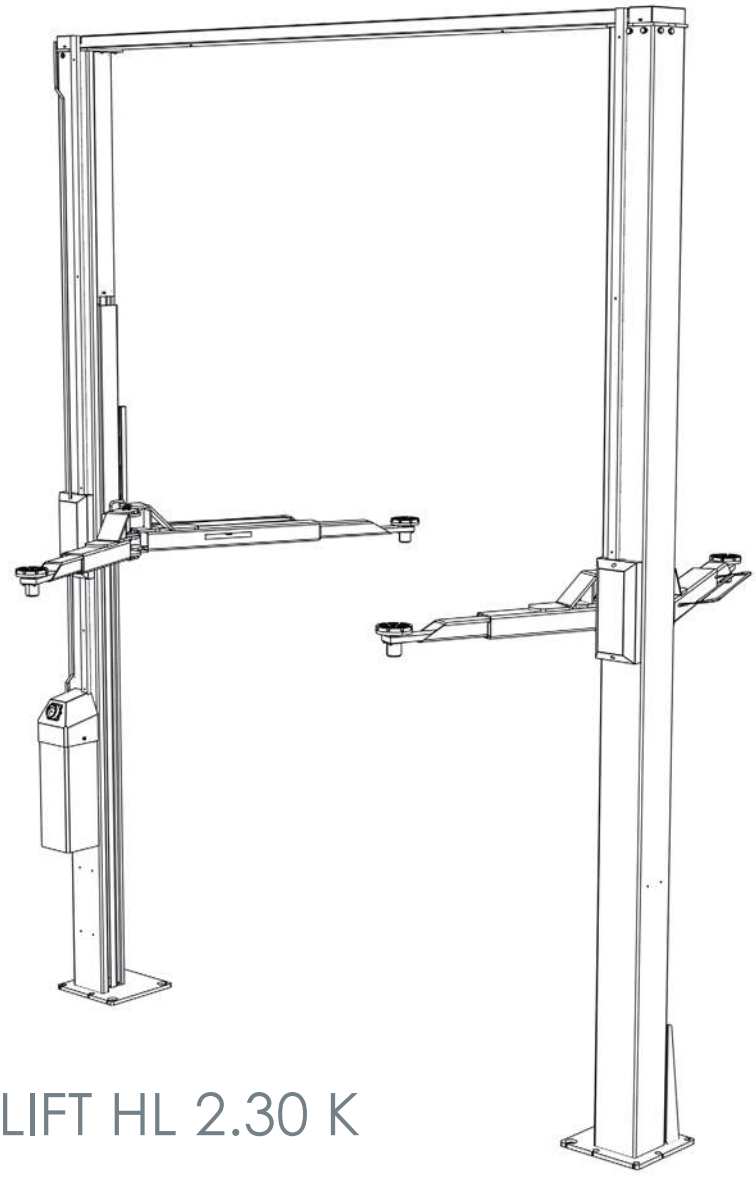
Nussbaum · ATT

Operating manual | Inspection book



POWER LIFT HL 2.30 K

Dealer address / phone:

Serial No.:

Made in Germany

ENGLISH

Contents

1 Introduction

Nußbaum products are a result of many years of experience. A high quality standard and superior concept guarantees you reliability, long lifetimes and economical operation. To prevent unnecessary damage and hazards, read this operating manual carefully and always comply with its contents.

! Any other use, or use beyond purpose is considered improper.

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

Proper use also includes:

- Adherence to all instructions in this operating manual and
- Compliance with inspection and maintenance work and the inspections stipulated.
- The operating manual is to be followed by all personnel working on the system. This is notably with regards to Section 3 "Safety conditions"
- In addition to safety information from the operating manual, comply with rules and regulations at the location of use.
- Proper system handling

Operating company obligations:

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

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

Hazards in working with the system:

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

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

Organizational measures

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

Maintenance work, error removal

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

Guarantee and liability

- In principle, our "General sales and supply conditions" apply.
  Guarantee and liability claims for personal and property damage are excluded if due to one or more of the following causes:

- Improper use of the system.

- Improper assembly, commissioning, operation and maintenance of the system.

- Operating the system with defective safety devices or improperly attached or non-functional safety and protection devices.

- Non-compliance with information in the operating manual in terms of transport, storage, assembly, commissioning, operation, maintenance and fitting of the system.

- Independent construction changes to the system.

- Independent changes to the system (e.g. drive ratios: power, rotation speed, etc.)

- Improperly done repairs.

- Catastrophic cases due to foreign influences or force majeure.

2 General information

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

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

2.1 Set up and testing the system.

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

- Technical experts are people (freelance expert engineers, TÜV specialists) that may inspect and assess due to their education and experience with lift systems. They are knowledgeable in the appropriate work safety and accident prevention regulations.
- Specialists (competent people) are people who have sufficient knowledge and experience with lift systems and have participated in a special factory training by the system manufacturer.

2.2 Hazard information

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

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

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

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

3 Safety regulations

When working with systems comply with legal accident prevention regulations according to BGG 945: inspection of lifts; BGR 500 operation of systems; VBG 14.

Particular attention is drawn to compliance with the following regulations:

- The total weight of the accepted load may not exceed 3,000 kg.
- When operating the system, follow safety regulations and operating instructions in the operating manual.
- Only personnel aged 18 or over may operate systems independently, they must be trained in system operation and have their work verified by the company. They must be explicitly tasked with operating the system (excerpt from BGR 500), see transfer protocol.
- The lift must be completely lowered before the vehicle is driven on, and it may only be done in the intended direction.
- Vehicles with low floor clearance or fitted with custom devices are to be checked to see whether damage could occur before positioning the lifting arm and raising the vehicle.
- Vehicles may only be attached at fixture points approved by the vehicle manufacturer.
- Fixture points may not have been weakened by rust, corrosion, damage or modifications.
- A single load point from only one or two lifting arms is not allowed.
- The proper positioning of the lifting arm is to be checked again after the vehicle has been raised slightly.
- After setting down the vehicle, check the lifting arm positions for proper seating below the fixture points before the vehicle is lifted again.
- During lifting or lowering, the work area of the lift should be clear or people.
- The entire lifting and lowering process is to be continuously observed.
- It is prohibited to move people with the lift.
- Climbing onto the lift and onto a lifted vehicle is prohibited.
- When dismantling heavy vehicle parts (e.g. motors) the entire centre of mass of the vehicle changes on the lift.
  The vehicle is to be appropriately secured using suitable materials against lifting or tipping (e.g by additional beams, tensioning belts, support frame).
- Loaded vehicles change the total centre of mass of the vehicle. Use support blocks here if working on this vehicle. The safest method is to unload the vehicle in advance.
- Prevent extreme vehicle shaking while it is on the lift.
- Maintenance or repairs on the lift may only be done once the main switch is off, secured and locked against unauthorized access.
- After design and maintenance on load bearing parts the lift must be inspected by a technical expert.
- It is prohibited to set up a standard lift in explosion endangered workshops and humid spaces (e.g. washing halls).
- In our plans, we inform of the minimum specifications for the foundation, however local conditions (e.g. underground, etc.) are outside of our responsibililty. In case of need, contact an architect or statics expert.

3.1 Safety inspection

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

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

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

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

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

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

This inspection book contains forms with a detailed inspection plan for safety inspections.

Please use the appropriate form, record the condition of the inspected system and leave the completed form in this inspection book.

4 Assembly and commissioning

4.1 Set up guidelines

- Lift set up is done by trained manufacturer personnel or a contract partner. If the operating company has appropriately trained assemblers, the lift can also be set up by them. Set up is to be done according to the assembly instructions.
- A standard lift may not be set up in explosion endangered spaces or wash halls.
- Before setting up, verify that there is a sufficient foundation or make it according to the guidelines in the foundation plan. The set up location must be level and even. Foundations in open air and spaces where winter storms or frost are to be expected, must have a foundation to frost depth.
- An on-site standard electrical connection of 3 ~/N + PE, 400 V, 50 Hz is to be provided.
  The supply is to be secured according to VDE0100 with 16 ampere fuses. The minimum line cross-section is 2.5 mm².
- To protect the electrical cable all cable conduits are to be fitted with cable sleeves or flexible plastic pipes.
- The lines can be fed through the cross-beams. In all cases, prevent kinks or tensional loads on the lines.
- After successful lift installation and before first commissioning, the operating company must have the lift grounding conductors inspected on-site according to IEC regulation (60364-6-61). An insulation resistance test is also recommended.

4.2 Commissioning

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

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

After commissioning, the set up protocol must be completed and sent to the manufacturer.

4.3 Changing the assembly location

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

- Move the lift rails to about half height.
- Remove the lifting arm (remove the safety ring of the lifting arm pin, pull out the lifting arm pin and remove the lifting arm).
- Disconnect electrical supply lines to the lift from mains power.
- Replace the cable harness.
- Remove hydraulic lines above on the opposite side and seal them off with blind stoppers.
- Remove cross-beams.
- Suction off hydraulic oil.
- Loosen the anchor fastenings.
- Carefully transport the lift column using appropriate auxiliary means (e.g. crane, forklift, etc) to the new assembly location.
- Assemble the lift according to the procedure during assembly and anchoring before first commissioning.

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

Before re-commissioning, a safety inspection must be done by a specialist (use the regular safety inspection form).

4.4 Selecting the anchors

- **Fischer anchor**
  12 x high performance anchor
  FH 18 x 100/100 B - Item No. 972230

- **Hilti anchor**
  12 x Injection anchor
  HIT-V-5.8 M12 x 150 - Item No. 387061

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

4.5 Assembly

Follow the instructions enclosed in the anchor packaging.

4.6 Set up and anchoring the lift

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

Before setting up the lift, the operating company must ensure or make a sufficient foundation. For this, a normal reinforced concrete floor with a value of a min. C20/25 is required.

The minimum foundation thickness (without screed and floor tiles) is to be taken from the foundation plan in this document.

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

The operating company is solely responsible for the set up location.

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

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

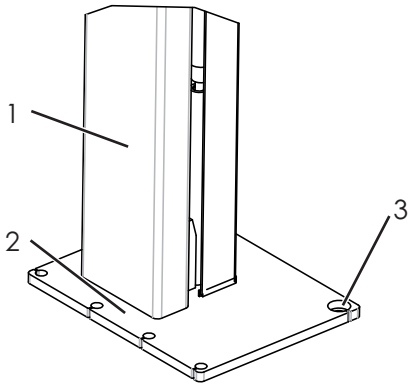
The following preparation and work steps are to be done:

- To reach a higher level of protection against humidity from the workshop floor, a thin PE foil should be put between the workshop floor and column base plate before anchors are placed. Also, the gap between the base plate and workshop floor should be silicone sprayed after anchoring.

- Set up and position the lift
- Fasten cross-beams above on the lifting columns.
- Holes for floor anchoring are to be placed through the holes in the base plates.
  Clean the bore holes by blowing them out with air. Insert safety anchors into the holes (also see 4.4 Selecting anchor).
- Connect the hydraulic lines.
- Before anchoring the lift, check whether the concrete is of quality C20/25 up to the finishing level of the completed floor. In this case, take the anchor length from the anchor manufacturer's data sheet.

If there is a floor covering (tiles, screed) on the weight bearing concrete, the thickness of this covering must be determined. Afterwards, take the anchor length from the anchor manufacturer's data sheet.

- Position and align the lift and lift columns using a bubble level.



Anchoring *016*
1 Column
2 Base plate
3 Positioning the fastening anchor

- The base plates are also to be supported with suitable underlays (thin metal strips) to ensure precise vertical set up and contact between the base plate and the floor.
- Tighten the anchors using a torque wrench.

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

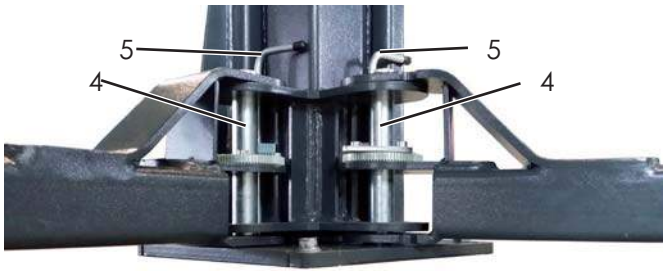
- If an anchor is tightened to the specified torque, then the domed washer lays flat on the base plate. Secure anchor connection is then guaranteed.

4.7 Lifting arm assembly

- Hang in the standard lifting arm and then place an acid-free multi-purpose grease into the joint bolts (4) in each case from above into the hole and then insert the enclosed locking ring.

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

See to it that the lifting arm blocks (5) are ratcheted in after the vehicle has been accepted.



4 Joint bolts *004*
5 Drawbar with lifting arm block

For first commissioning, it is normal to have a different start up and a large "shaking" in the uppermost position.
Air trapped in the system must be completely removed first. Turn the reversing switch to ↑ "Lift" (8) and hold for at least 15 seconds.

- Prevent the pressure switch (60.14) from turning as there is a danger of cable break.
- When lowering the lift on an empty run, if it shudders or does not lower at all, a pressure switch (60.14) readjustment is necessary.

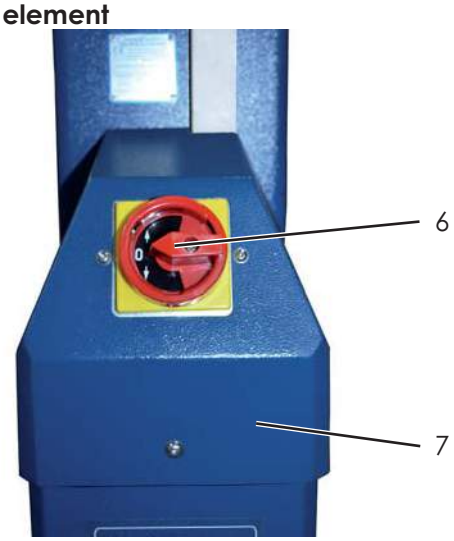
Afterwards, the function must be tested as explained on the following page, by placing wooden jacks (or similar) and testing. The lowering motion of the stage must immediately stop after setdown onto the wooden jack. If this is not the case, the pressure switch must be readjusted and the test repeated.

5 Operating manual

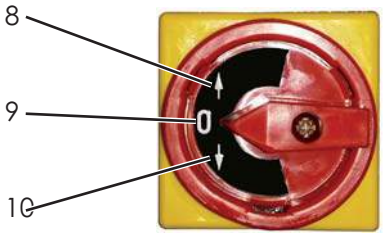
When handling the system, it must absolutely comply with safety regulations. Carefully read the safety regulations in Section 3 before first operation!

To prevent operation by unauthorized people, secure the reverse switch after working height has been reached.

Operating element



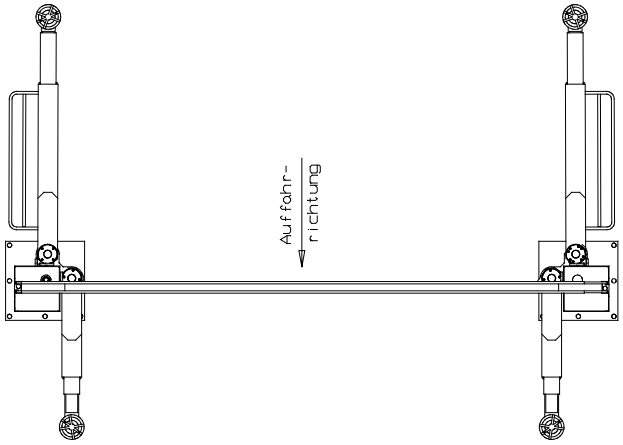
Operating element *005*
6 Reversing switch
7 Unit guard



Reversing switch *007*
8 ↑ "LIFT"
9 0 lockable position
10 ↓ "LOWER"

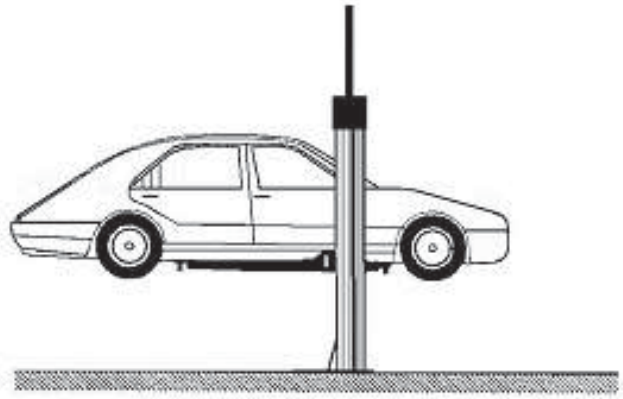
5.1 Positioning the vehicle

- The lift must be completely lowered before the vehicle is driven on, and it may only be done in the intended direction.

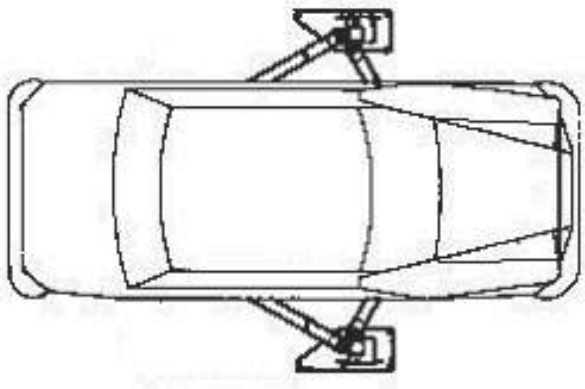


Lifting arm start position *008*

- Drive the vehicle onto the lift according to the following images, until the lifting arm receives it.



The lift column must be located between the steering wheel and the car door hinges! *003*



Drive in the middle of the lift. *003*

- Swing in the lifting arms and place the adjustable receiving plate at the vehicle manufacturer specified points.

- Vehicles with low floor clearance or fitted with custom devices are to be checked to see whether damage could occur before positioning the lifting arm and raising the vehicle.

- The lifting arm block must be ratcheted in after the fixture point has been reached.

5.2 Lifting the vehicle

- Lift the vehicle until the wheels are off the ground. Turn the reversing switch to ↑ "LIFT"(8) then stop.

- The proper positioning of the lifting arm is to be checked again after the vehicle has been raised slightly.

- Similarly check whether the lifting arm blocks are ratcheted in. Otherwise, lower the lift and reposition the vehicle.

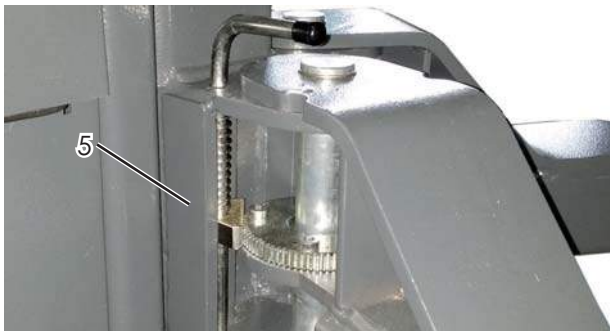
- After setting down the vehicle, check the lifting arm positions for proper seating below the fixture points before the vehicle is lifted again.

- During lifting or lowering, the work area of the lift should be clear or people and objects.

- Afterwards, lift the vehicle to the desired working height.

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

See to it that the lifting arm blocks (5) are ratcheted in after the vehicle has been accepted.



5 Lifting arm blocks *006*

5.3 Lowering the vehicle

Check that there are no people or objects in the hazardous area of the lift.

- Lower the vehicle to the desired working height. Turn the reversing switch to ↓ "LOWER" (10). This releases the safety catches and the lift lowers.

- If the lift is held in the safety catches, these must be lifted first.

For heavier vehicles, lift slightly before lowering to prevent an "sticking" and any corresponding jolt during lowering.

- The entire lowering process must be observed.

- Once the lift is detected in the lowest position, swing out the lifting arms to the start position (see image 008).

- Move the vehicle out of the lift.

5.4 Lift synchronization

- The command, downstream cylinder system excludes any unsynchronous running when operated properly.

- However, if the lift must be equalized it is sufficient to move it to the upper end position. Push the reverse switch for ten more seconds. During this procedure the lift rails are equalized to each other as hydraulic oil flows to the tank as an overflow from the command cylinder via the downstream cylinder to the tank.

- Release the reversing switch. The lift rails then lower 1-2 millimetres and thereby block the overflow opening of the cylinder.

- Both lift rails are now at the same height.

6 Maintenance and care of the system

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

Value is placed on long lifetimes and safety in the development and production of Nußbaum products. To guarantee the safety of the operator, product reliability, low running costs, keep the warranty and also the long-lifetime of the product, proper set up and operation is just as important as regular maintenance and sufficient care.

Our platforms fulfil or exceed all safety standards of the countries we supply to. For example, European regulations require a service by qualified experts every 12 months of work of the platform. To guarantee the largest possible availability and functional capacity of the lift system, ensure the list of any cleaning, care and maintenance work is done.

The lift system is to be serviced at regular intervals according to the following plan. For intensive operation and higher degree of contamination shorten the service interval.

The complete function of the lift system is to be observed during daily use. Customer service must be informed of any malfunctions or leaks.
To simplify maintenance work, follow instructions on the maintenance sticker that is found somewhere on the unit, depending on the lift design.

6.1 System maintenance plan

Before beginning service, disconnect from power. The system is to be secured against unintentional lowering and unauthorized access.

During assembly and maintenance always check the condition of electrical lines. All cables and lines must be secured so they cannot be crushed, kinked or contact any moving assembly.

6.1.1 Daily, as required or visible damage

- Check condition of the model plate, load capacity and sticker. Exchange them if damaged or illegible.
- Check the door stopper rubber for wear. Exchange if damaged
- Check the foot bumper for condition and function. Exchange if damaged
- The rubber acceptance plate is to be checked for wear and replaced if necessary.
- The lift cylinder can sweat and small oil droplets can form on the base plate, this is however, not a leak. Clean as required.
- Check the function of the safety catch.

6.1.2 Maintenance every 3 months

- Check the tracks and the lift rail equalization parts for wear. After cleaning, lubrication with an MO-S2.

6.1.3 Maintenance 1 x per year

- Check condition of the model plate, load capacity and sticker. Exchange them if damaged or illegible.

- Check the lifting arm block and gear for wear. Exchange both components if there is visible damage.

- The booms and bolts of the lifting arm and the threaded bolts of the carrier plate are to be checked for ease of running. If required, lightly grease with a multi-purpose grease. Do not over-lubricate.

- Electrical components (plug, electrical lines, cable, etc.) are to be checked for function. In particular, the reversing switch and the safety catch.

- The components are to be exchanged if there are defects or damage.

- Optional energy set
  Check the condition and function of electrical sockets and the pneumatic connections.

- Check all available safety devices for function.

- Check the oil. The oil is used if it has a milky colour or if the hydraulic oil smells unpleasantly.

- All weld seams must have a visual inspection. Stop the system and contact the manufacturer if there are cracks or breaks in weld seams.

- Check the powder coating and improve if required.
  Damage by external influences is to be treated immediately after detection. If these points are not treated, infiltration of deposits of all kinds can cause wide-ranging and permanent damage.
  These points are to be lightly sanded (120 grit), cleaned and degreased. Afterwards, rework with a suitable touch up paint (note the RAL No.).

- Check galvanized surfaces and touch up as needed. White rust is fostered by permanent humidity, poor ventilation.
  Rust is brought out by mechanical damage, wear, aggressive deposits (de-icing salt, leaking operating fluids) cleaning that is not done or incomplete.
  The affected areas can be treated by using a sanding cloth (A 280 grit). If required, the parts are to be treated with a suitable, resistant material (paint etc).

- The condition and function of the load suspension means are to be checked.

- Check the torque of the fastening anchor. See the data sheet for the relevant anchor manufacturer.

- Check the torque of the fastening screws. Also see the assembly protocol.

Torque (Nm) for shaft screws

Fastening class 8.8

		0.11*	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

Fastening class 10.9

	0.11*	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

* *Slide friction number 0.10 for very good surface, lubricated*
** *Slide friction number, 0.15 for good surfaces, lubricated or dry*
*** *Slide friction number 0.20 surface black or phosphated, dry*

6.1.4 Maintenance every 2 years

- According to manufacturer details, the hydraulic oil should be changed every two years in normal operations. Various environmental influences e.g. location, temperature swings, intensive operation etc, can have an influence on the quality of the hydraulic oil. For this reason, the oil must be checked during annual safety inspections and maintenance.
  The oil is used if it has a milky colour or if the hydraulic oil smells unpleasantly.
  To change oil, lower the lift is to its lowest position then suction the oil out of the oil container and replace the contents.
  The manufacturer recommends a high-quality clean hydraulic oil. The required oil volume and type is to be taken from the technical data. After filling, the hydraulic oil must be between the upper and lower marking on the oil dipstick, or approx. 2 cm below the oil filling opening.
  Dispose of the old oil according to regulations to the intended location (district offices, environmental protection office or commercial regulatory office has the obligation to disclose about disposal points).

6.2 Cleaning and care of the system

A regular and expert clean helps retain the value of the system.

Additionally, it can also be a pre-requisiste for the preservation of guarantee claims for any eventual corrosion damage.

The best protection for the system is regular removal of contaminants of any kind.
This includes above all:

- De-icing salt
- Sand, pebbles, earth
- Industrial dust of all types
- Water, also in connection with other environmental influences
- Aggressive deposits of all types
- Permanent humidity due to insufficient ventilation

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

Do not use and aggressive and abrasive materials for cleaning, rather use mild cleaners, e.g. a commercially available detergent and luke warm water.

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

7 Behavior in cases of error

Defective operational readiness of the system may be due to a simple error. Check the system for the listed sources of error.

If the error cannot be removed after an inspection to the named causes, then inform customer service or your dealer.

Independent repair work on safety devices of the lift and checking the electrical system may only be done by specialists.

Problem: The lift cannot be raised	
Possible causes:	Remedy:
No power supply	Check the power supply
Only 2 phases active	Do an on-site check with a qualified electrician
The main switch is not switched on, or is defective	Check the main switch
Defective fuse	Check fuses
Defective reverse switch	Check function Inform customer service
Motor has overheated	Let the water cool (Cooling time depends on ambient temperature)
Motor defective	Do an emergency discharge (see Section 7.2) Inform customer service
The coupling between the motor and pump is defective	Inform customer service
Insufficient hydraulic oil available	Refill new hydraulic oil

Problem: The lift cannot be lowered	
Possible causes:	Remedy:
The lifting arm has moved onto an obstacle	Raise the lift and remove the obstacle
Defective reverse switch	Check function, Do an emergency discharge (see Section 7.2) Inform customer service
The safety catch magnet is defective	Do an emergency discharge (see Section 7.2) Inform customer service
Lift rails are positioned in the safety catches	Push the "LIFT" button and then "LOWER"

7.1 Moving onto an obstacle

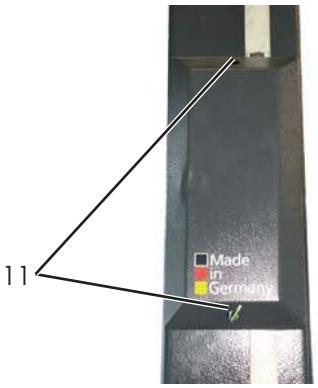
If the system moves onto an obstacle during lowering, then it remains in position due to the mechanical resistance. In this case, move the lift upwards by pushing the reversing switch ↑ "LIFT" (8) on the operating panel until the obstacle can be removed. Afterwards the lift is in a normal work condition and can continue to be operated as described in the operating manual.

7.2 Emergency discharge

An emergency discharge is an access into the system controls and may only be done by experienced specialists.

The emergency discharge must be done in the following described sequence, otherwise it can lead to damage and hazard to life and limb.

- People may not stand in the hazardous area around the lift.
- Loosen and remove the catch cover with a 3 mm Allan key.

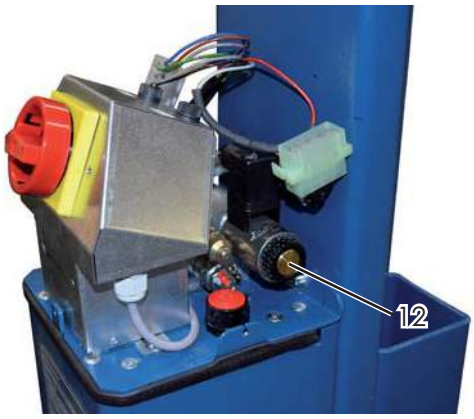


11 3 mm Allan key *009*

- Retract the safety catches manually and secure against ratcheting in.

010

- If the safety catches are ratcheted in, then the lift rails must be lifted with a suitable auxiliary material to release the catch.
- Loosen and remove the unit hood (7).
- Push the pin in the centre of the valve (12) with a suitable object. The lowering process starts immediately.



12 Manual valve actuation *012*

- Always observe the lowering process.
- If there is a hazard, release the valve (12).
- Lower the lift to the lowest position.
- If required, firstly inform customer service.
- Only operate the lift if it is in seamless condition from a safety point of view.

8 Technical information

8.1 Technical data

System load capacity	3,000 kg
Load distribution	Max. 3:2 or 2:3 in or against the drive- in direction
Effective lifting range of the system	Approx. 1990 mm
System lift time	Approx. 20s with 3,000 kg load
System lowering time	Approx. 16s with 3,000 kg load
Operating pressure without load	Approx. 65 bars
Operating pressure with load	Approx. 320 bars
Motor capacity	3 kW
Motor speed	2880 rpm
Hydraulic pump	2.7 cm^3/s
Pressure relief valve	Approx. 330 bars
Filling volume oil container	Approx. 8.5 litres
Hydraulic oil	HLP 32
Noise level	≤ 70 dB(A)
Operating voltage	3 x 400 V, 50 Hz
On-site connection	3~/N+PE, 400 V, 50 Hz with 16 A fuses, slow, according to VDE regulations

8.2 Safety devices

- **Deadman controls**
  Lift movement stops when the reversing switch is released.
- **Reversing switch with curtain lock device**
  Fuse to prevent unauthorized use.
- **Over-pressure valve**
  Hydraulic system fuse against over-pressure.
- **Check valve**
  Secure the vehicle against unauthorized lowering.
- **Safety catch**
  Secure against unauthorized lowering of the lift.
- **Foot bumper**
  Secure against shear and crushing points in the foot area
- **Lifting arm block**
  Secures the lifting arm against horizontal movement in a lifted condition.

9 System master sheet

9.1 Manufacturer

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

9.2 Purpose

The lift is a lifting tool for raising motor vehicles in normal workshop operation. A total weight of max. 3,000 kg for a maximum load distribution of 3:2 or 2:3 in the drive in direction or against the drive-in direction may not be exceeded. A single load from only one or two lifting arms may not happen.

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

Lift operation is done directly on the operating column.

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

9.3 Changes to the design / construction

Inspections by an expert are required before recommissioning (date, type of change, expert signature).

.....

.....
Name, address of expert

....
Location, date *Expert signature*

9.4 Changing the assembly location

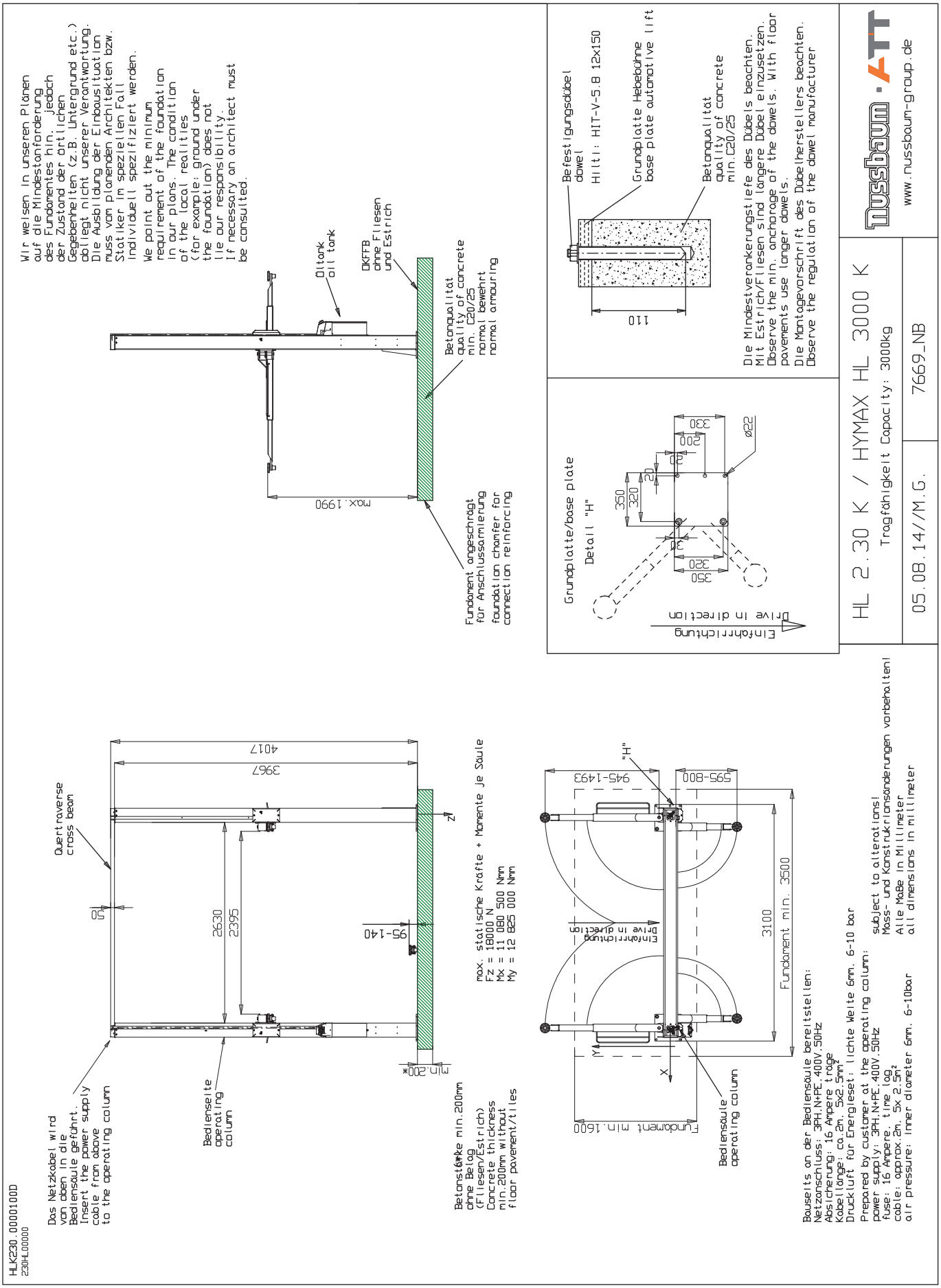
Inspections by an expert are required before recommissioning (date, type of change, specialist signature).

.....

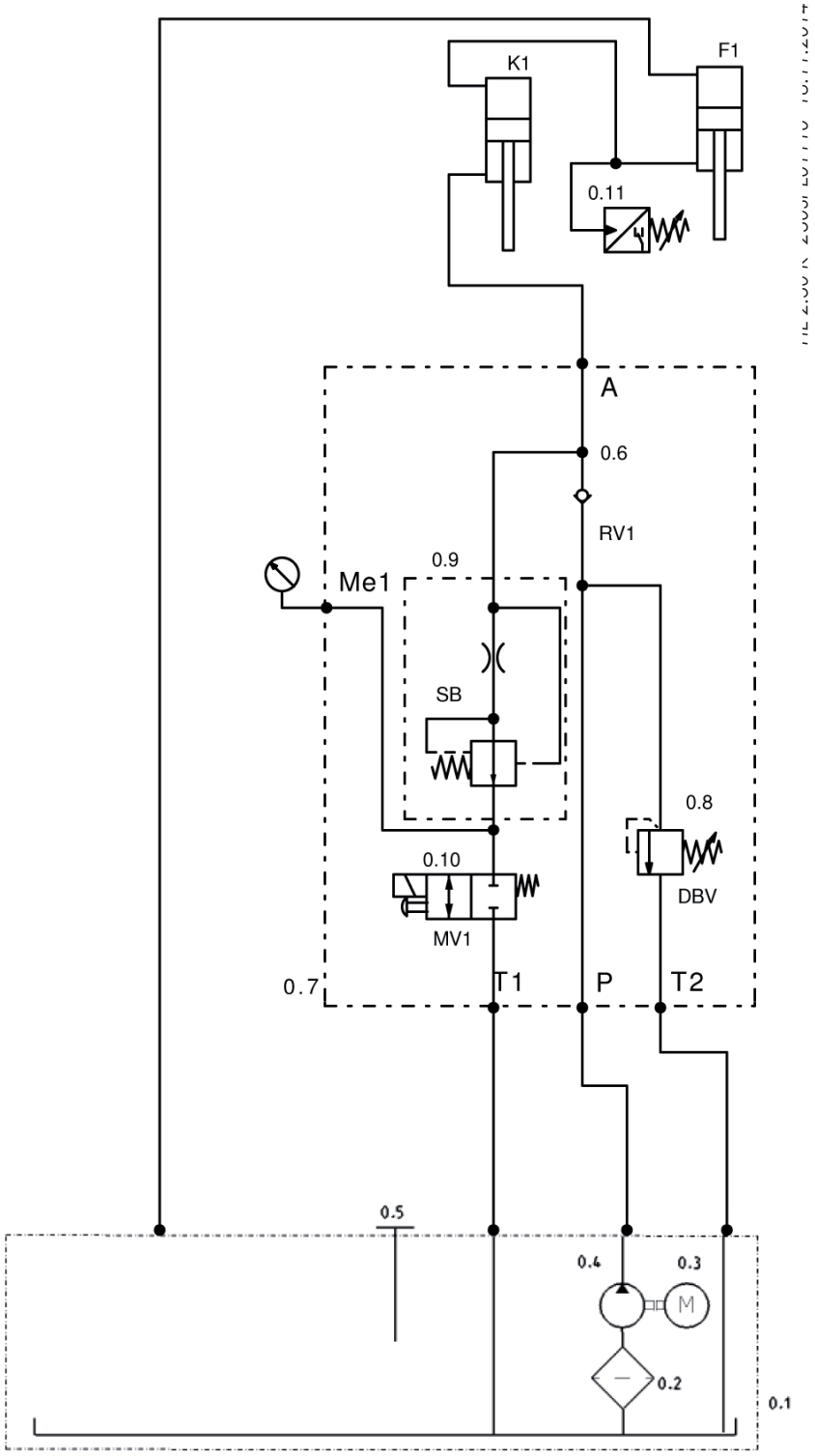
.....
Name, address of expert

....
Location, date *Expert signature*

10 Data sheet

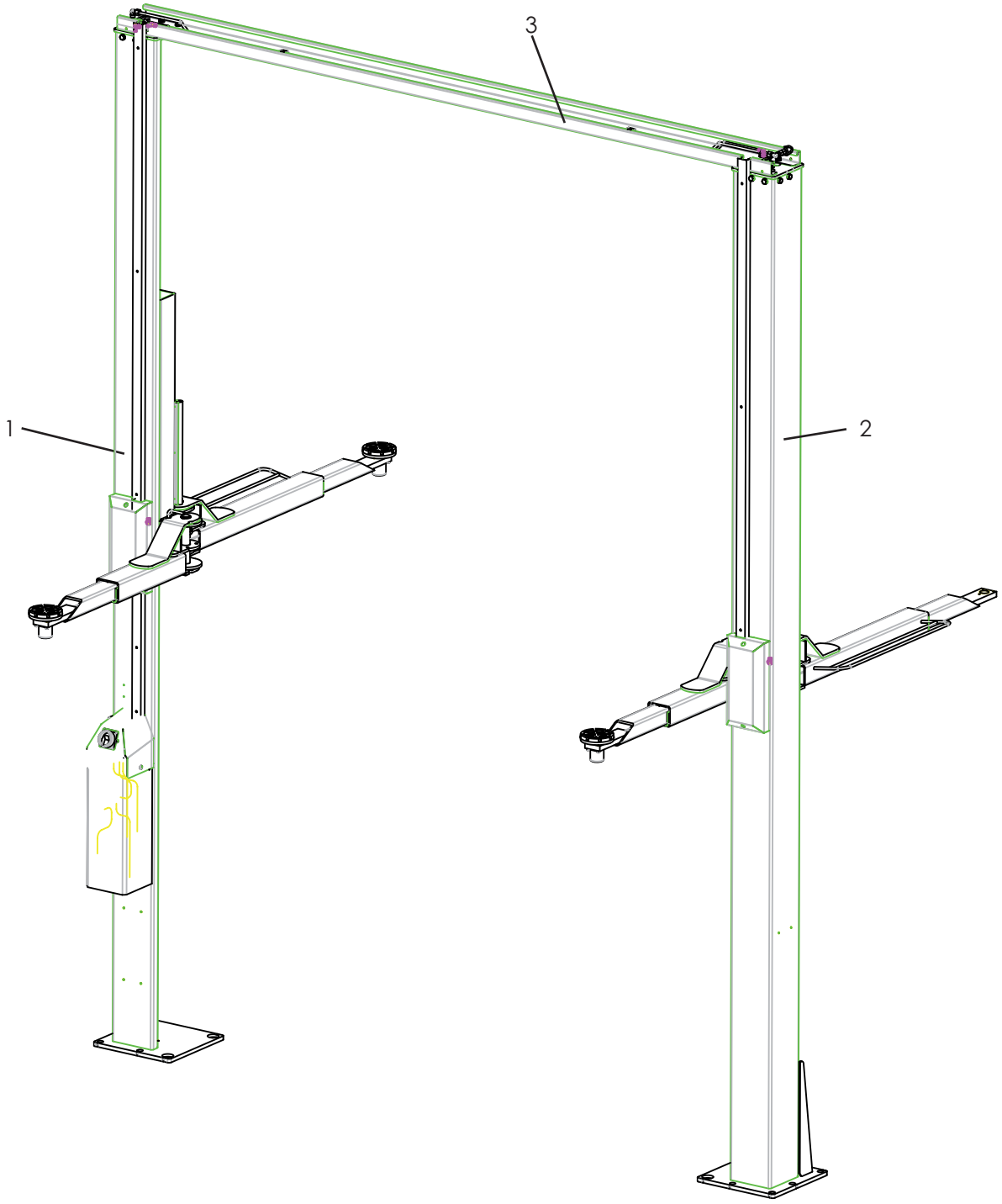


11 Hydraulic plan



0.1	Oil container	230HL02013
0.2	Suction filter	980201
0.3	Mechanical pump	980340
0.4	Motor	992658
0.5	Oil dipstick	982186
0.6	Check valve	130053
0.7	Hydraulic block	230SPL01110
0.8	Pressure relief valve	155211
0.9	Lowering brake 1/4"	983629
0.10	Double-acting valve	600449
0.11	Pressure switch	983642

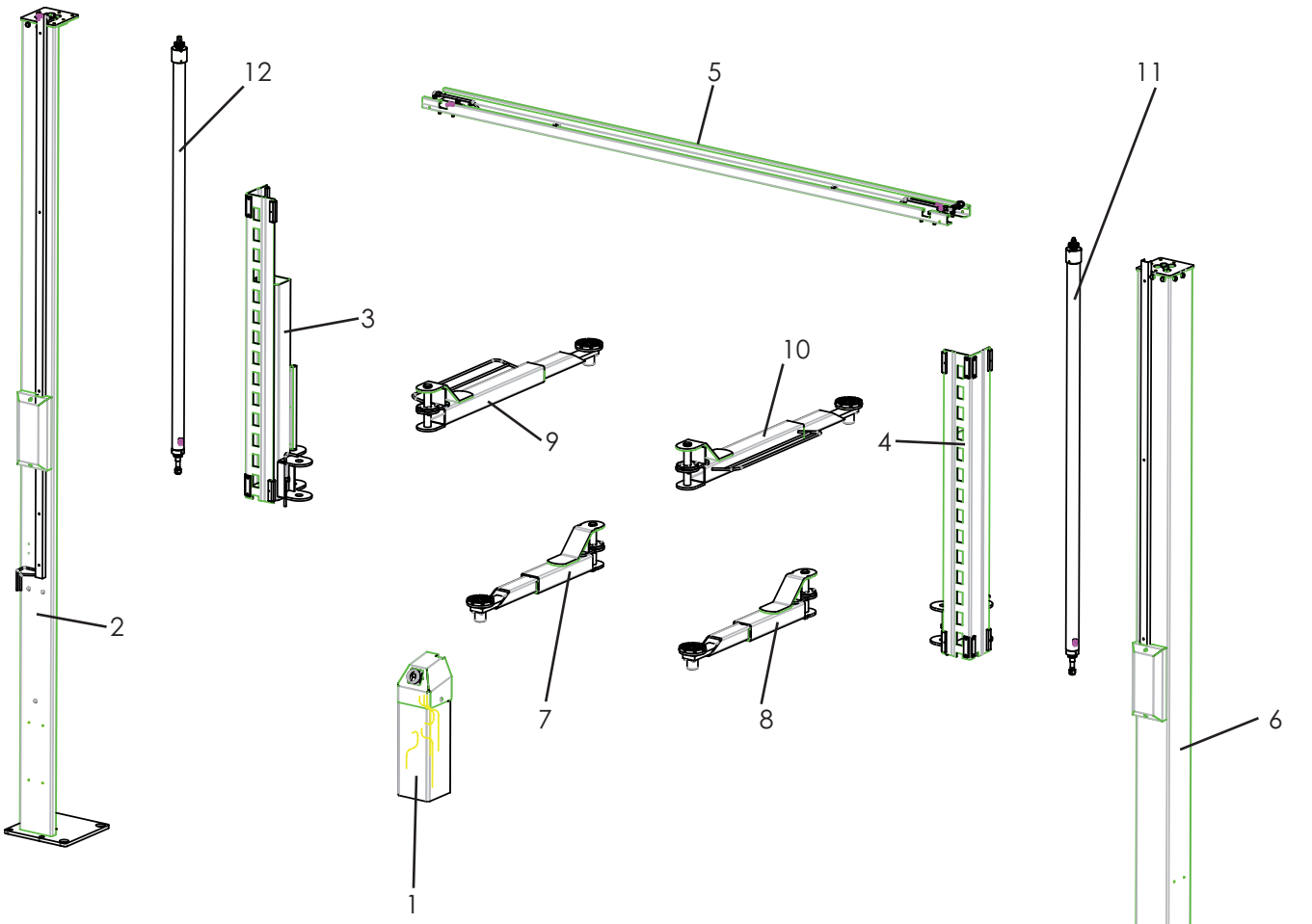
12 Replacement parts list



230HL00000_ET_5 13.03.2015

1	230HL65001	COMPLETE OPERATING COLUMN	1 PC.
2	230HL65032	COMPLETE COUNTER COLUMN	1 PC.
3	230HL96328	CROSS-BEAM	1 PC.

10.xx Column

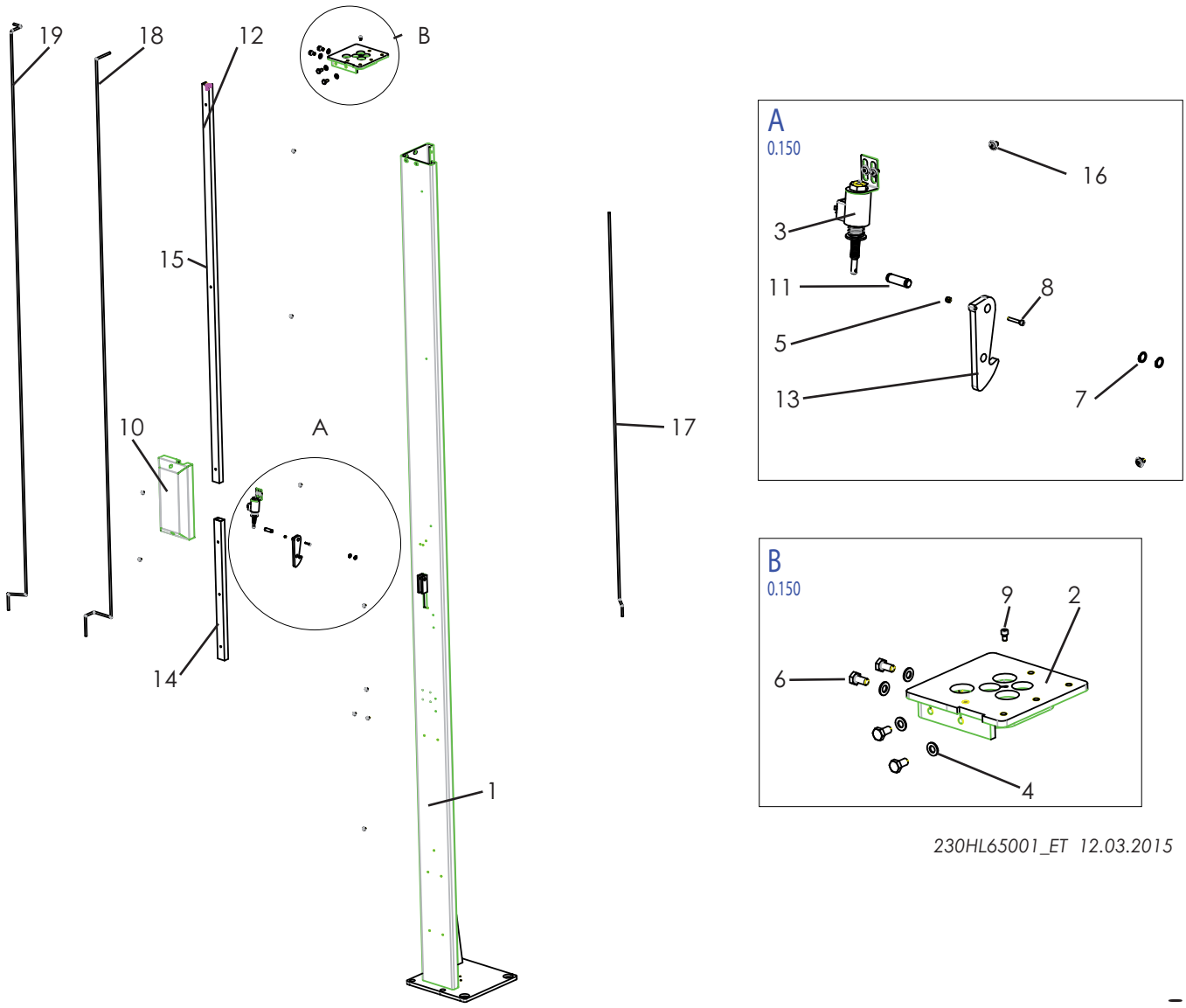


230HL00000_ET 12.03.2015

10.1	230HL02001_ET	COMPLETE UNIT
10.2	230HL65001_ET	COMPLETE OPERATING COLUMN
10.3	230HL96000_ET	LIFT RAILS, OPERATING SIDE, COMPLETE
10.4	230HL96050_ET	LIFT RAILS, OPPOSITE SIDE LEFT, COMPLETE
10.5	230HL96300_ET	CROSS-BEAM COMPLETE
10.6	230HL65032_ET	COLUMN, OPPOSITE SIDE, COMPLETE
10.7	230HL18020_ET	LIFTING ARM SHORT OPERATING SIDE
10.8	230HL18030_ET	LIFTING ARM SHORT OPPOSITE SIDE
10.9	230HL18001_ET	LIFTING ARM LONG, COMP. 945-1493 MM

10.10	230HL18011_ET	LIFTING ARM LONG, COMP. 945-1493 MM
10.11	230HL22351_ET	DOWNSTREAM CYLINDER COMPLETE
		! WE RECOMMEND THAT YOU SEND DEFECTIVE CYLINDERS TO US FOR REPAIR. CYLINDERS WILL BE INSPECTED AND SENT BACK!
10.12	230HL22301_ET	CYLINDER COMMAND COMPLETE
		! WE RECOMMEND THAT YOU SEND DEFECTIVE CYLINDERS TO US FOR REPAIR. CYLINDERS WILL BE INSPECTED AND SENT BACK!

20.xx Operating column

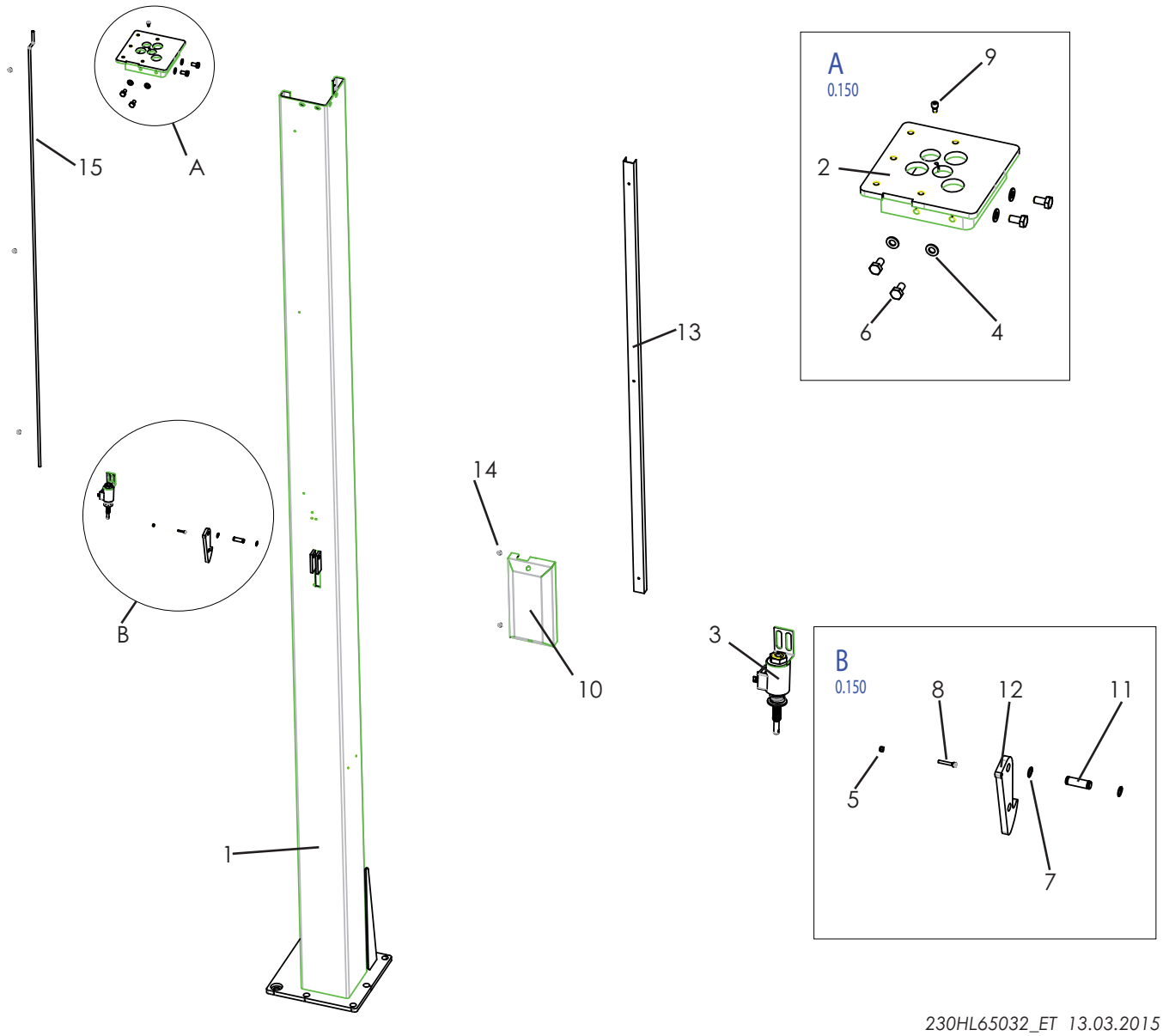


230HL65001_ET 12.03.2015

20.1	230HL65003	LIFTING COLUMN OPERATING SIDE
20.2	230HL96100	HEAD PLATE COM. COMPLETE
20.3	00MNG403170	MAGNET NG4

20.4	9125_1-A10_5	WASHER
20.5	9985-M4	HEXAGONAL NUT DIN985
20.6	9933-M10X20	ALLAN SCREW
20.7	9471-12X1	SAFETY RING
20.8	9912-M4X25	CYLINDER SCREW
20.9	9912-M6X10	CYLINDER SCREW
20.10	230HL96431	CATCH BED. COVER
20.11	235SPL06031	AXIS
20.12	981346	WELD ON ANGLE SCREW FITTING 90°
20.13	230HL96430	CATCH
20.14	230HL96532	LINE CONDUIT
20.15	230HL96533	LINE CONDUIT
20.16	9SEM06X008ZN	FLANGED BUTTON HEAD SCREW
20.17	230HL92156	PIPE
20.18	230HL92158	PIPE
20.19	230HL92162	PIPE

30.xx Column, opposite side

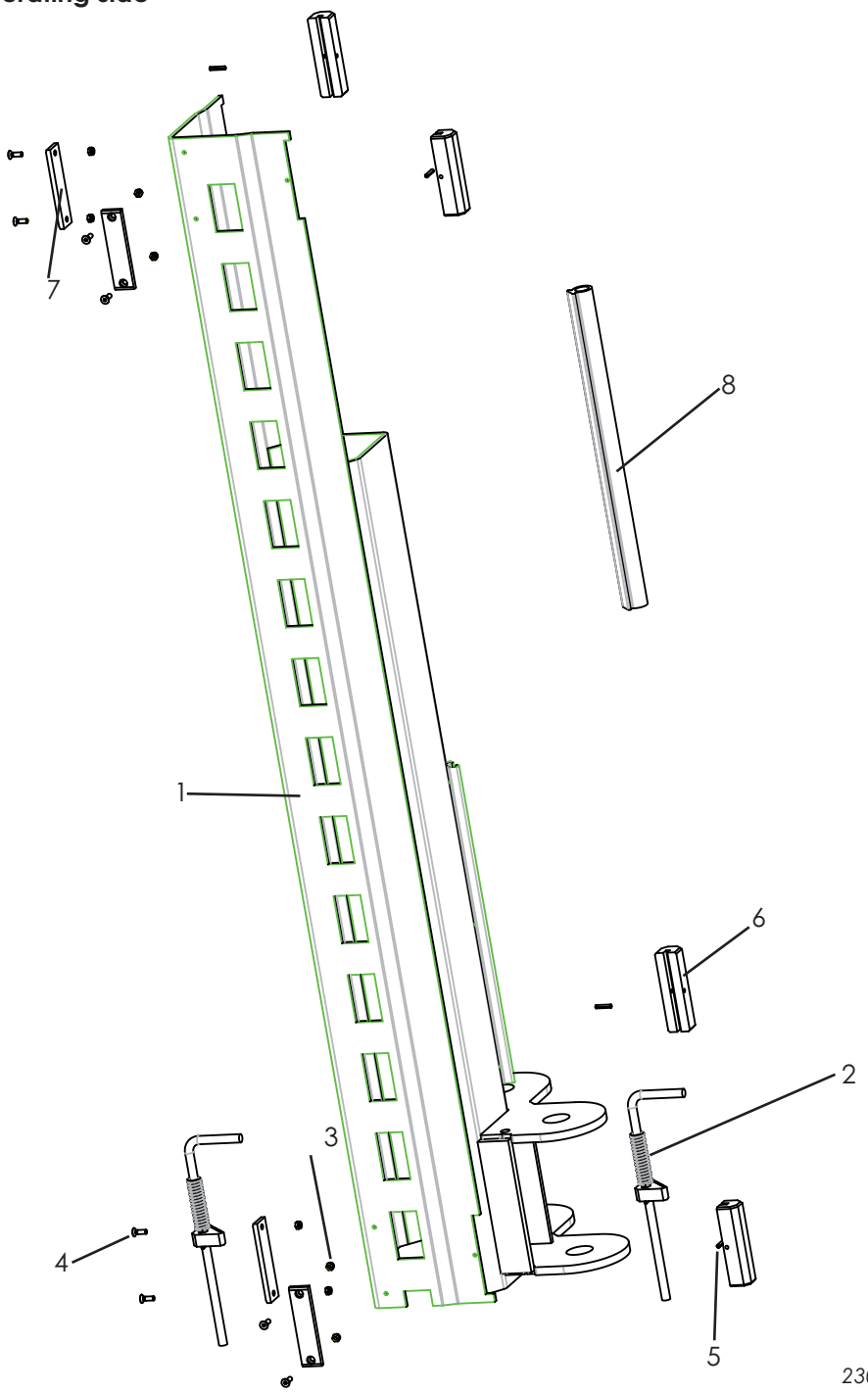


230HL65032_ET 13.03.2015

30.1	230HL65033	LIFTING COLUMN OPPOSITE SIDE SZ
30.2	230HL96200	HEAD PLATE FOLLOWING SIDE COMPLETE
30.3	00MNG403170	MAGNET NG4
30.4	9125_1-A10_5	WASHER
30.5	9985-M4	HEXAGONAL NUT DIN985
30.6	9933-M10X20	ALLAN SCREW
30.7	9471-12X1	SAFETY RING
30.8	9912-M4X25	CYLINDER SCREW
30.9	9912-M6X10	CYLINDER SCREW
30.10	230HL96431	COVER CATCH OPERATING SIDE
30.11	235SPL06031	AXIS

30.12	230HL96430	CATCH
30.13	230HL96533	LINE CONDUIT
30.14	9SEM06X008ZN	FLANGED BUTTON HEAD SCREW
30.15	230HL92156	PIPE

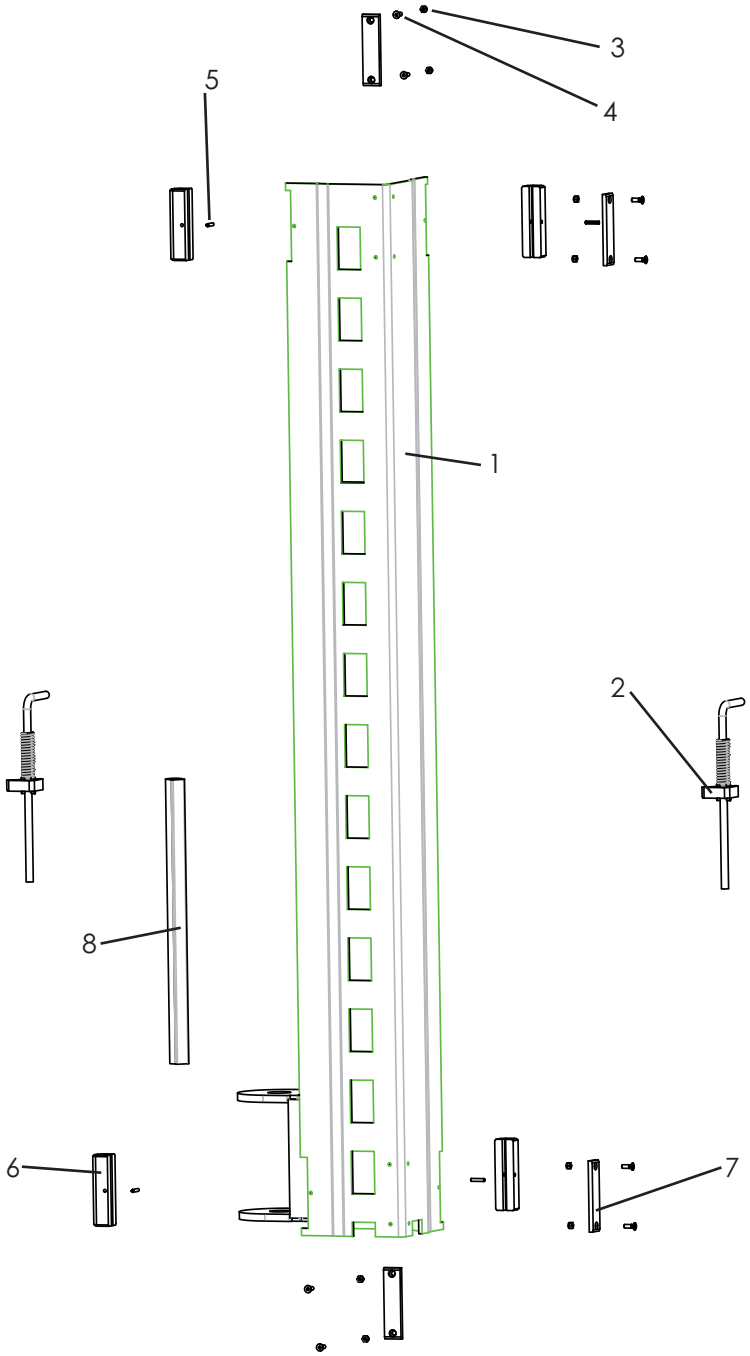
40.xx Lift rails operating side



230HL96000_ET 12.03.2015

40.1	230HL96003	LIFT RAILS OPERATING SIDE R WELD PART
40.2	230HL28196	COMPLETE DRAWBAR
40.3	9985-M5	HEXAGONAL NUT DIN985
40.4	97991-M5X16	COUNTERSUNK SCREW
40.5	97346-4X20	FRICTION BOLT
40.6	230HL66014	SLIDING PART
40.7	230HL66018-10	SLIDING PART
40.8	225SL06103S1	RUBBER PROFILE 400 MM (970194)

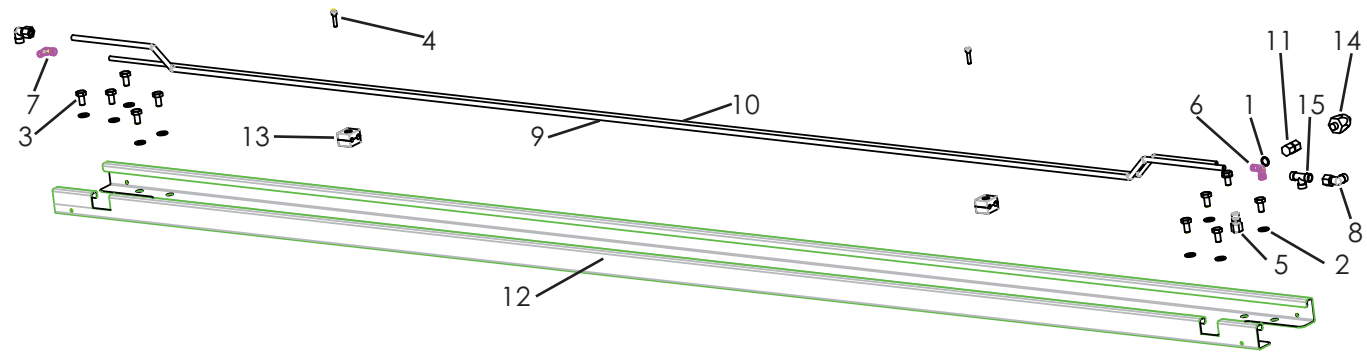
50.xx Lift rails opposite side



230HL96050_ET 12.03.2015

50.1	230HL96053	LIFT RAILS OPPOSITE SIDE L WELD PART
50.2	230HL28196	COMPLETE DRAWBAR
50.3	9985-M5	HEXAGONAL NUT DIN985
50.4	97991-M5X16	COUNTERSUNK SCREW
50.5	97346-4X20	FRICTION BOLT
50.6	230HL66014	SLIDING PART
50.7	230HL66018-10	SLIDING PART
50.8	225SL06103S1	RUBBER PROFILE 400 MM (970194)

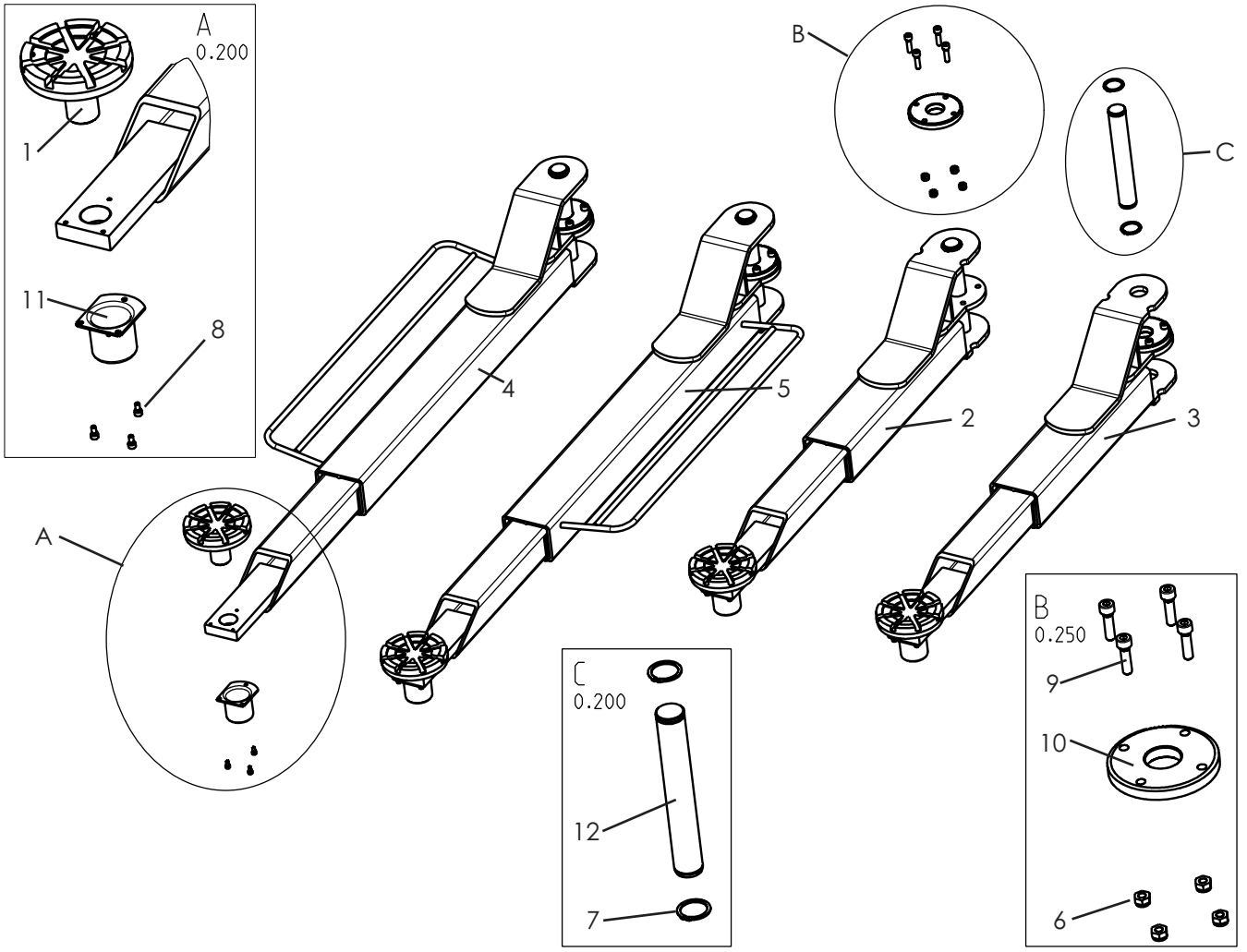
60.xx Cross-beam complete



230HL96300_ET 12.03.2015

60.1	97603-A13X18-CU	SEALING RING
60.2	9125_1-A10_5	WASHER
60.3	9933-M10X20	ALLAN SCREW
60.4	9912-M6X25	CYLINDER SCREW
60.5	982546	SCREW FITTING
60.6	980618	WELD ON ANGLE SCREW FITTING 90°
60.7	981346	WELD ON ANGLE SCREW FITTING 90°
60.8	980610	ADJUSTMENT ANGLE SCREW FITTING .
60.9	230HL92152	HYDRAULIC PIPE
60.10	230HL92154	HYDRAULIC PIPE
60.11	982126	MANOMETER SCREW FITTING
60.12	230HL96328	CROSS-BEAM
60.13	982269	PIPE CLAMPS DIN3015
60.14	983642	SWITCH
60.15	980020	T-SCREW FITTING

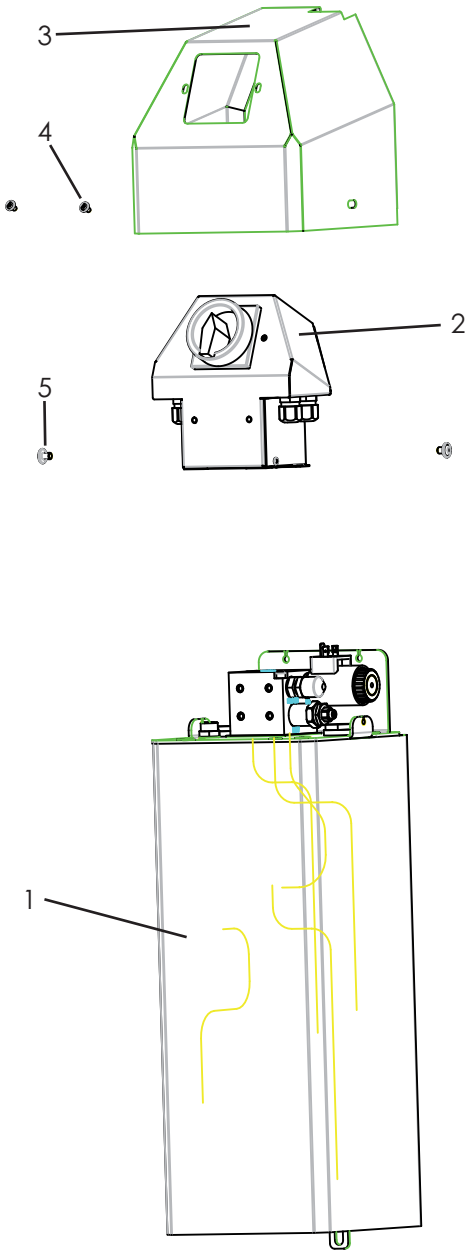
70.xx Lifting arm



230HL08400TG 12.03.2015

70.1	225SL08073	COMPLETE RECEIVING PLATE
70.2	230HL18020_ET	LIFTING ARM SHORT OPER.
70.3	230HL18030_ET	LIFTING ARM SHORT OPP.
70.4	230HL18001_ET	LIFTING ARM LONG, COMP. 945-1493 MM
70.5	230HL18011_ET	LIFTING ARM LONG, COMP. 945-1493 MM
70.6	9985-M8	HEXAGONAL NUT
70.7	9471-32X1_5	SAFETY RING
70.8	9912-M5X10	CYLINDER SCREW
70.9	9912-M8X30	CYLINDER SCREW
70.10	232NSTL08015	GEARED BLOCK
70.11	225SL08227	SAFETY GUARD
70.12	230HL18040	LIFTING ARM BOLTS IN GENERAL

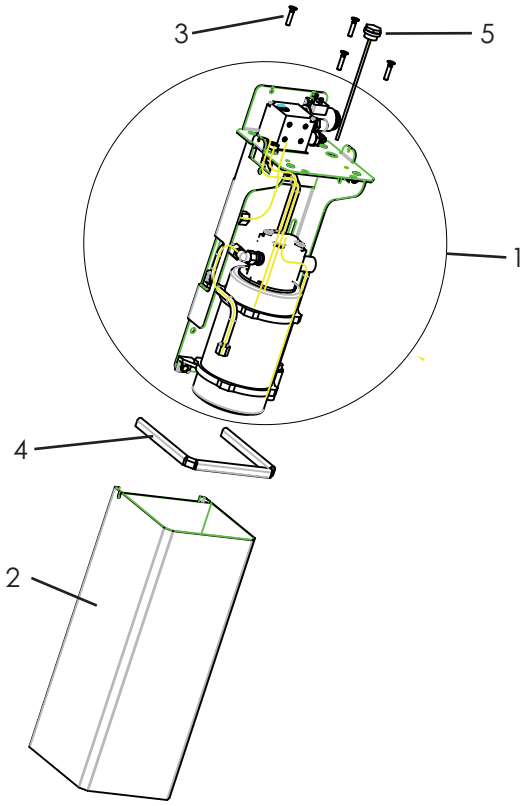
80.xx Complete unit



230HL02001_ET 12.03.2015

80.1	230HL02010_ET	UNIT
80.2	230HL02070_2	SWITCH BOX
80.3	230HL02140	COVER HOOD
80.4	9SEM04X008ZN	FLANGED BUTTON HEAD SCREW
80.5	9SEM06X008ZN	FLANGED BUTTON HEAD SCREW

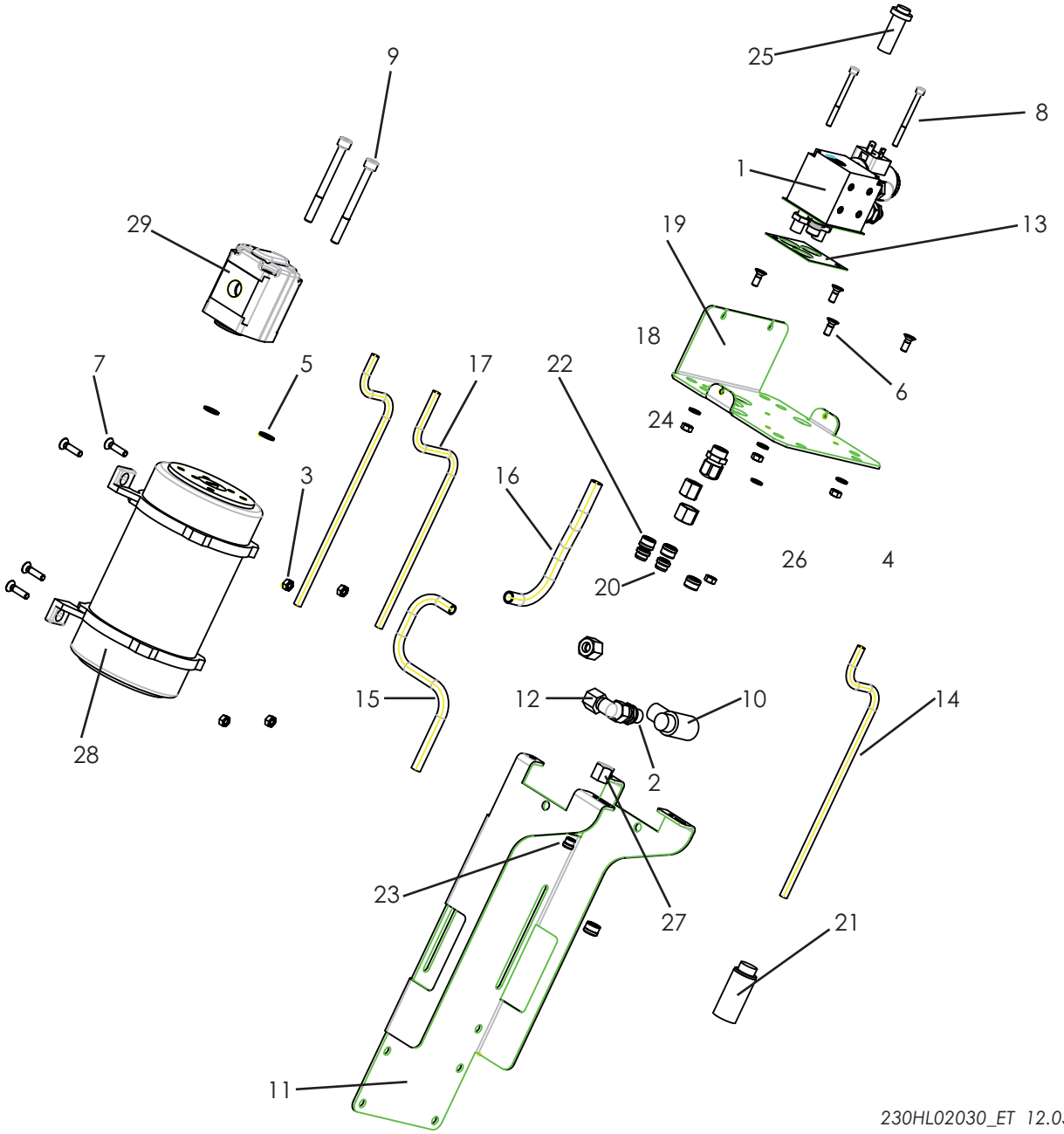
90.xx Complete unit



230HL02010_ET 13.03.2015

90.1	230HL02030_ET	COMPLETE PUSH IN
90.2	230HL02013	OIL CONTAINER WELD PART
90.3	97991-M6X30	COUNTERSUNK SCREW
90.4	973782_750	EDGE GUARD PROFILE
90.5	982186	OIL DIPSTICK

100.xx Complete push in



230HL02030_ET 12.03.2015

100.1	230SPL01110_ET	COMPLETE BLOCK
100.2	980784	STRAIGHT SCREW IN FITTING
100.3	9934-M6	HEXAGONAL NUT
100.4	9125_1-A6_4	WASHER
100.5	9125_1-A8_4	WASHER
100.6	97991-M6X16	COUNTERSUNK SCREW
100.7	97991-M6X25	COUNTERSUNK SCREW
100.8	9912-M5X60	CYLINDER SCREW
100.9	9912-M8X85	CYLINDER SCREW

100.10 981295	SUCTION PIPE, PUMP
100.11 232HL01029	RECEIVING PANEL
100.12 980610	ADJUSTMENT W SCREW FITTING .
100.13 230SPL01112	FLAT SEAL
100.14 230HLNT01952	HYDRAULIC PIPE 1
100.15 230HLNT01958	HYDRAULIC PIPE 2
100.16 230HLNT01956	HYDRAULIC PIPE 3
100.17 230HLNT01954	HYDRAULIC PIPE 4
100.18 99519371	CABLE SCREW FITTING
100.19 230HL02012	OIL CONTAINER COVER
100.209DPR10L	PROGRESSIVE RING
100.21 980201	SUCTION FILTER
100.22980208	CUTTING RING
100.23980222	CUTTING RING
100.24980385	CUTTING RING
100.25981133	SV8L
100.26980064	CLAMPING NUT
100.27980220	CLAMPING NUT M14X1.5
100.28992658	UNDER OIL MOTOR
100.29980340	MECHANICAL PUMP

13 Set up protocol

After successful set up, complete this form fully, sign it, make a copy and send to the manufacturer within a week.

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

The system with serial number _____ was set up on (date) _____

at (company name) _____ in (town, city)_____

checked for function and safety and put into operation.
The set up was done by the operating company / specialist (score out the one that does not apply).

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

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

_____	_____	_____
Date	*Name, Operating company & company stamp*	*Operating company signature*
_____	_____	_____
Date	*Name, Specialist*	*Specialist signature*

Service partner: _____
Stamp

Only fill out if the system has a fixed anchor.

Anchor used *)_____
Type/ brand

Minimum anchor depth *) complied with: _____ mm

Tightening torque *) complied with: _____ Nm

**) see 4.2.1 selecting the anchor*

15.1 Transfer protocol

The system _____

with serial number _____ was set up on (date) _____

at (company name) _____ in (town, city)_____

checked for function and safety and put into operation.

The following listed people (operators) were trained to handle the lift after it was set up by a trained assembler of the manufacturer or a contract partner (specialist).

(Date, name, signature, empty lines must have a scored out)

_____	_____	_____
Date	*Name*	*Signature*
_____	_____	_____
Date	*Name*	*Signature*
_____	_____	_____
Date	*Name*	*Signature*
_____	_____	_____
Date	*Name*	*Signature*
_____	_____	_____
Date	*Name*	*Signature*
_____	_____	_____
Date	*Name, specialist*	*Signature of specialist*

Service partner: _____ (Stamp)

14 Single safety inspection before commissioning

Copy, complete and leave in the inspection book

Serial number: _____

Test step: OK = "**o**" Defective or missing = "**-**" Post-inspection = "**N**"

Model plate	
Brief operating instructions on the column	
Operating manual	
Load capacity details on the system	
Condition/ function reverse switch	
Label "LIFT, LOWER"	
General system condition	
Condition of covers	
Condition/ function lifting arm	
Condition/ function lifting arm block	
Condition/ function lifting arm movement	
Condition/ function carrier plate / support parts	
Condition/ function foot bumper	
Securing the lifting arm bolts	
Load bearing construction (deformations, cracks)	
Condition of cross-beam	
Condition of concrete floor (cracks	

Fastening anchor torque	
Fastening screw torque	
Unit condition	
Paint condition	
Cylinder condition	
Condition wiper cylinder	
Piston rods surface condition	
Hydraulic system leak-tightness	
Hydraulic oil filling level	
Condition of hydraulic lines incl. screw fittings	
Functional test "overflows"	
Condition electrical lines	
Condition / function energy set (optional)	
Condition/ function safety catch	
Condition of weld seams	
Functional test, system with load	

**) Enter one of the following: "o" = OK, "-" = defective or missing and/or "N" = reinspect!*

Remarks: _____

_____

_____

Safety inspection done on: _____

Performed by company: _____

Name, address of specialist: _____

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

_____ _____

Signature of specialist *Operating company signature*

If requested to take care of deficiencies

Deficiency removed on: _____ _____

Operating company signature

(use a new form for reinspection!)

14.1 Regular safety inspection and maintenance

Copy, complete and leave in the inspection book

Serial number: _____

Test step: OK = "**o**" Defective or missing = "**-**" Post-inspection = "**N**"

Model plate	
Brief operating instructions on the column	
Operating manual	
Load capacity details on the system	
Condition/ function reverse switch	
Label "LIFT, LOWER"	
General system condition	
Condition of covers	
Condition/ function lifting arm	
Condition/ function lifting arm block	
Condition/ function lifting arm movement	
Condition/ function carrier plate / support parts	
Condition/ function foot bumper	
Securing the lifting arm bolts	
Load bearing construction (deformations, cracks)	
Condition of cross-beam	
Condition of concrete floor (cracks	

Fastening anchor torque	
Fastening screw torque	
Unit condition	
Paint condition	
Cylinder condition	
Condition wiper cylinder	
Piston rods surface condition	
Hydraulic system leak-tightness	
Hydraulic oil filling level	
Condition of hydraulic lines incl. screw fittings	
Functional test "overflows"	
Condition electrical lines	
Condition / function energy set (optional)	
Condition/ function safety catch	
Condition of weld seams	
Functional test, system with load	

**) Enter one of the following: "o" = OK, "-" = defective or missing and/or "N" = reinspect!*

Remarks: _____

_____

_____

Safety inspection done on: _____

Performed by company: _____

Name, address of specialist: _____

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

_____ _____

Signature of specialist *Operating company signature*

If requested to take care of deficiencies

Deficiency removed on: _____ _____

Operating company signature

(use a new form for reinspection!)

14.2 Exceptional safety inspection

Copy, complete and leave in the inspection book

Serial number: _____

Test step: OK = "**o**" Defective or missing = "**-**" Reinspection = "**N**"

Model plate	
Brief operating instructions on the column	
Operating manual	
Load capacity details on the system	
Condition/ function reverse switch	
Label "LIFT, LOWER"	
General system condition	
Condition of covers	
Condition/ function lifting arm	
Condition/ function lifting arm block	
Condition/ function lifting arm movement	
Condition/ function carrier plate / support parts	
Condition/ function foot bumper	
Securing the lifting arm bolts	
Load bearing construction (deformations, cracks)	
Condition of cross-beam	
Condition of concrete floor (cracks	

Fastening anchor torque	
Fastening screw torque	
Unit condition	
Paint condition	
Cylinder condition	
Condition wiper cylinder	
Piston rods surface condition	
Hydraulic system leak-tightness	
Hydraulic oil filling level	
Condition of hydraulic lines incl. screw fittings	
Functional test "overflows"	
Condition electrical lines	
Condition / function energy set (optional)	
Condition/ function safety catch	
Condition of weld seams	
Functional test, system with load	

**) Enter one of the following: "o" = OK, "-" = defective or missing and/or "N" = reinspect!*

Remarks: _____

_____

_____

Safety inspection done on: _____

Performed by company: _____

Name, address of specialist: _____

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

_____ _____

Signature of specialist *Operating company signature*

If requested to take care of deficiencies

Deficiency removed on: _____ _____

Operating company signature

(use a new form for reinspection!)

15 Electrical circuit diagram

Object: 2.xx HL Klinke
System:
Customer:
Circuit diagram number: 2.xx HL K 11/14/008

Grounding according to local regulations
Before commissioning check whether the nominal motor current matches the motor protection relay. Check all terminal points for proper connection and that all contact screws are tight.
Before commissioning, check all wiring and controls for proper function. Do not permit commissioning from the unauthorized side.

These plans were generated on a CAD system. To keep plans to the current state, we ask that you request Nußbaum to make the changes.

These circuit diagrams are intellectual property. They may not be given to third parties or reproduced without our permission!

Rights to make changes are retained.

Circuit diagram and switch documents
Circuit diagrams were made to the best of our knowledge.
No warranty for the correctness of provided circuit diagrams and switch documents is given. This is particularly relevant for switches that were completed by us according to third party plans. This was done by us from purchaser provided manufacturer documentation.

Functional test of switch systems
Circuit diagrams are not standard documents. When checking the control cabinet at the factory, field devices such as sensors, thermostats and motors cannot be included. For this reason, even with careful inspection, functional and switch errors cannot always be prevented.
Deficiencies are removed within the scope of guarantee during commissioning. During commissioning, if our services are not used, then no deficiency liability is accepted. Rework, including informing of circuit diagrams of switch systems not commissioned by us are therefore only done to an invoice according to our service terms and conditions. Costs for rework by third parties cannot be honoured.

Safety inspection and safety measures
The control cabinet has been produced, set up and inspected according to recognized technology rules according to VDE0100/0113 and accident prevention regulation VBG4 (electrical systems and equipment)
The following tests were done:

- Voltage test and/or insulation test of the control cabinet according to VDE0100/5.73

- Inspection of effectiveness of the safety measures used for indirect contact according to VDE0100g/7.75 para. 22

- Functional test and part test according to VDE560/11.87

Implemented safety measures:

- Protection against direct contact according to VDE0100/5.73. para. 4

- Protection against indirect contact according to VDE0100/5.73. para. 5

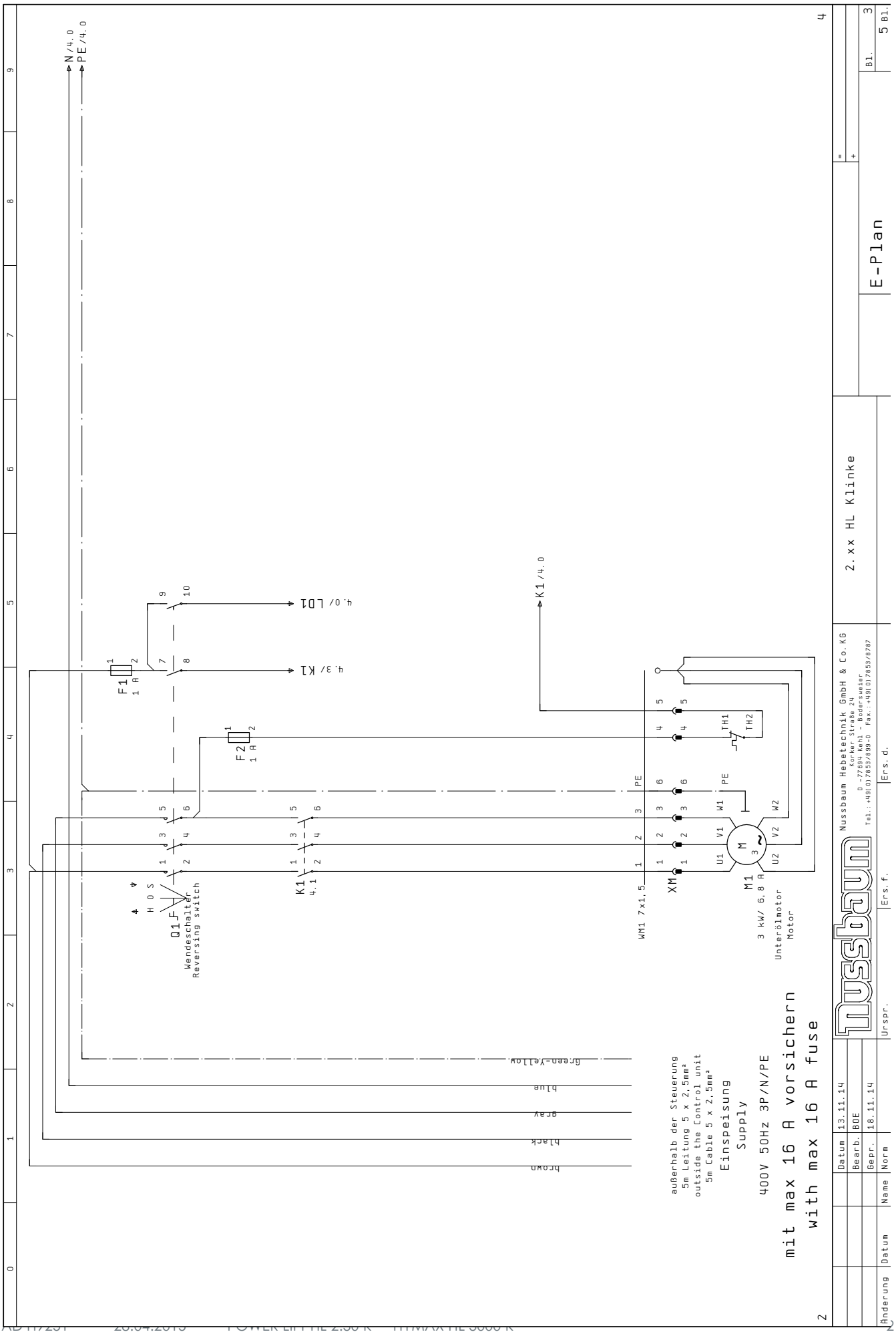
Inhaltsverzeichnis

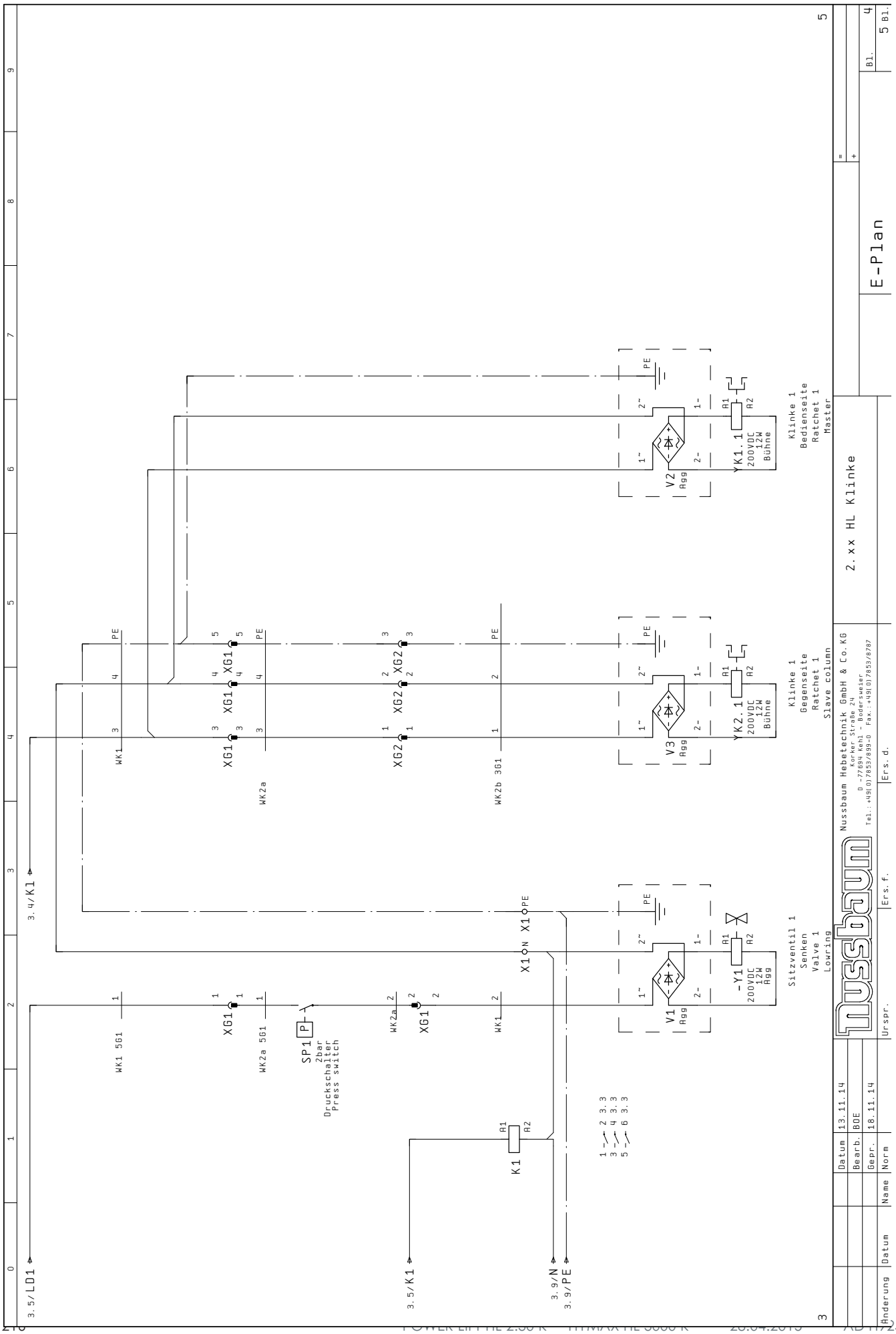
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet

WUPJ005D 24.02.1994

Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X
1	Deckblatt		13.11.14	BOE	
2	Inhaltsverzeichnis		18.11.14	BOE	
3	E-Plan		18.11.14	BOE	
4	E-Plan		18.11.14	BOE	
5	Stückliste		18.11.14	BOE	x

			Datum	13.11.14	Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	2.xx HL Klinke		
			Bearb.	BOE				
			Gepr.	18.11.14			Inhaltsverzeichnis	Bl. 2 5 Bl.
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	


N/4.0
PE/4.0
4.0/LD1
4.3/K1
K1/4.0
F1
1 A
F2
1 A
Q1F
Wendeschalter
Reversing switch
H O S
K1
4.1
XM
WM1 7x1.5
M1
3 kW/ 6.8 A
Unterölmotor
Motor
TH1
TH2
U1
V1
W1
U2
V2
W2
PE
brown
black
gray
blue
green-yellow
400V 50Hz 3P/N/PE
Einspeisung
Supply
außerhalb der Steuerung
5m Leitung 5 x 2,5mm²
outside the Control unit
5m Cable 5 x 2,5mm²
mit max 16 A vorsichern
with max 16 A fuse
2.xx HL Klinke
E-Plan
Nussbaum Hebetechnik GmbH & Co.KG
Korker Straße 24
D -77694 Kehl - Bodersweier
Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787
Datum 13.11.14
Bearb. BOE
Gepr. 18.11.14
Name Norm
Änderung Datum
Urspr.
Ers. f.
Ers. d.
Bl. 3
5 Bl.


E-Plan
2.xx HL Klinke
Nussbaum Hebetechnik GmbH & Co.KG
Korker Straße 24
D-77694 Kehl - Bodersweier
Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787
Sitzventil 1
Senken
Valve 1
Lowring
Klinke 1
Gegenseite
Ratchet 1
Slave column
Klinke 1
Bedienseite
Ratchet 1
Master
3.5/LD1
3.4/K1
3.5/K1
3.9/N
3.9/PE
WK1 5G1
WK2a 5G1
SP1
250bar
Druckschalter
Press switch
WK1
WK2a
WK2b 3G1
XG1
XG2
X1
K1
V1
V2
V3
-Y1
YK1.1
YK2.1
200VDC
12W
Bühne
Agg
PE
Datum
Name
Änderung
Norm
Gepr.
Bearb.
Datum
13.11.14
BOE
18.11.14
Urspr.
Ers. f.
Ers. d.
Bl.
5 Bl.

Stückliste Bill of materials

NUSTÜCK2 16.11.2004

Bauteilbenennung Component design.	Menge Amount	Bezeichnung Designation	Typen nummer Model number	Lieferant Supplier	Artikelnummer Article number
F1	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
F1	1	Feinsicherung	FEINSICHERUNG	GIF	990662
F2	1	Einschraubsicherungshalter 5*20 mm	2918810	GIF	990125
F2	1	Feinsicherung	FEINSICHERUNG	GIF	990662
K1	1	Leistungschütz 5,7 kW 230 V 50-60 Hz	11BG12.01 A 230V AC	Lovato electric	990841
M1	1	Unterölmotor 3kW/ 6,8/11,8A 50Hz	U07K2-371	Hanning GmbH	992658
Q1	1	Lasttrennwendesch. Heben 3 x S / Senken 2 x S	W151/218.1000-SQ41-NU	Merz GmbH	994786
Q1	5	Steuerleitung mit num. Adern (5G1,5)	PVC-STEUERLEITUNG FLEX	Kabel Wächter GmbH & Co.KG	990009
SP1	1	Kolbendruchschalter 1 Wechsler	KOLBENDRUCKSCHALTE 1-10 BAR	Suco Robert Scheufele	983642
V1	1	Ventilstecker KA132R13A1 Grau	GERÄTESTECKER MIT GLEICHRICHTE	Seehausen	109783
V2	1	Ventilstecker KA132R13A1 Grau	GERÄTESTECKER MIT GLEICHRICHTE	Seehausen	109783
V3	1	Ventilstecker KA132R13A1 Grau	GERÄTESTECKER MIT GLEICHRICHTE	Seehausen	109783
WK1	4	Steuerleitung mit num. Adern (5G1,0mm²)	PVC-STEUERLEITUNG FLEX	Kabel Wächter GmbH & Co.KG	990115
WK2a	8	Steuerleitung mit num. Adern (5G1,0mm²)	PVC-STEUERLEITUNG FLEX	Kabel Wächter GmbH & Co.KG	990115
WK2b	4	Steuerleitung mit num. Adern (3G1,0)	PVC-STEUERLEITUNG FLEX	Kabel Wächter GmbH & Co.KG	990034
WM1	0.50	Steuerleitung mit num. Adern (4G1,5)	PVC-STEUERLEITUNG FLEX	Kabel Wächter GmbH & Co.KG	990060
X1	1	Reihenklemme D 1,5/6.N.ADO bl schn-schn	D 1,5/6.N.ADO	Entrelec	990577
X1	1	Schutzleiterkl D 1,5/6.P.ADO schn-schn	D 1,5/6.P.ADO	Entrelec	990578
XG1	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
XG1	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
XG1	5	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
XG1	5	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
XG2	1	Buchsengehäuse 4 polig ku	2 105 50290250	AMP	990407
XG2	1	Steckergehäuse 4 polig ku	2 105 50290251	AMP	990408
XG2	3	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
XG2	3	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
XM	1	Steckergehäuse 6 polig ku	05 0-180906-0	AMP	990327
XM	1	Buchsengehäuse 6 polig ku	2 105 50290253	AMP	990330
XM	6	Flachsteckhülse Stecker 6,3mm	05447.123.111	AMP	990328
XM	6	Flachsteckhülse Buchse 6,3mm CUZN ohne ISO	08632.123.211	AMP	990329
YK1.1	1	Ventilstecker KA132R13A1 Grau	GERÄTESTECKER MIT GLEICHRICHTE	Seehausen	109783
YK2.1	1	Ventilstecker KA132R13A1 Grau	GERÄTESTECKER MIT GLEICHRICHTE	Seehausen	109783

			Datum	18.11.14	Nussbaum Hebetechnik GmbH & Co.KG Korker Straße 24 D -77694 Kehl - Bodersweier Tel.: +49(0)7853/899-0 Fax.: +49(0)7853/8787	2.xx HL Klinke	=
			Bearb.	BOE			+
			Gepr.	18.11.14			
Änderung	Datum	Name	Norm		Urspr.	Ers. f.	Ers. d.	Stückliste	Bl. 5 5 Bl.

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16 Konformitätserklärungen, Declaration of conformity, Déclarations de conformité, Declaraciones de conformidad, Dichiarazione di conformità

16.1 POWER LIFT HL 2.30 K

EG- Konformitätserklärung

Nussbaum

gemäß Maschinenrichtlinie Anhang II 1A

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

Hiermit erklären wir, daß die Hebebühne, Modell: HL 2.30 K
Hereby we declare that the lift model:
Par la présente nous déclarons que le pont élévateur modèle:
Por la presente declara, que el elevador modelo:
Con la presente si dichiara che il sollevatore:

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

Maschinenrichtlinie / Machinery Directive	2006/42/EG
EMV Richtlinie / EMC Directive	2004/108/EG

in Übereinstimmung mit den folgenden harmonisierten Normen gefertigt wurde
was manufactured in conformity with the harmonized norms
fabriqué en conformité selon les normes harmonisées en vigueurs.
producido de acuerdo a las siguientes normas armonizadas.
è stato fabbricato in conformità con le norme armonizzate

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

Beauftragter für die Technische Dokumentation Otto Nußbaum GmbH & Co. KG
Authorised to compile the technical file

Seriennummer
Serial number

Seriennummer

Kehl- Bodersweier, 27.11.2014

Steffen Nußbaum
Geschäftsführer

DoC-NUS_HL230-K_2014-11.docx

Nussbaum Otto Nußbaum GmbH & Co. KG · Korker Str. 24 · D-77694 Kehl-Bodersweier
Tel.: +49(0)7853/899-0 · Fax: +49(0)7853/8787 · www.nussbaum-group.de

CE

16.2 HYMAX HL 3000 K

EG- Konformitätserklärung

gemäß Maschinenrichtlinie Anhang II 1A

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

Hiermit erklären wir, daß die Hebebühne, Modell: HYMAX HL 3000 K
Hereby we declare that the lift model:
Par la présente nous déclarons que le pont élévateur modèle:
Por la presente declara, que el elevador modelo:
Con la presente si dichiara che il sollevatore:

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

Maschinenrichtlinie / Machinery Directive	2006/42/EG
EMV Richtlinie / EMC Directive	2004/108/EG

in Übereinstimmung mit den folgenden harmonisierten Normen gefertigt wurde
was manufactured in conformity with the harmonized norms
fabriqué en conformité selon les normes harmonisées en vigueurs.
producido de acuerdo a las siguientes normas armonizadas.
è stato fabbricato in conformità con le norme armonizzate

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

Beauftragter für die Technische Dokumentation
Authorised to compile the technical file — Otto Nußbaum GmbH & Co. KG

Seriennummer
Serial number — Seriennummer

Kehl- Bodersweier, 24.03.2015

Dr. Martin Huck
Geschäftsführer Technik / COO

DoC-ATT_HL3000K_2015-03.docx

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AD H9251 | DE, EN, FR, ES, IT | 28.04.2015 | POWER LIFT HL 2.30 K

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