	.....
Condition Mobile column lift	☐	☐	☐	.....
Condition color	☐	☐	☐	.....
Condition pulleys	☐	☐	☐	.....
Condition bearings	☐	☐	☐	.....
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Construction (deformation,cracking)	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
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Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate.....	☐	☐	☐	.....
Condition short operating instruction.....	☐	☐	☐	.....
Sticker “max. capacity” at every column….....	☐	☐	☐	.....
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Condition color.....	☐	☐	☐	.....
Condition pulleys.....	☐	☐	☐	.....
Condition bearings.....	☐	☐	☐	.....
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Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
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Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires.....	☐	☐	☐	.....
Test Mobile column lift with a vehicle.....	☐	☐	☐	.....
Mobility of the Mobile column lift.....	☐	☐	☐	.....
Function CE-Stop.....	☐	☐	☐	.....
Function acoustic warning signal.....	☐	☐	☐	.....
Condition, Function remote control wire.(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

Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
Sticker “max. capacity” at every column	☐	☐	☐	.....
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Function „Single-mode“	☐	☐	☐	.....
Condition, Function button „lifting,lowering“	☐	☐	☐	.....
Condition, Function button „1,2,3,4“	☐	☐	☐	.....
Condition, Function shaft and hand lever	☐	☐	☐	.....
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Condition Mobile column lift	☐	☐	☐	.....
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Condition pulleys	☐	☐	☐	.....
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Condition electrical wires	☐	☐	☐	.....
Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
Sticker “max. capacity” at every column	☐	☐	☐	.....
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Function „Single-mode“	☐	☐	☐	.....
Condition, Function button „lifting,lowering“	☐	☐	☐	.....
Condition, Function button „1,2,3,4“	☐	☐	☐	.....
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Condition color	☐	☐	☐	.....
Condition pulleys	☐	☐	☐	.....
Condition bearings	☐	☐	☐	.....
Condition weldings	☐	☐	☐	.....
Construction (deformation,cracking)	☐	☐	☐	.....
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Tightness of the hydraulic system	☐	☐	☐	.....
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Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires	☐	☐	☐	.....
Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

☞ Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate.....	☐	☐	☐	.....
Condition short operating instruction.....	☐	☐	☐	.....
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Warning designation.....	☐	☐	☐	.....
Function „Single-mode“.....	☐	☐	☐	.....
Condition, Function button „lifting,lowering“.....	☐	☐	☐	.....
Condition, Function button „1,2,3,4“….....	☐	☐	☐	.....
Condition, Function shaft and hand lever.....	☐	☐	☐	.....
Function safety star system.....	☐	☐	☐	.....
Condition Mobile column lift.....	☐	☐	☐	.....
Condition color.....	☐	☐	☐	.....
Condition pulleys.....	☐	☐	☐	.....
Condition bearings.....	☐	☐	☐	.....
Condition weldings.....	☐	☐	☐	.....
Construction (deformation,cracking).....	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
Condition hydraulic unit.....	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system.....	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires.....	☐	☐	☐	.....
Test Mobile column lift with a vehicle.....	☐	☐	☐	.....
Mobility of the Mobile column lift.....	☐	☐	☐	.....
Function CE-Stop.....	☐	☐	☐	.....
Function acoustic warning signal.....	☐	☐	☐	.....
Condition, Function remote control wire.(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

Filling out and leave in this manual

Serial-number:_____

kind of check	all right	defect missing	veri-fication	remark
Type plate	☐	☐	☐	.....
Condition short operating instruction	☐	☐	☐	.....
Sticker “max. capacity” at every column	☐	☐	☐	.....
Warning designation	☐	☐	☐	.....
Function „Single-mode“	☐	☐	☐	.....
Condition, Function button „lifting,lowering“	☐	☐	☐	.....
Condition, Function button „1,2,3,4“	☐	☐	☐	.....
Condition, Function shaft and hand lever	☐	☐	☐	.....
Function safety star system	☐	☐	☐	.....
Condition Mobile column lift	☐	☐	☐	.....
Condition color	☐	☐	☐	.....
Condition pulleys	☐	☐	☐	.....
Condition bearings	☐	☐	☐	.....
Condition weldings	☐	☐	☐	.....
Construction (deformation,cracking)	☐	☐	☐	.....
Condition cable + protecting tube + plug	☐	☐	☐	.....
Condition hydraulic unit	☐	☐	☐	.....
Condition surface piston rod	☐	☐	☐	.....
Condition of the cover	☐	☐	☐	.....
Tightness of the hydraulic system	☐	☐	☐	.....
Level of hydraulic oil	☐	☐	☐	.....
Condition hydraulic tubes	☐	☐	☐	.....
Condition electrical wires	☐	☐	☐	.....
Test Mobile column lift with a vehicle	☐	☐	☐	.....
Mobility of the Mobile column lift	☐	☐	☐	.....
Function CE-Stop	☐	☐	☐	.....
Function acoustic warning signal	☐	☐	☐	.....
Condition, Function remote control wire.(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

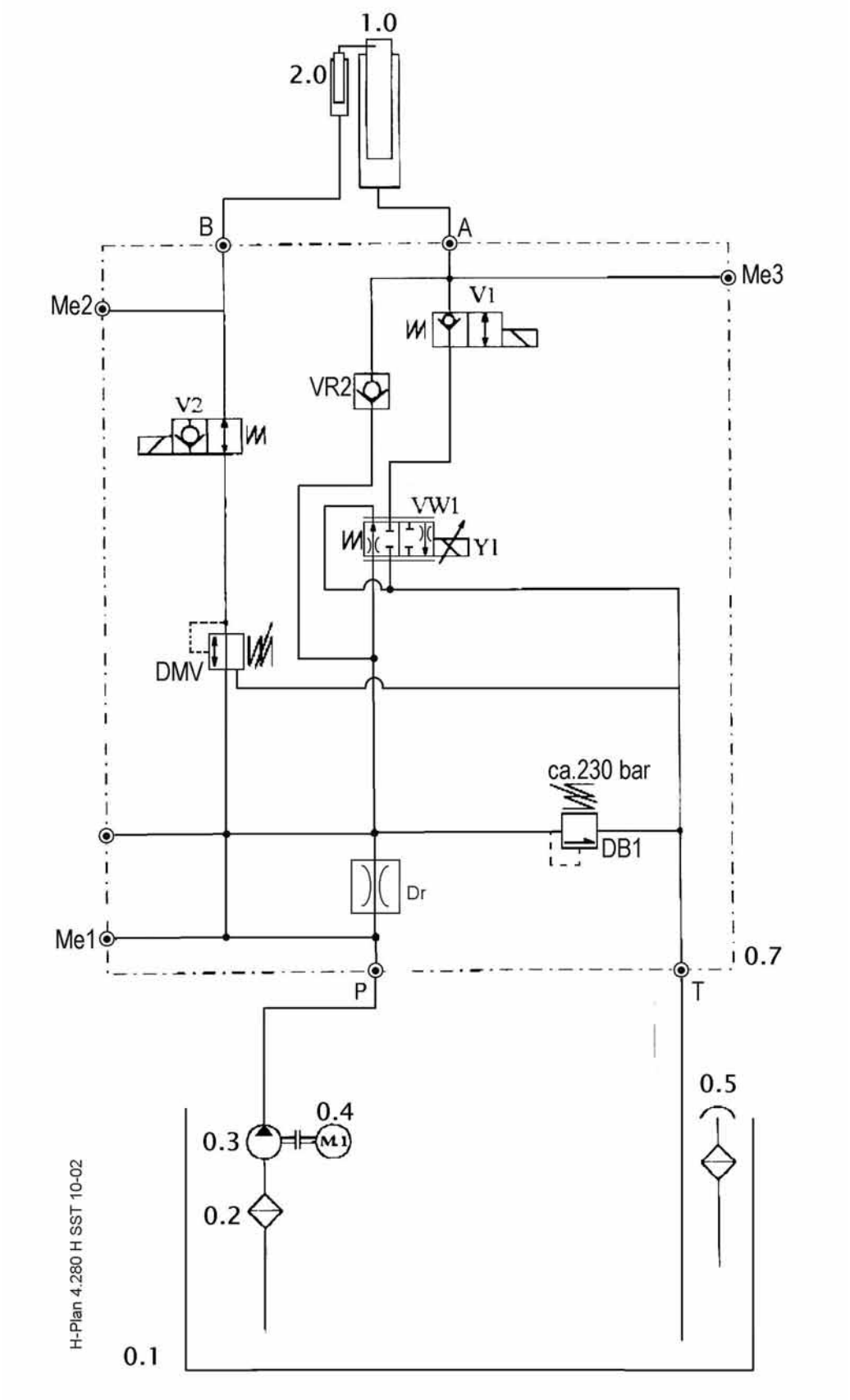
If failures must be repaired:

Failures repaired at: ....

signature of the operator

(Use another form for verification!)

Hydraulic diagram



Hydraulic parts list

Pos.	Description	order number
0.1	oil tank	
0.2	filter	980012
0.3	gear pump	980486
0.4	sub oil motor	991055
0.5	oil level gauge	980098
0.7	hydraulic block complete	99 540 06 005
DB1	pressure relief valve	155211
DMV	pressure relief valve DR08-01-C-V-120V	161350
M1-M3	measure connection	118495
VW1	proportional valve WEP06DA013B0240D	161060
V1	2/2 way valve	158502
V2	2/2 way valve	158503
VR1	holding valve	130053
VR2	holding valve	130053
1.0	cylinder	155RGK…
2.0	unlocking cylinder	

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

SCHALTPLAN

Erdung nach örtlichen Vorschriften
Vor Inbetriebnahme prüfen, ob Motornennstrom mit Motorschutzrelais übereinstimmt. Alle Klemmstellen auf Ordnunggemäße Verbindung und alle Kontaktschrauben auf festen Sitz prüfen.
Vor Inbetriebnahme Verdrahtung und Steuerung auf richtige Funktion überprüfen. Keine Inbetriebnahme von unbefugter Seite vornehmen lassen.
Änderungen vorbehalten

OBJEKT	: MCS5000 C USA 1x220V
ANLAGE	: 1 x 220V
KUNDE	: 50/60 Hz
SCHALTPLANNR:	MCS5000 C USA 07/10/002

1.) Schaltpläne und Schaltunterlagen

Die Schaltpläne werden von uns nach bestem Gewissen angefertigt. Für beigestellte Schaltpläne und Schaltunterlagen wird von uns keine Gewähr für die Richtigkeit dieser Unterlagen übernommen. Dies trifft insbesondere für Schaltungen zu, die von uns nach fremden Plänen angefertigt werden. Diese werden von uns nur nach den vom Auftraggeber überlassenen Unterlagen des Herstellers ausgeführt.

2.) Funktionsprüfung der Schaltanlagen

Schaltpläne sind keine Serienerzeugnisse. Bei der Prüfung des Schaltschrankes im Werk können Feldgeräte wie Fühler, Thermostate und Motoren nicht einbezogen werden. Auch bei sorgfältiger Prüfung lassen sich deshalb Funktions- und Schaltungsfehler nicht immer vermeiden oder hat durch uns zu erfolgen. Sie ist grundsätzlich Bestandteil unseres Auftrages. Mängel werden im Rahmen unserer Gewährleistung bei der Inbetriebnahme beseitigt.
Bei Inbetriebnahme ohne Hinzuziehung unseres Service wird deshalb keine Mängel-Haftung übernommen. Nachbesserungen einschließlich der Berichtigung von Schaltplänen bei nicht von uns in Betrieb genommenen Schaltanlagen werden deshalb nur gegen Berechnung gemäß unseren Service-Bedingungen ausgeführt. Kosten für Nachbesserungen durch Dritte können wir nicht anerkennen.

3.) Sicherheitsprüfung und Schutzmaßnahmen

Der Schaltschrank wurde unter Beachtung der anerkannten Regeln der Technik nach VDE0100/0113 sowie der Unfallverhütungsvorschrift VBG4(elektrische Anlagen und Betriebsmittel) gefertigt bzw. errichtet und geprüft.
Folgende Prüfungen wurden durchgeführt:
1. Spannungsprüfung und/oder Isolationsprüfung des Schaltschrankes nach VDE0100/5.73.
2. Prüfung der Wirksamkeit der angewandten Schutzmaßnahme bei indirektem Berühren nach VDE0100g/7.75 Par.22.
3. Funktionsprüfung und Stückprüfung nach VDE560/11.87.

An Schutzmaßnahmen wurden getroffen:
1. Schutz gegen direktes Berühren nach VDE0100/5.73. Par.4
2. Schutz bei indirektem Berühren nach VDE0100/5.73. Par.5.

Diese Pläne sind auf einem CAD-System erstellt worden
Um die Pläne immer auf dem aktuellen Stand zu halten, bitten wir Änderungen nur durch uns vornehmen zu lassen.

2

			Datum		Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D-77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	MCS5000 C USA 1x220V		-	
			Bearb.	BOE				+	
			Gepr.	09.07.2010			1 x 220V 50/60 Hz	Deckblatt	Bl. 1
Änderung	Datum	Name	Norm		Urspr.	Ers.f.	Ers.d.		19 Bl.

Inhaltsverzeichnis

Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

WUPJ005D 24.02.1994

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		09.07.2010	BOE	
2	Inhaltsverzeichnis		09.07.2010	BOE	
3	Änderung		09.07.2010	BOE	
4	Hauptstrom		09.07.2010	BOE	
5	Hauptstrom		09.07.2010	BOE	
6	Steuerspannung		09.07.2010	BOE	
7	Bedientasten		09.07.2010	BOE	
8	Vorwahl		09.07.2010	BOE	
9	Achscontroller		09.07.2010	BOE	
10	Proportionalven.		09.07.2010	BOE	
11	Ventile		09.07.2010	BOE	
12	Ventile		09.07.2010	BOE	
13	frei		09.07.2010	BOE	
14	X1		09.07.2010	BOE	
15	XS2		09.07.2010	BOE	x
16	XS3		09.07.2010	BOE	x
17	XS4		09.07.2010	BOE	x
18	Stückliste		09.07.2010	BOE	
19	Stückliste		09.07.2010	BOE	x

1 3

Änderung	Datum	Name	Norm		Ursprung	Ers. f.	Ers. d.
			Datum				
			Bearb.	BOE			
			Gepr.	09.07.2010			

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Korker Straße 24
D -77694 Kehl - Bodersweier
Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787

MCS5000 C USA 1x220V

1 x 220V
50/60 Hz

Inhaltsverzeichnis

Bl. 2
19 Bl.

Operating Instruction and Documentation
MCS 12000 ND (Compact)

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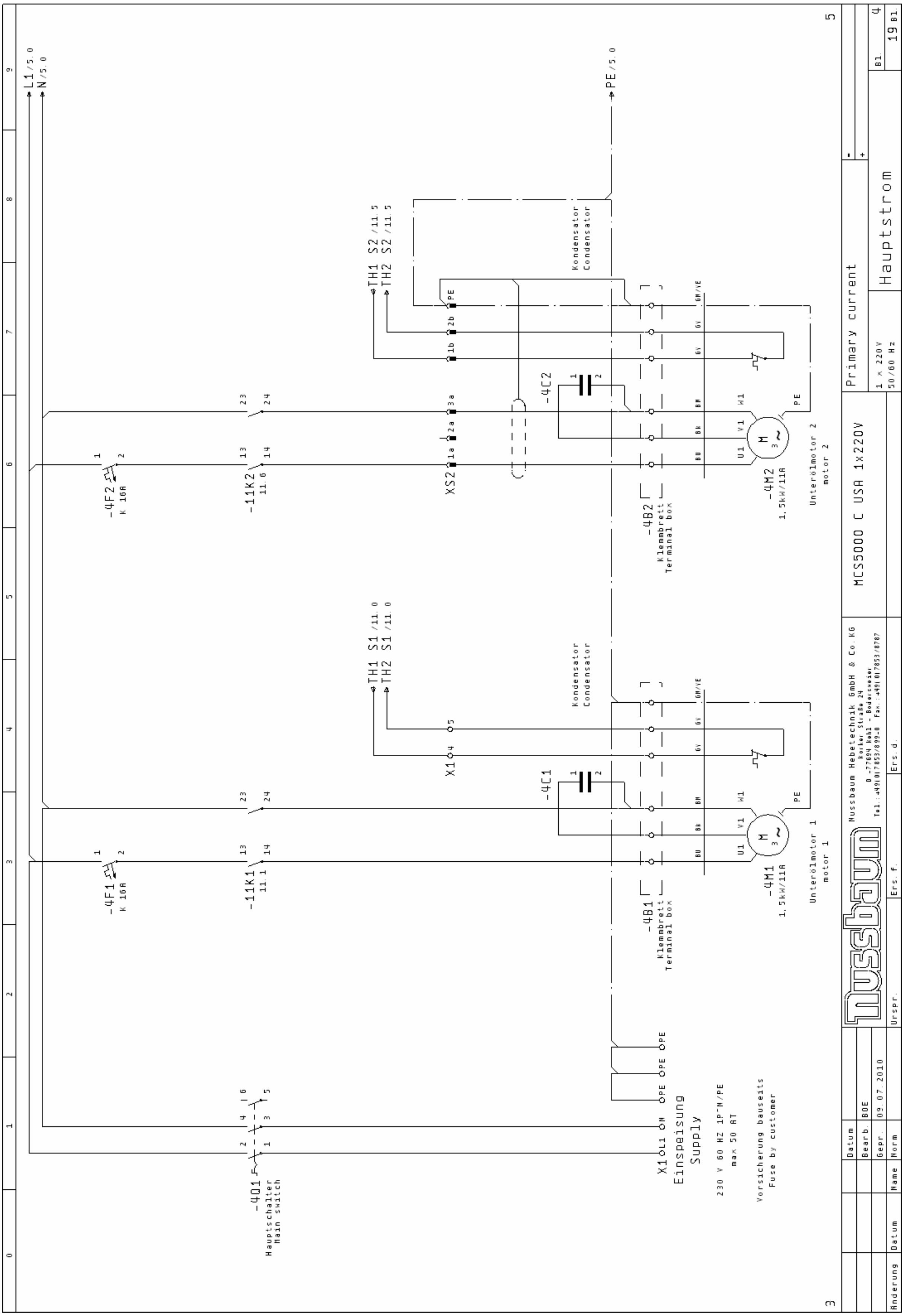
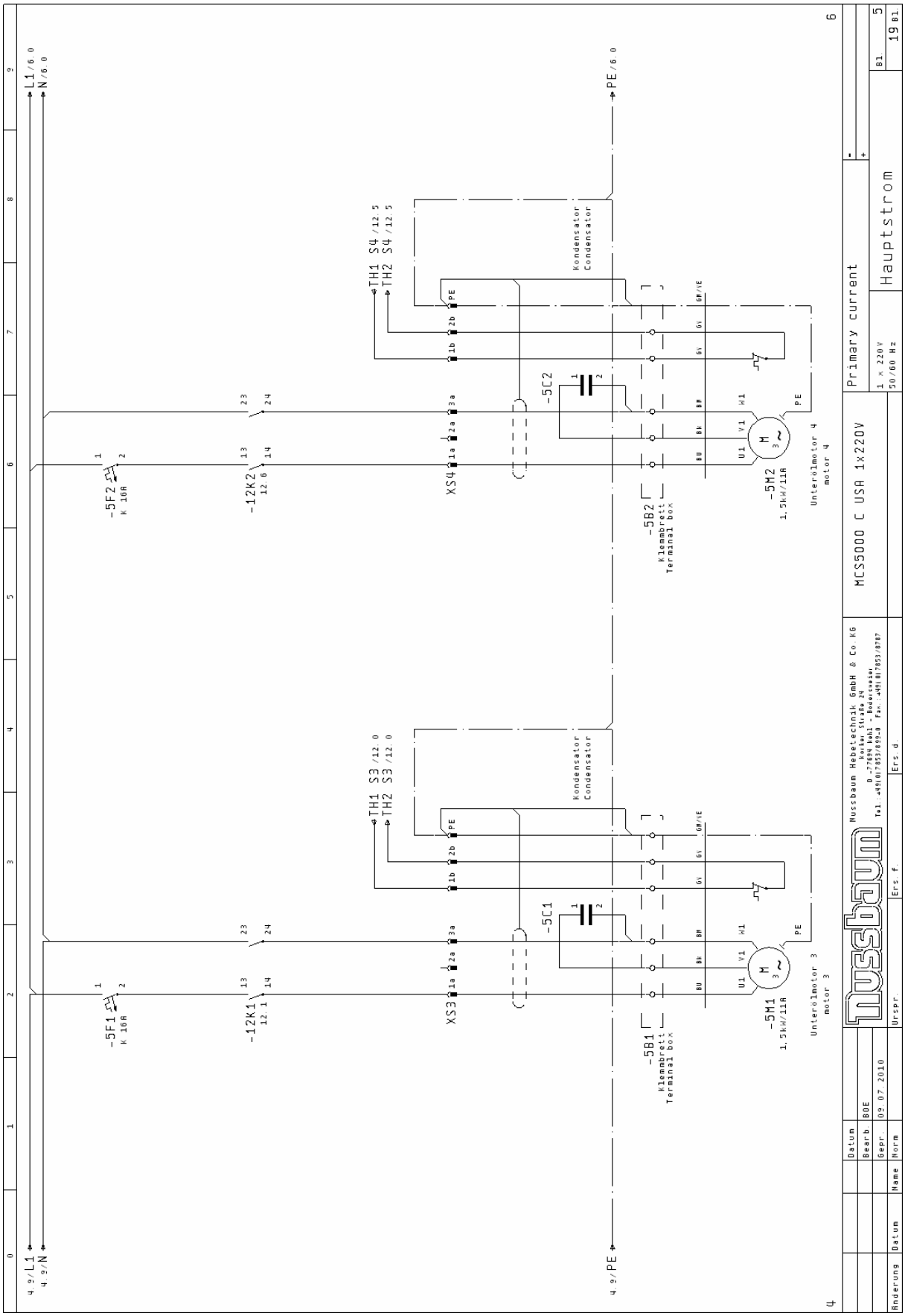
ÄNDERUNGS-INFORMATIONEN

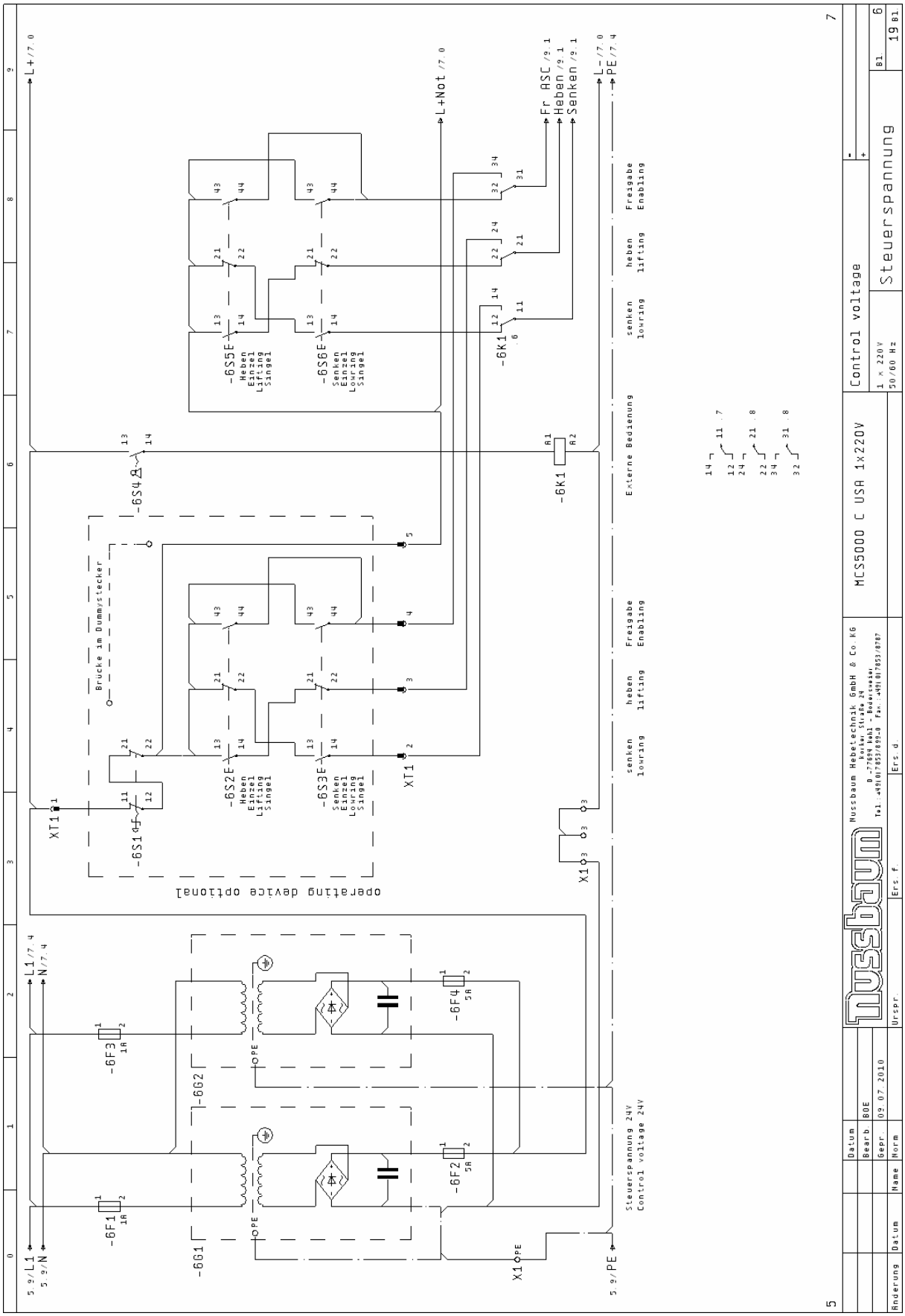
Nr.	Datum	Firma	Bearbeiter	Änderungen	ORT/SEITE

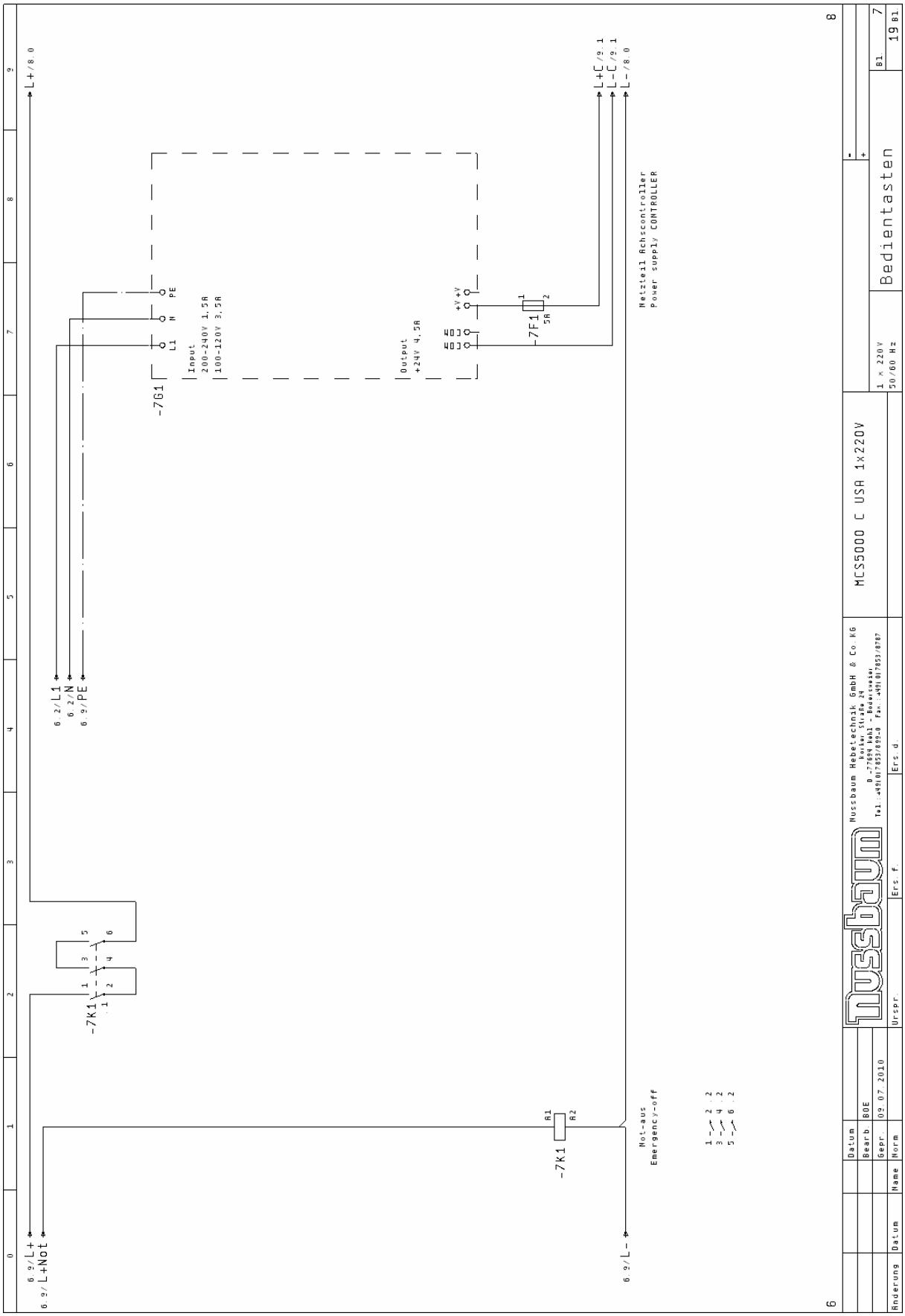
2 4

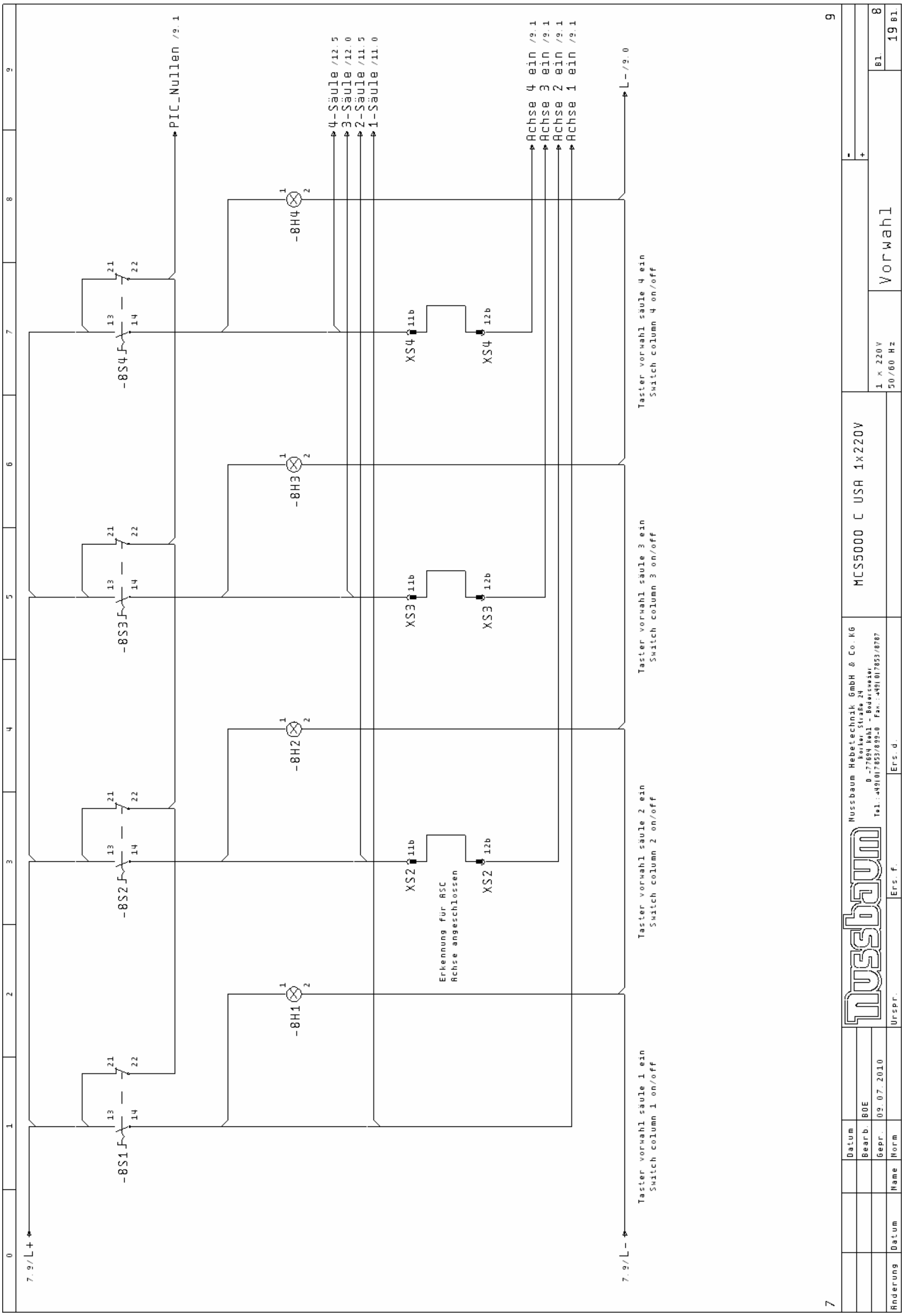
			Datum		Nussbaum Hebetechnik GmbH & Co. KG Werker Straße 24 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	MCS5000 C USA 1x220V		-
			Bearb.	BOE				+
			Gepr.	09.07.2010			1 x 220V 50/60 Hz	Änderung	Bl. 3 19 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.		

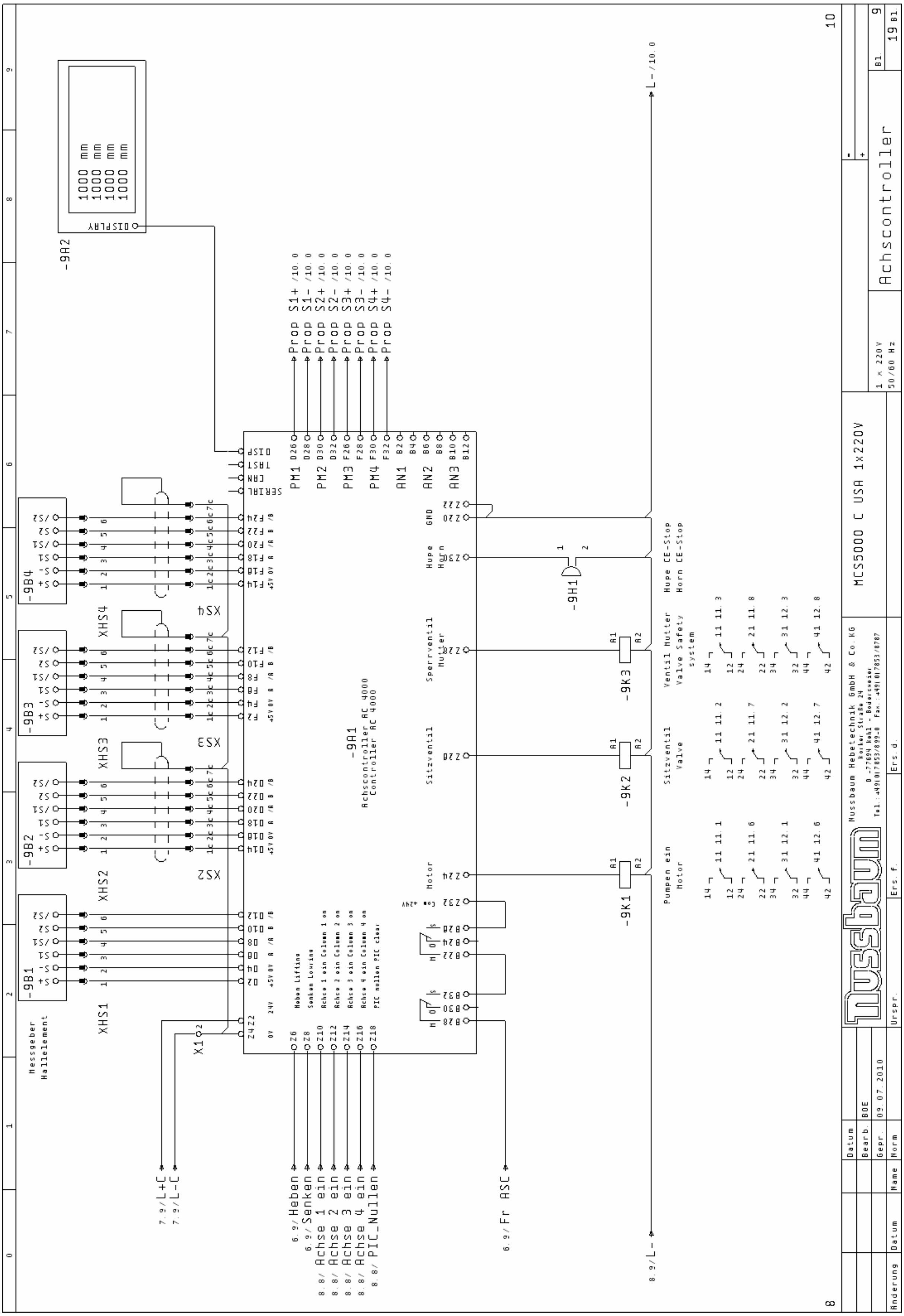

Primary current
Hauptstrom
MCS5000 C USA 1x220V
1 x 220V
50/60 Hz
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb. BOE
Gepr.
09.07.2010
Norm
Name
Datum
Änderung
Urspr.
Ers. f.
Ers. d.
-4Q1
Hauptschalter
Main switch
X1
Einspeisung
Supply
230 V 60 HZ 1P^N/PE
max 50 AT
Vorsicherung bauseits
Fuse by customer
-4F1
K 16A
-4F2
K 16A
-11K1
-11K2
-4C1
-4C2
Kondensator
Condensator
-4B1
-4B2
Klemmbrett
Terminal box
-4M1
-4M2
1,5kW/11A
Unterölmotor 1
motor 1
Unterölmotor 2
motor 2
XS2
TH1 S1
TH2 S1
TH1 S2
TH2 S2
L1
N
PE

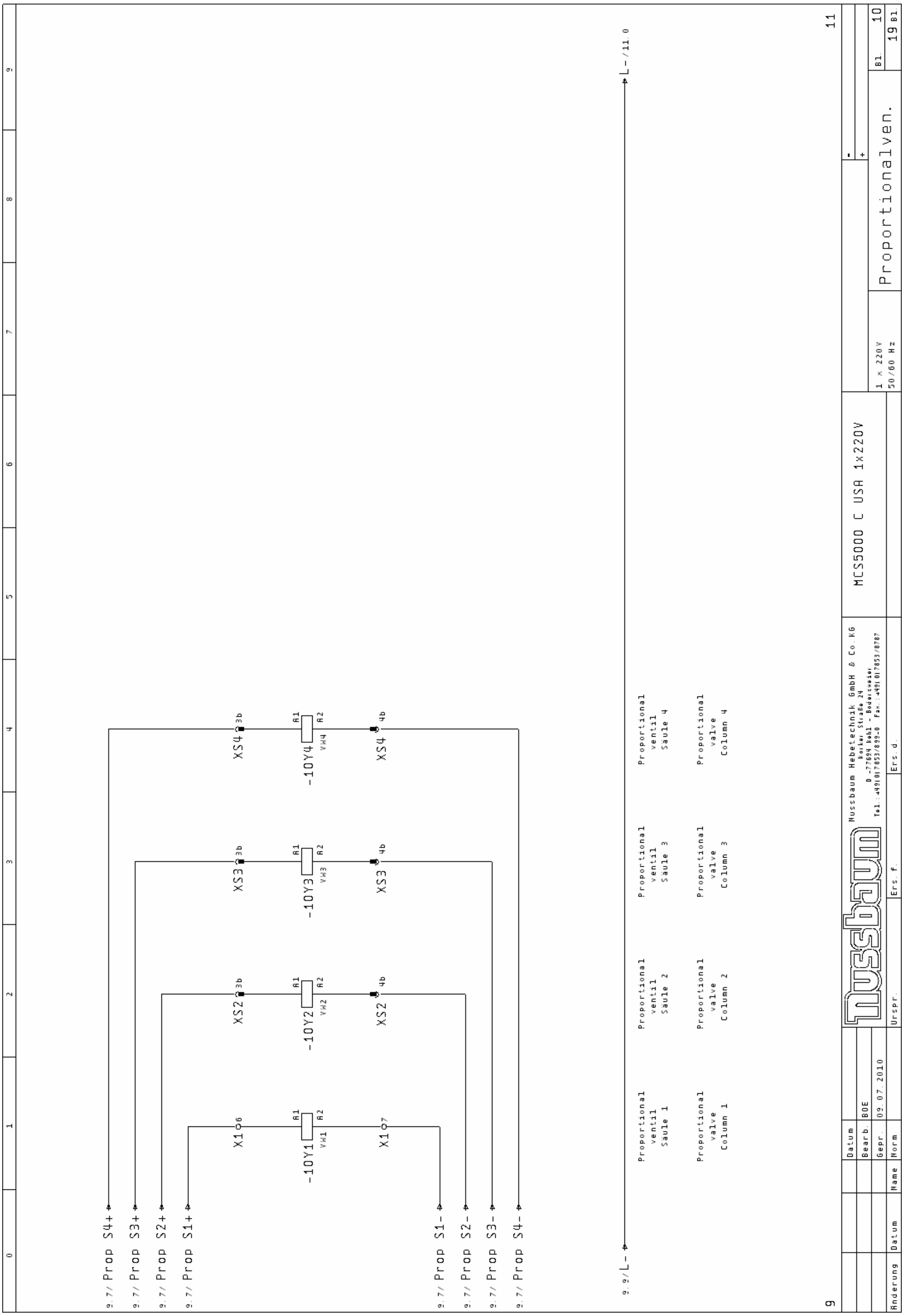

L1 /6.0
N /6.0
PE /6.0
-5F2
K 16A
-12K2
12 6
-5C2
-5B2
Klemmbrett
Terminal box
-5M2
1.5kW/11A
Unterölmotor 4
motor 4
TH1 S4 /12.5
TH2 S4 /12.5
Kondensator
Condensator
XS4
-5F1
K 16A
-12K1
12 1
-5C1
-5B1
Klemmbrett
Terminal box
-5M1
1.5kW/11A
Unterölmotor 3
motor 3
TH1 S3 /12.0
TH2 S3 /12.0
XS3
4.9/L1
4.9/N
4.9/PE
MCS5000 C USA 1x220V
Primary current
1 x 220V
50/60 Hz
Hauptstrom
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb
Gepr.
Norm
Name
Datum
Änderung
Urspr
Ers. f
Ers. d
BOE
09.07.2010

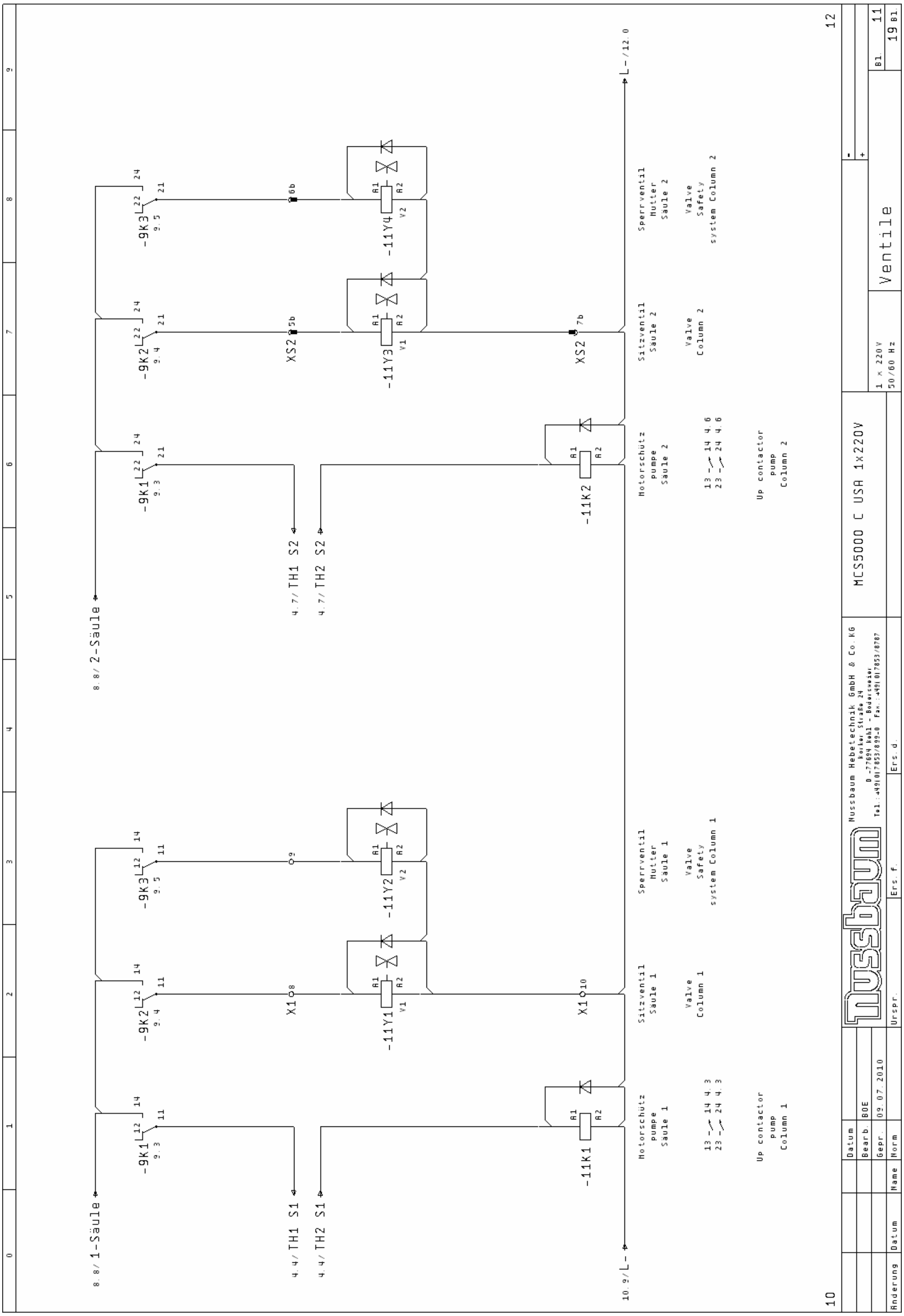

MCS5000 C USA 1x220V
Control voltage
Steuerspannung
Hussbaum Hebetechnik GmbH & Co. KG
operating device optional
Brücke im Dummystecker
Externe Bedienung
Steuerspannung 24V
Control voltage 24V
-6S1E
-6S2E
-6S3E
-6S4E
-6S5E
-6S6E
-6K1
-6F1
-6F2
-6F3
-6F4
-6G1
-6G2
XT1
X1
L+/7.0
L1/7.4
N/7.4
PE/7.4
L-/7.0
L+Not/7.0
Fr ASC/9.1
Heben/9.1
Senken/9.1
5.9/L1
5.9/N
5.9/PE

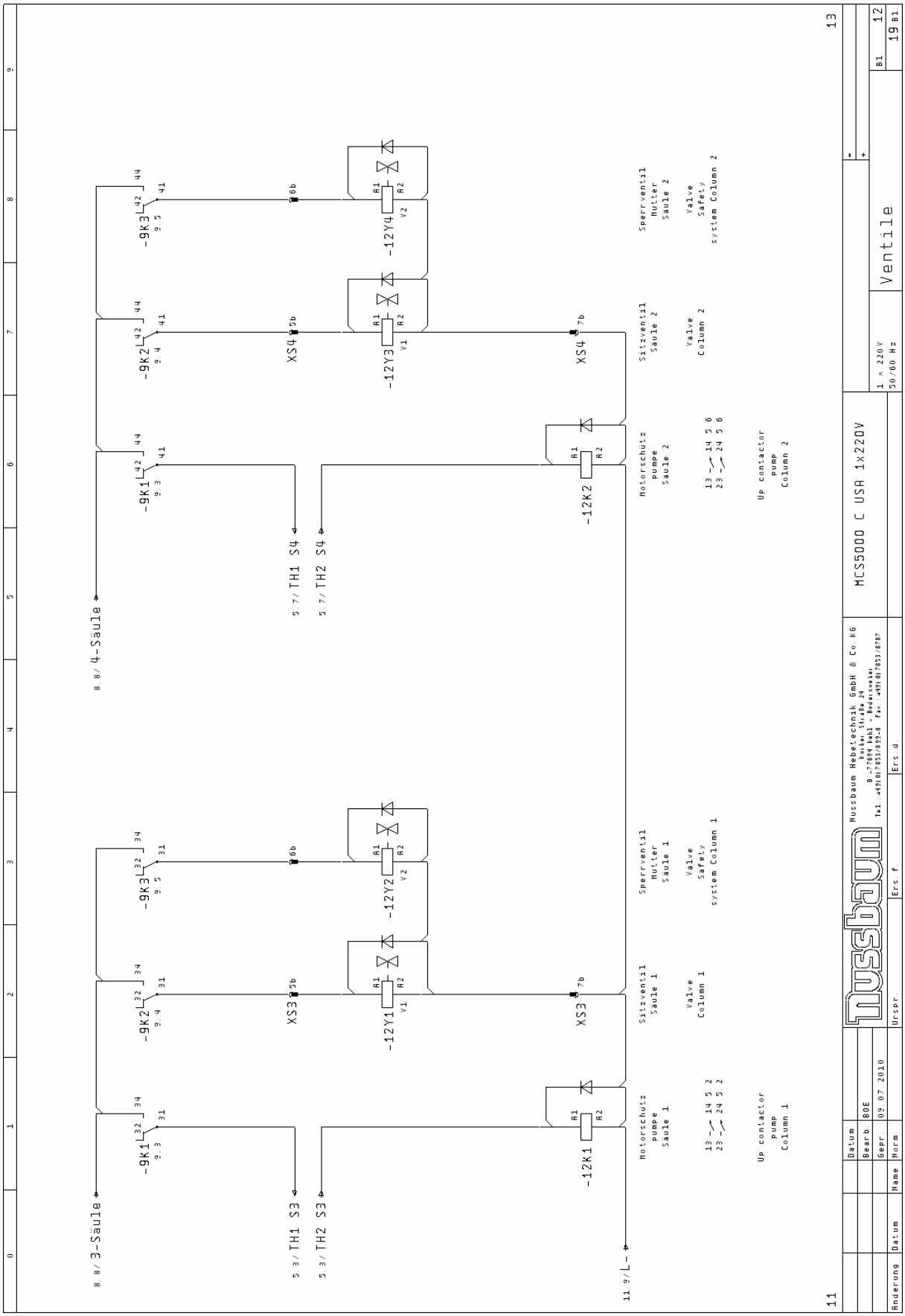

L+/8.0
6.2/L1
6.2/N
6.9/PE
-7G1
Input
200-240V 1.5A
100-120V 3.5A
L1 N PE
Output
+24V 4.5A
+V +V
-7F1
5A
L+C/9.1
L-C/9.1
L-/8.0
Netzteil Achscontroller
Power supply CONTROLLER
-7K1
Not-aus
Emergency-off
6.9/L+
6.9/L+Not
6.9/L-
MCS5000 C USA 1x220V
1 x 220V
50/60 Hz
Bedientasten
Nussbaum Hebetechnik GmbH & Co. KG


PIC_Nullen
4-Säule
3-Säule
2-Säule
1-Säule
Achse 4 ein
Achse 3 ein
Achse 2 ein
Achse 1 ein
L+
L-
-8S1
-8S2
-8S3
-8S4
-8H1
-8H2
-8H3
-8H4
XS2
XS3
XS4
Taster vorwahl saule 1 ein
Switch column 1 on/off
Taster vorwahl saule 2 ein
Switch column 2 on/off
Taster vorwahl saule 3 ein
Switch column 3 on/off
Taster vorwahl saule 4 ein
Switch column 4 on/off
Erkennung für ASC
Achse angeschlossen
MCS5000 C USA 1x220V
Vorwahl
1 x 220V
50/60 Hz
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb.
BOE
Gepr.
09.07.2010
Norm
Name
Änderung
Urspr.
Ers. f.
Ers. d.


-9A2
DISPLAY
1000 mm
1000 mm
1000 mm
1000 mm
Messgeber Hallelement
-9B1
-9B2
-9B3
-9B4
XHS1
XHS2
XHS3
XHS4
XS2
XS3
XS4
X1
-9A1
Achscontroller AC 4000
Controller AC 4000
DISP
TAST
CAN
SERIAL
PM1
PM2
PM3
PM4
AN1
AN2
AN3
GND
Hupe
Horn
Sperrventil
Mutter
Sitzventil
Motor
Prop S1+ /10.0
Prop S1- /10.0
Prop S2+ /10.0
Prop S2- /10.0
Prop S3+ /10.0
Prop S3- /10.0
Prop S4+ /10.0
Prop S4- /10.0
L- /10.0
-9H1
-9K1
-9K2
-9K3
Pumpen ein
Motor
Sitzventil
Valve
Ventil Mutter
Valve Safety
system
Hupe CE-Stop
Horn CE-Stop
Heben Liftina
Senken Lowring
Achse 1 ein Column 1 on
Achse 2 ein Column 2 on
Achse 3 ein Column 3 on
Achse 4 ein Column 4 on
PIC nullen PIC clear
7.9/ L+C
7.9/ L-C
6.9/ Heben
6.9/ Senken
8.8/ Achse 1 ein
8.8/ Achse 2 ein
8.8/ Achse 3 ein
8.8/ Achse 4 ein
8.8/ PIC_Nullen
6.9/ Fr ASC
8.9/ L-
Datum
Bearb. BOE
Gepr. 09.07.2010
Norm
Änderung
Datum
Name
Urspr.
Ers. f.
Ers. d.
Nussbaum Hebetechnik GmbH & Co.KG
MCS5000 C USA 1x220V
1 x 220V
50/60 Hz
Achscontroller
B1
9
19 Bl.


9.7/ Prop S4+
9.7/ Prop S3+
9.7/ Prop S2+
9.7/ Prop S1+
9.7/ Prop S1-
9.7/ Prop S2-
9.7/ Prop S3-
9.7/ Prop S4-
9.2/L-
L-/11.0
X1 6
X1 7
-10Y1
YW1
XS2 3b
XS2 4b
-10Y2
YW2
XS3 3b
XS3 4b
-10Y3
YW3
XS4 3b
XS4 4b
-10Y4
YW4
Proportional ventil Säule 1
Proportional valve Column 1
Proportional ventil Säule 2
Proportional valve Column 2
Proportional ventil Säule 3
Proportional valve Column 3
Proportional ventil Säule 4
Proportional valve Column 4
Änderung
Datum
Name
Datum
Bearb.
BOE
Gepr.
09.07.2010
Norm
Urspr.
Ers. f.
Ers. d.
Nussbaum Hebetechnik GmbH & Co.KG
MCS5000 C USA 1x220V
1 x 220V
50/60 Hz
Proportionalven.
Bl. 10
19 Bl.
9
11


Ventile
MCS5000 C USA 1x220V
1 x 220V
50/60 Hz
Nussbaum Hebetechnik GmbH & Co. KG
Datum
Bearb. BOE
Gepr. 09.07.2010
Norm
Änderung
Datum
Name
Urspr.
Ers. f.
Ers. d.
8.8/ 1-Säule
8.8/ 2-Säule
4.4/ TH1 S1
4.4/ TH2 S1
4.7/ TH1 S2
4.7/ TH2 S2
10.2/ L-
L- /12.0
-9K1
-9K2
-9K3
-11K1
-11K2
-11Y1
-11Y2
-11Y3
-11Y4
X1
XS2
Motorschütz pumpe Säule 1
Up contactor pump Column 1
Sitzventil Säule 1
Valve Column 1
Sperrventil Mutter Säule 1
Valve Safety system Column 1
Motorschütz pumpe Säule 2
Up contactor pump Column 2
Sitzventil Säule 2
Valve Column 2
Sperrventil Mutter Säule 2
Valve Safety system Column 2


MCS5000 C USA 1x220V
Ventile
Nussbaum Hebetechnik GmbH & Co. KG
1 x 220 V
50/60 Hz
-9K1
-9K2
-9K3
-12K1
-12K2
-12Y1
-12Y2
-12Y3
-12Y4
XS3
XS4
8.8/ 3-Säule
8.8/ 4-Säule
5.3/ TH1 S3
5.3/ TH2 S3
5.7/ TH1 S4
5.7/ TH2 S4
11.9/ L-
Motorschütz pumpe Säule 1
Sitzventil Säule 1
Sperrventil Mutter Säule 1
Valve Column 1
Valve Safety system Column 1
Up contactor pump Column 1
Motorschütz pumpe Säule 2
Sitzventil Säule 2
Sperrventil Mutter Säule 2
Valve Column 2
Valve Safety system Column 2
Up contactor pump Column 2

14

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

MCS5000 C USA 1x220V

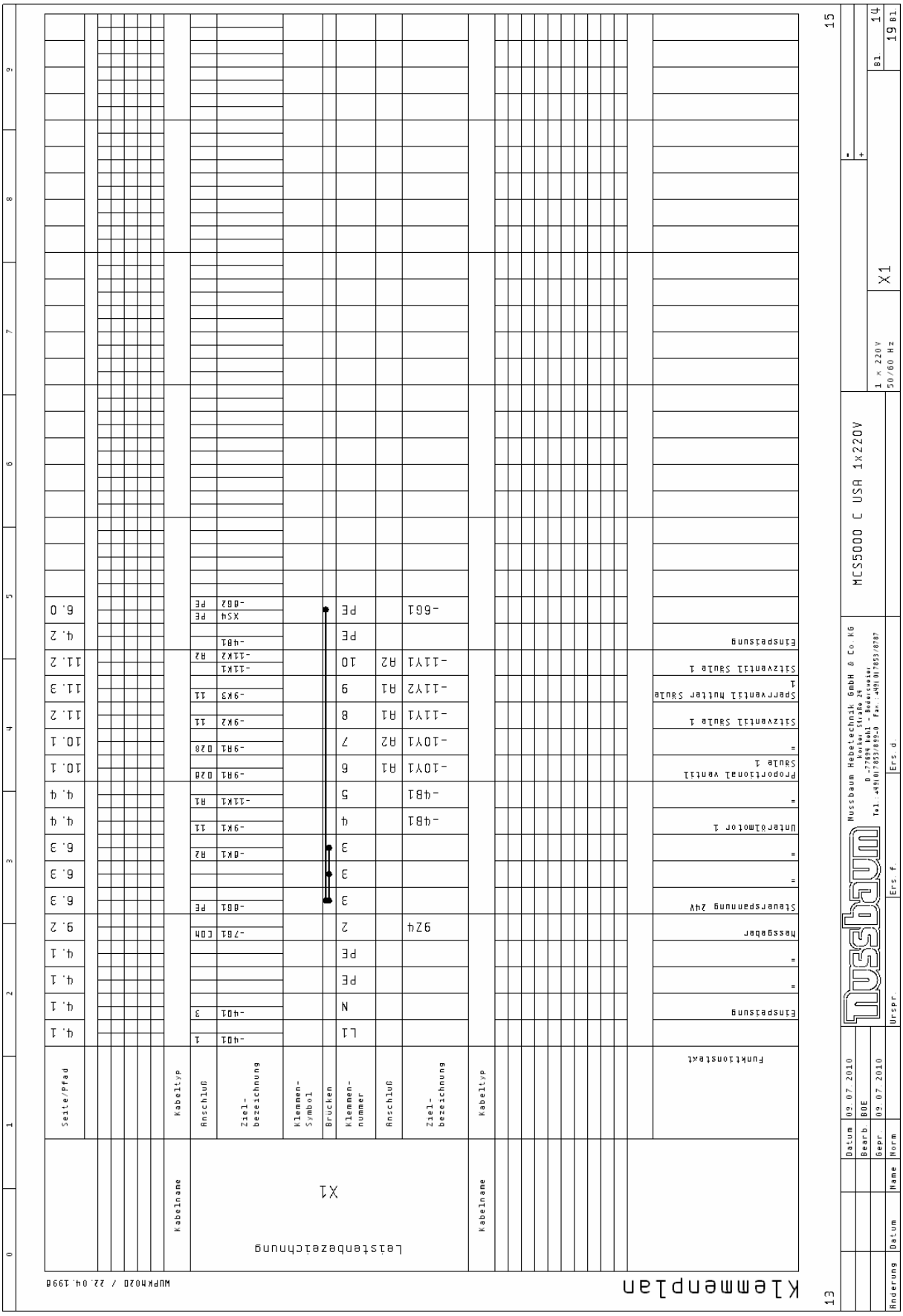
1 x 220V
50/60 Hz

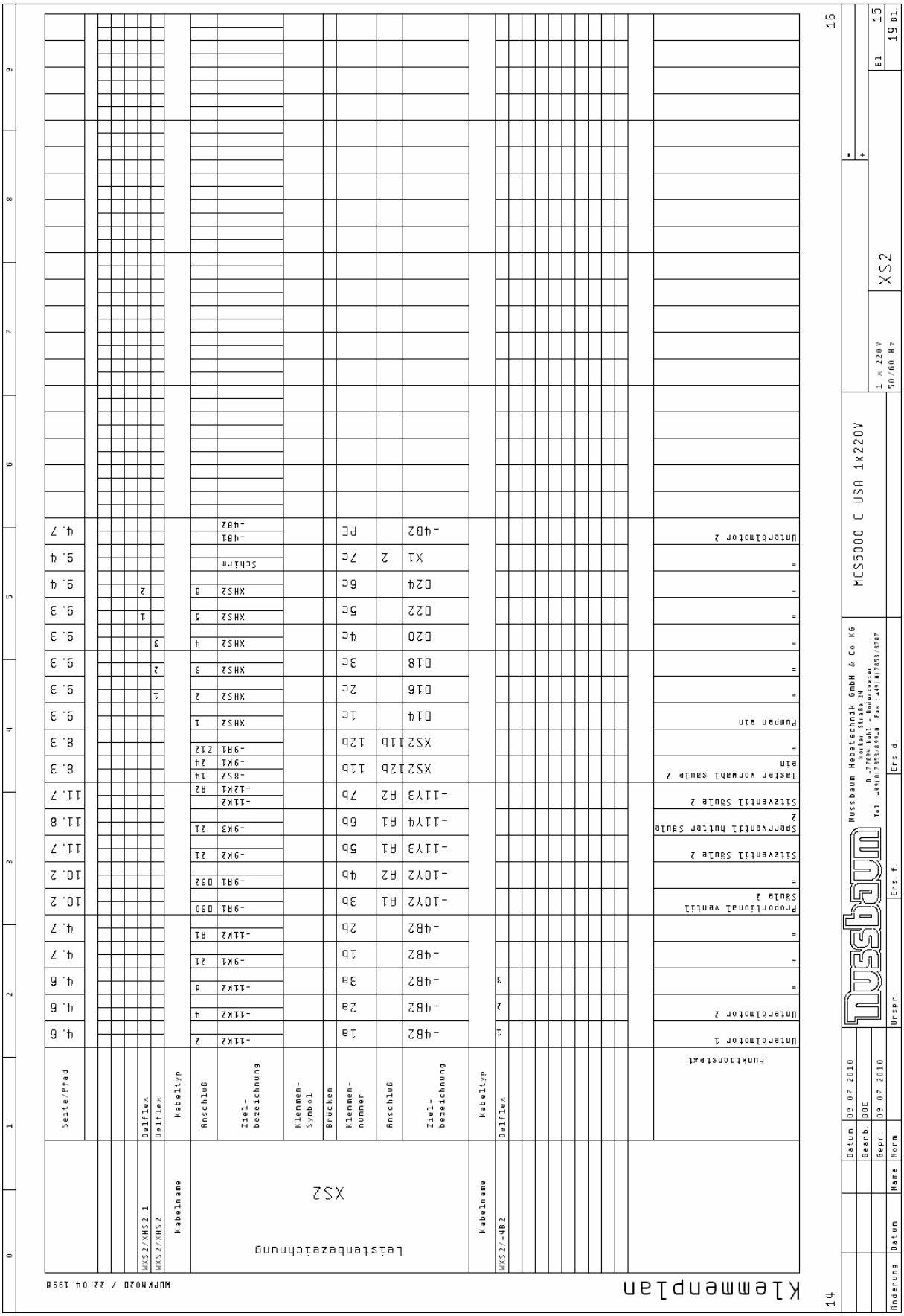
frei

Bl. 13
19 Bl.

		Datum	
		Bearb.	BOE
		Gepr.	09.07.2010
Änderung	Datum	Name	Norm

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


Klemmenplan
Leistenbezeichnung
X1
MCS5000 C USA 1x220V
1 x 220 V
50/60 Hz
Nussbaum Hebetechnik GmbH & Co. KG
Einspeisung
Sitzventil Säule 1
Sperrventil Mutter Säule 1
Proportional ventil Säule 1
Unterflurmotor 1
Steuerspannung 24V
Messgeber
Funktionstext
Kabeltyp
Kabelname
Anschluß
Ziel-bezeichnung
Klemmen-Symbol
Brücken
Klemmen-nummer
Seite/Pfad


Klemmenplan
Leistenbezeichnung
XS2
MCS5000 C USA 1x220V
1 x 220 V
50/60 Hz
XS2
Hussbaum Hebetechnik GmbH & Co. KG
Funktionstext
Unterölmotor 1
Unterölmotor 2
Proportional ventil Säule 2
Sitzventil Säule 2
Sperrventil Mutter Säule 2
Tester vorwahl Säule 2
Pumpen ein
Kabelname
Kabeltyp
Ziel-bezeichnung
Anschluß
Klemmen-nummer
Brücken
Klemmen-Symbol
Seite/Pfad

Klemmenplan

WUPKM020 / 22.04.1998

Leistenbezeichnung: XS3

Kabelname: WXS3/-5B1 | WXS3/XHS3 | WXS3/XHS3.1

Funktionstext	Oelflex (WXS3/-5B1)	Kabeltyp	Ziel-bezeichnung	Anschluß	Klemmen-nummer	Brücken	Klemmen-Symbol	Ziel-bezeichnung	Anschluß	Kabeltyp	Oelflex (WXS3/XHS3)	Oelflex (WXS3/XHS3.1)	Seite/Pfad
	1		-5B1		1a			-12K1	2				5.2
Unterölmotor 3	2		-5B1		2a			-12K1	4				5.2
=	3		-5B1		3a			-12K1	8				5.2
=			-5B1		1b			-9K1	31				5.3
=			-5B1		2b			-12K1	A1				5.3
Proportional ventil Säule 3			-10Y3	A1	3b			-9A1	F28				10.3
=			-10Y3	A2	4b			-9A1	F28				10.3
Sitzventil Säule 1			-12Y1	A1	5b			-9K2	31				12.2
Sperrventil Mutter Säule 1			-12Y2	A1	6b			-9K3	31				12.3
Sitzventil Säule 1			-12Y1	A2	7b			-12K1 -12K2	 A2				12.2
Taster vorwahl säule 3 ein			XS3	12b	11b			-8S3 -9K1	14 34				8.5
=			XS3	11b	12b			-9A1	Z14				8.5
Sitzventil			F2		1c			XHS3	1		1		9.4
=			F4		2c			XHS3	2		2		9.4
=			F6		3c			XHS3	3		3		9.4
=			F8		4c			XHS3	4			1	9.4
=			F10		5c			XHS3	5			2	9.4
Ventil Mutter			F12		6c			XHS3	8			3	9.5
=			XS2	7c	7c			Schirm					9.5
Unterölmotor 3			-5B1		PE			XS2 -5B1	PE				5.3

Änderung	Datum	Name	Norm

Datum	09.07.2010	
Bearb.	BOE	
Gepr.	09.07.2010	

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

Nussbaum Hebetechnik GmbH & Co. KG

MCS5000 C USA 1x220V

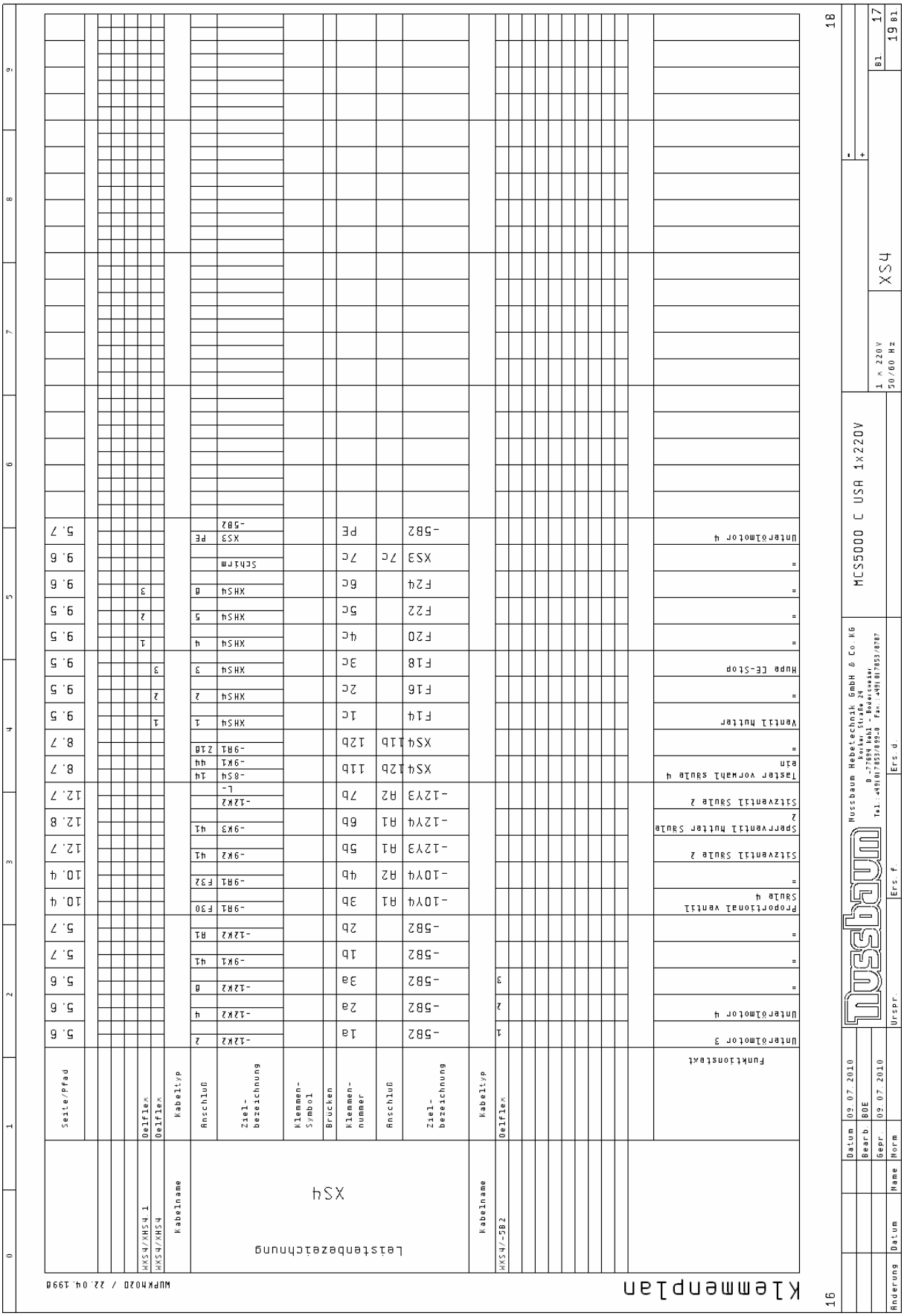
1 x 220V 50/60 Hz

XS3

15 | 17

Bl. 16

19 Bl.


Klemmenplan
Leistenbezeichnung
XS4
MCS5000 C USA 1x220V
1 x 220 V
50/60 Hz
XS4
Nussbaum Hebetechnik GmbH & Co. KG
Funktionstext
Unterölmotor 3
Unterölmotor 4
Proportional ventil Säule 4
Sperrventil Mutter Säule 2
Sitzventil Säule 2
Taster vorwahl Säule 4 ein
Ventil Mutter
Hupe CE-Stop
Kabelname
Kabeltyp
Ziel-bezeichnung
Anschluß
Klemmen-nummer
Brücken
Klemmen-Symbol
Seite/Pfad

Stückliste

WUP0003D 24.02.1994

Bauteilbenennung	Menge	Bezeichnung	Typen Nummer	Lieferant	Artikelnummer
-4Q1	1	Hauptsch. Not-Aus 3p 30A/UL	OT-30-ET 3	ABB	OT30ET 3
-4Q1	1	Griff für Hauptsch. OT32ET3	GRIFF OMY2RJ	ABB	GRIFF OMY2RJ
-4B1	1	Motorbrettabdeckung	991312	Nussbaum	991312
-4B1	1	Klemmbrettdichtung	991313	Nussbaum	991313
-4B1	1	Klemmbrett	991314	Nussbaum	991314
-4M1	1	Unterölmotor 1,5kW/ 11,5A 60Hz	U07H4-312	Hanning GmbH	991055
-4B2	1	Motorbrettabdeckung	991312	Nussbaum	991312
-4B2	1	Klemmbrettdichtung	991313	Nussbaum	991313
-4B2	1	Klemmbrett	991314	Nussbaum	991314
-4M2	1	Unterölmotor 1,5kW/ 11,5A 60Hz	U07H4-312	Hanning GmbH	991055
-5B1	1	Motorbrettabdeckung	991312	Nussbaum	991312
-5B1	1	Klemmbrettdichtung	991313	Nussbaum	991313
-5B1	1	Klemmbrett	991314	Nussbaum	991314
-5M1	1	Unterölmotor 1,5kW/ 11,5A 60Hz	U07H4-312	Hanning GmbH	991055
-5B2	1	Motorbrettabdeckung	991312	Nussbaum	991312
-5B2	1	Klemmbrettdichtung	991313	Nussbaum	991313
-5B2	1	Klemmbrett	991314	Nussbaum	991314
-5M2	1	Unterölmotor 1,5kW/ 11,5A 60Hz	U07H4-312	Hanning GmbH	991055
X1	4	Schutzleiterklemme	M 2.5/5 PI	Entrelec	ENT.16518822
X1	4	Blanko Schild	RC510 5X10	Entrelec	ENT.23100007
-6G1	1	Trafo + Gleichrichter + Kondensator	TRAFO 1-PH	Schmelzer	990835
-6G2	1	Trafo + Gleichrichter + Kondensator	TRAFO 1-PH	Schmelzer	990835
XT1	1	Rundstecker Einbau Buchse 9pol me	RUNDSTECKER BUCHSE	Contact GmbH	990371
XT1	1	Rundstecker 9pol me	RUNDSTECKER STECKER	Contact GmbH	991130
-6S4	1	Kontaktblock 1S (M22)	M22-AK10	Moeller	990142
-6S4	1	Schlüsseltaste 2St. abzug in 0 u 1 rast.(M22)	M22-WRS	Moeller	990220
-6K1	1	Industrierelaissockel für 4 Wechsler	110178	BTR	990381
-6K1	1	INDUSTRIERELAIS 24V 4 Wechsler	274I	BTR	990267
-6S5	1	Drucktaste flach o.Tast.Platte (M22)	M22-D-X	Moeller	990130
-6S5	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
-6S5	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132
-6S5	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
-6S6	1	Drucktaste flach o.Tast.Platte (M22)	M22-D-X	Moeller	990130
-6S6	1	Tastenplatte Pfeil (M22)	M22-XD-S-X7	Moeller	990131
-6S6	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132
-6S6	1	Kontaktelement 1S (M22)	M22-K10	Moeller	990133
-7G1	1	Schalt-Netzgerät Achscontroller DC 24 V /4,5A	LAO-F24	Lust GmbH	940268
-7F1	1	SICHERUNGSHALTER kpl mit KAPPE Sockel/Kopf FP61	FP61 -3101.0110-	Schurter GmbH	995059
-7F1	1	Feinsicherung	FEINSICHERUNG	GIF	990307
-8S1	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132
-8S1	1	Leuchtdrucktaste rast.,weiß (M22)	M22-DRL-W	Moeller	990837
-8H1	1	Lampenfassung LED weiß (M22)	M22-LED-W	Moeller	991193
-8S2	1	Leuchtdrucktaste rast.,weiß (M22)	M22-DRL-W	Moeller	990837
-8S2	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132
-8H2	1	Lampenfassung LED weiß (M22)	M22-LED-W	Moeller	991193
-8S3	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132
-8S3	1	Leuchtdrucktaste rast.,weiß (M22)	M22-DRL-W	Moeller	990837
-8H3	1	Lampenfassung LED weiß (M22)	M22-LED-W	Moeller	991193
-8S4	1	Leuchtdrucktaste rast.,weiß (M22)	M22-DRL-W	Moeller	990837
-8S4	1	Kontaktblock 1S 10 (M22)	M22-AK11	Moeller	990132

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			Datum	09.07.2010	Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D-77694 Kehl - Bodersweier Tel.:+49(0)7853/899-0 Fax.:+49(0)7853/8787	MCS5000 C USA 1x220V	-	
			Bearb.	BOE			+	
			Gepr.	09.07.2010			1 x 220V 50/60 Hz	Stückliste	Bl. 18 19 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers.f.	Ers.d.		

Stückliste

WUP0003D 24.02.1994

Bauteilbenennung	Menge	Bezeichnung	Typen Nummer	Lieferant	Artikelnummer
-8H4	1	Lampenfassung LED weiß (M22)	M22-LED-W	Moeller	991193
-9A1	1	Achscontroller ASC 4000 Vollversion	940260	Nussbaum	940260
-9A1	1	Federleiste 48pol für Achscontroller	FEDERLEISTE 48POL	Nussbaum	940261
-9A2	1	Display für ASC 4000	DEM16481 SY-LY/L	Nussbaum	940257
-9A2	1	Displayrahmen klein , ohne Tastatur	990751	Nussbaum	990751
-9A2	1	Displaykabel Achscontroller	990874	Nussbaum	990874
-11K1	1	Leisungsrelais 24VDC	T92 P7D22-24	Tycon	99084221
-11K2	1	Leisungsrelais 24VDC	T92 P7D22-24	Tycon	99084221
-12K1	1	Leisungsrelais 24VDC	T92 P7D22-24	Tycon	99084221
-12K2	1	Leisungsrelais 24VDC	T92 P7D22-24	Tycon	99084221

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			Datum	09.07.2010	Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	MCS5000 C USA 1x220V		-
			Bearb.	BOE				+
			Gepr.	09.07.2010			1 x 220V 50/60 Hz	Stückliste	Bl. 19 19 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.		