

4-post lift series

Operation and Installation Instructions (Master -/ Slave-System)



Consul 4.XX-Serie

Version 1.0 Stand: 11.2016
Order-No:

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EC Declaration of Conformity

Consul Werkstattausrüstung GmbH
Daimlerstr.1
D – 58553 HALVER



For Machine Directive TÜV NORD CERT 2006/42/EC

We declare herewith that the vehicle lift of the following detail has been designed, built and installed conforming to the current basic safety and health requirements as stated in the EC – Regulations. If any alterations of the vehicle lift are made which we have not agreed to, this declaration loses its validity.

Designation of the lift: 4-columns-Lift

Lift types: year of construction: _____ Serial-No.: _____

- 4.XX-Series
- 4.XX-Series SN
- 4.XX-Series SN-AM
- 4.XX-Series ASD
- 4.XX-Series SN-ASD

Current EC - Regulation 2006/42/EG

Electro-magnetic compatibility 2014/30/EG

Applied with harmonised standards: EN1493:2010
EN 60204 Teil 1:2006+A1:2009
EN55014-1:2006+A1:2009+A2:2011
EN55014-2:2015
EN61000-6-3 :2007+A1 :2011
EN ISO 12100:2010

Applied national standards and technical specification: DGUV Grundsatz 308-002

Technical responsible of documentation: Fa. Consul Werkstattausrüstung GmbH 58553 Halver

As the audited technical equipment cannot be delivered for immediate use, this equipment must be checked by an expert prior to initial operation. The company-trained technicians of CONSUL partners are experts.

EC-Certificate- No.:

Testing institution 0044

Place: Halver

Date: 08.07.2015

Signatures:

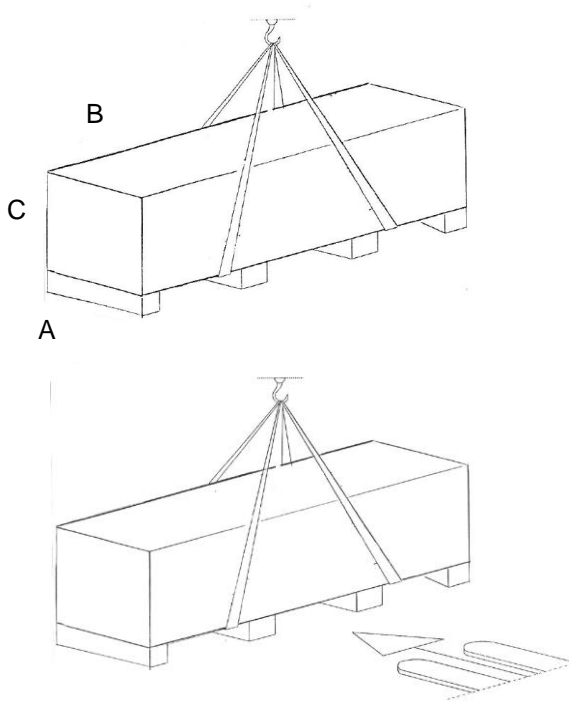
Frank von der Crone
Person responsible for documentation

Frank von der Crone
Company director

Consul Werkstattausrüstung GmbH - Filing

sequential no. CE: _____

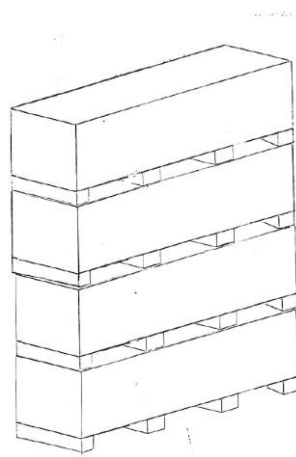
Delivery/ Transport/ Stacking



Dimensions:

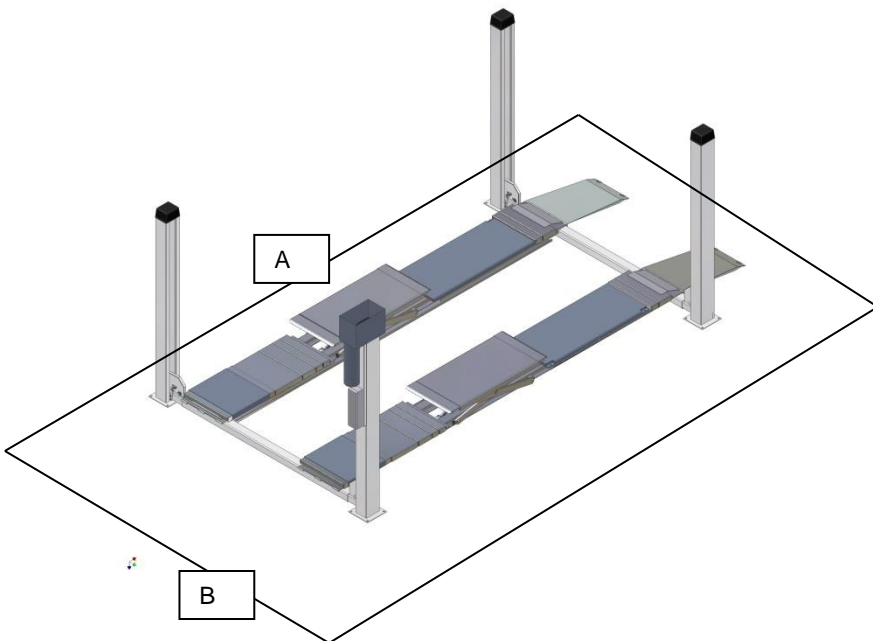
Lift type	A	B	C
1-post-lift	700	3100	700
2-post-lift	690	3100	570
4-post-lift	970	3100	450
+ Driving platform			
Scissor-lift	800	5000	450
Double scissor lift	680	1660	790

Dimensions in mm!



max. 4 pieces

Workplace area



4 post lift

Required floor space
Minimum 1 m in front, lateral and
behind the vehicle / lift

Delivery and Installation Requirements

1. Delivery by forward company invoiced with standard freight charge: A forklift must be made available at short notice. Weight of the lifts: approx. 650 – 2700 kg, depending on lift type.

2. Delivery by truck with off - loading equipment invoiced with increased freight charge: Equipment for deposition assistance must be provided at short notice. Weight of the lifts is approx. 650 – 1000 kg, depending on lift type

3. Preparations for installation

1. Prior to setting up following work must be arranged by the operator:

- ◆ Preparation of the fundament (see standard foundation).
- ◆ Laying down of electrical connection to place of setting up.
- ◆ Laying down of compressed air connection to place of setting up (if necessary).
- ◆ Transport of lift to place of setting up.

4. Minimum foundation requirements

The foundation surface must be flat and horizontal for all lifts. The foundation must correspond to the general guidelines for foundations (DIN 1054). For lifts installed outside, the foundation must be frost-proof. When setting up on ceiling over, the floor conditions must be certified by a structural engineer. Lifts can be anchored with anchor bolts, chemical bolts or through bolts, minimum strength 8.8 and washers – see also BGG 945 -.

5. Installation by Approved Consul Installer

The Consul customer Service or Consul authorised partners take on the setting up of the lift with the following criteria:

- Fixing to the floor.
- Assembly of the lift. For setting-up of the lift, additional personnel, and/ or auxiliary lifting means must be provided at short notice.
- Electrical functional check and trial run without final mains connection that must be carried out by a local specialist.
- Permanent connection of cables between posts on EL lifts only if the cable bridge is used
- Safety acceptance with entry in the test book.
- Short instruction.

6. Average time for installation (providing the conditions above are met):

Single Post Lift - approx. 3 hours working time
2-Post-Lifts - approx. 4 hours working time (with base frame approx. 3 hours)

With the 2-Post-Lifts of the EL models series, the electrical connection cables are only assembled permanently with the use of a cable bridge (accessory). Otherwise these cables must be fixed by the operator.

4-Post-Lifts:

- Without secondary lift approx. 7 hours working time
- With secondary lift approx. 9 hours working time

Short lifts approx. 2 hours working time

Scissor lifts approx. 9 hours working time

If the lift is set up by the operator himself, the attached assembly and operating instructions must be observed. Subsequently the lift must be subjected to safety acceptance by a Consul service agent. This includes the following performances:

- ◆ Electrical functional check and trial run.
- ◆ according to BGG 945
- ◆ Examination of the individual structural components.
- ◆ Entry in the check list according to BGG 945-1.
- ◆ Short instruction.

7. Annual check (LOLER)

In addition to the check prior to the initial commissioning of the lift by our customer service section, the official regulations demand at least one safety inspection per year by experts. Our customer service will be pleased to submit you a quotation for a maintenance contract.

8. Assembly cost rates and invoicing

The performances of the customer service stated are invoiced in accordance with the respectively applicable terms and conditions of assembly, hourly rates and lump-sum travelling amounts. Fixing material is not included in the scope of delivery of lifts.

9. Guarantee

On the basis of the fact that lifts must satisfy specify safety requirements for protection of persons working of them, we draw your attention to the fact that we must tie the guarantee entitlement of the operator to the correct performed safety acceptance and entry of this into the tesbook. Always uses original CONSUL spare parts. The use of any other parts invalidates the design permit and all claims under warranty.

Service memorandum fixing material & current power values

Lifts:	Type:	Manufacturer: Description of type: Piece:	Torque during anchoring:	Individual fundaments Fundament dimensions:		Concrete floor (hall floor) Fundament- characteristics			Power values
		for example:	Anchoring depth see manufacturer	Length in direction of travel	Width in direction of travel	Min. thickness without floor covering	Quality of concrete B 47/10-1	Anchoring depth dowels see manufacturer	Important: all securites „slowly-acting”
4.XX-Series 4.XX-Series SN 4.XX-Series SN-AM 4.XX-Series ASD 4.XX-Series SN-ASD	H305.01 H371.10 H338.01 H372.10 H373.01 H374.10 H375.10 Z106.01 Z073.10 H445.01 H445.02 H444.10 H491.10 H482.00 H483.10 Z339.00	heavy duty anchor Hilti HSL G TZ M12 (16 pcs.)	80 Nm	100 cm	100 cm	15 cm	C 20/25	10,5 cm	400 V/ 50 Hz/ 3x20 A

The setting up of the lifts is only admissible and will only be carried out if the minimum requirement on the fundaments indicated are fulfilled at the place of setting up. **The process specifications of the respective manufacturer are determining !**
Subject to change without prior notice! Date: 08.07.2015

The most important designations according to the new concrete standard B 4710-1

Exposition classes (environmental classes)

XO	no corrosion risk, no frost;
XC1	corrosion released by carbonation
XC2	
XC3	
XC4	
X0	unreinforced concrete, concrete in buildings with < 30% air humidity
XC1	concrete in buildings (flats, offices), kitchens, bathrooms, laundries; foundations in the groundwater
XC2	interiors with high air humidity, laundries, cattle sheds, indoor swimming pools, not oppressive groundwater, water pressure height under 2 m
C3	water pressure height 2 to 10 m; seal concrete buildings (in former times: WU)
XF1	Rain and <u>frost demand</u> for bent (> 5 %) and vertical surfaces, all under-faces with frost
XF2	concrete with <u>frost and rope means</u> (salt) for bent (< 5%) and horizontal surfaces
XF3	rain and <u>frost demand</u> for horizontal surfaces; hydraulic engineerings
F4	concrete with frost and <u>rope means</u> (salt) for horizontal surfaces (in former times: FTB)

Concrete strength classes

The new pressure strength classes are to be compared approximately as follows:

C 8/10 B 8/B 80
C12/15 B15/B160
C16/20 B20/B225

C20/25 B25

Important instructions for assembling the 4-Post-Lift!

Attention!

1. The assembly should be carried out by qualified staff in accordance with the construction and operating instructions (otherwise the guarantee will be invalidated).
2. Check that all parts have been delivered before commencing assembly.
3. Final installation checks must be carried out according to VDE instruction 0100.
4. Test instructions are to be complied with, in accordance with BGG 945 and BGG 945-1.
5. Instructions for the foundations of the lift must be strictly observed.
6. While fitting of the lift take a look at the attached drawings.
7. Ventilate cylinders and check if these are working.
8. Watch out to only use mineral oil.
9. Lifts with automatic lubrication system, fill these up.
10. Lift is pre-programmed from our site but has to be aligned to matters of site. Proof safety function on correct height. (necessary Stop and blip)
11. Alignment of the posts is necessary.
12. Check the safety functions.
13. After first test runs put load on it and change settings if necessary.
14. Maintenance (pivotal point, supports, Cylinders) Watch out for intervals!

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Foreword

Your Consul lift has been design-tested in its basic concept, it offers you maximum economic efficiency and safety. It is up to you to make use of these advantages.

A prerequisite for this is correct operation, perfect maintenance and good care of the elevating installation. Please read these operating instructions carefully. They provide you with all necessary data and show how simple it is to keep your elevating installation ready for use at all times.

Your Consul lift ramp is only designed to raise automobiles or vehicles whose total weight does not exceed the ramp's maximum permitted load capacity and whose specified support points are within the ramp's support area.

Your Consul ramp is designed to raise motor vehicles. The carrying of people is not permitted. When using the elevating installation in lacquering plants or rooms in which a large amount of work is carried out with solvent-containing materials, pay attention to the risk of explosion. In its standard form the drive is not protected against explosion.

Safety devices

Your elevating installation is equipped with a series of safety devices that ensure safe operation given correct handling.

When setting up and operating please pay attention to the correct function of the safety devices and check these following each case of disturbance.

Make sure that after each incident especially these safety devices are subjected to a function test.

Only have your elevating installation maintained and repaired by trained fitters with corresponding certification.

Only original spare parts should be used. In the event of third-party parts being installed, the design authorisation shall lose its validity.

In accordance with the regulations regarding the operation of the elevating installation, elevating devices must be checked for their operational safety by an expert at the latest after one year.

This check must be entered in the test book of the elevating installation.

In this respect please pay attention to ensuring that only company-trained experts, who have been instructed in the function of the elevating platform and who are in possession of a certificate from the manufacturing company, check and accept your elevating installation.

Technical Data

Lift Type:	4.XX-Series	4.XX-Series SN	4.XX-Series SM-AM	4.XX-Series ASD	4.XX-Series SN-ASD
Order-No.:					
Lifting capacity: (kg)					
Platform	4500	4500	4500	4500	4500
Additional Lift		3500	3500		3500
Power (kW)	3	3	3	3	3
Voltage: (V)	400	400	400	400	400
Output pump: (l/min)	10	10	10	10	10
Cylinder stroke					
Platform (mm)	1870	1870	1870	1870	1870
Additional lift: (mm)		240	240		240
Lifting height Platform (mm)	2000	2000	2000	2000	2000
Lifting height additional lift (mm)		450	450		450
Lifting time					
Platform (sec)	35	35	35	35	35
Additional lift (sec)		15	15		15
Drive-on height (mm)	135	135	185	135	135
Pneumatic locking (bar)	8	8	8	8	8
Working pressure cylinder Hydraulic (bar)	190	190	190	190	190
Oil filling approx (l)	8,5	9	9	8,5	9
First filling for the first lifting (l)	7,5	8	8	7,5	8
Additional filling approx (l)	1	1	1	1	1
Noise level					
Raise	90 dB(A)	90 dB(A)	90 dB(A)	90 dB(A)	90 dB(A)
Lower	70 dB(A)	70 dB(A)	70 dB(A)	70 dB(A)	70 dB(A)
Average	80 dB(A)	80 dB(A)	80 dB(A)	80 dB(A)	80 dB(A)

Noise level measurement:

The noise tests were measured with 1m distance and 1,60m height from drive (electrical, hydraulic or pneumatical).

The measurement:

Sound level measure: OPTAC, Model SLM 7

Checking constancy: between 5 and 15 sec.

Subject to change without prior notice!

Description Of The Machines

The 4 post lift is electrohydraulic to lift and repair vehicles up to 4500kg (wheel free scissor 3500 kg) capacity.

In some lifts we do have an integrated wheel free scissor. For this type of lift we offer special accessories for wheel alignment like sliding plates and turntable cassettes (variable fitting of turntables).

The cross beams are guided with their endings in the columns. At one lifting column you will find the drive and the control unit including push buttons located.

The operation column is allocated to the platform with the huge installed hydraulic cylinder. At the yoke of the hydraulic cylinder are two wire ropes fitted, which have to be installed according to the scheme from column to column and which are screwed to the head plates of the columns.

In case the platforms are in the lowest position, the hydraulic cylinder is fully pulled out.

With using the button "lift up" the hydraulic cylinder drives in and bends the cables. The cross beams including the platforms are driving up (lifting movement). If you push the button "lowering down" the cylinder drives back with the weight of the lift, whereby lowers the lift.

There are catching bars located in all columns. If the cable breaks, these bars will stop the lift. You will also find parking bars every 100mm distance. These parking bars are adjustable in height, which allows you to adjust the platforms even for wheel alignment.

At the ends of the cross beams you will also find adjustment screws to place the platforms in basic position into balance.

The pneumatic driven locking device (elasticity) will be unlocked again with every movement up or down of the lift.

If the lift hits an obstacle while going down, it will disconnected itself through an control switch. It is possible to lift it up again to remove the obstacle. In case of cable breakage, the lift is disconnected into every direction to secure that the platforms will not drive into a slanting position.

If a wheel free scissor is integrated, this one will have a pick up area of 1400mm up to 1900mm and a drive over height of 50mm (from top of platform).

Assembling description

The lift has to be installed by trained engineers. Usually this happens by the manufacturer or authorized dealer. If the owner is in charge of trained engineers, the installation can be made by them according to the installation instructions.

The standard version of the lift is not appropriate for washind bays and rooms which are in danger of explosion. Assumption for a perfect fitting is an even and horizontal concrete (min. C 20/25) with appropriate capacity. The positioning fields of the columns have to be even to each other.

The supply line for the electrical connection and for air pressure has to be looked at on site. Please watch out that the electrical connection is secured and the air pressure has an upstreamed service unit.

At the first Step the location of the master column has to be determined. Please note that there has to be a space of 500mm in every lifting position between the user and all fixed elements (wall,...). The electrical supply line and air pressure line shuld be prepared. This has to be made on site.

The platform including the cables has to be placed that they are mainly aligned with the two pulleys close to the master column on approx. 150mm high square shaped timber. The cable endings, hydraulic hoses and pneumatic hoses have to be pulled out of the end of the platform. The cable endings have to be arranged and placed regarding the later fitting.

Cross beams have to be prepared for fitting. Take out the pulleys. The guiding pieces without claw need to be assembled in a distance of 12cm between the end of the cross beam and the border. Look at drawing!

Now the cross beams have to be placed regarding their allocation in front of the platform. The crossbeam with the small pulley opening belongs to the two singlepulleys of the platform. The limit switch cable of the cross beam has to be permeated with some help (string, twine) into the platform.

The cables need to be permeated into the crossbeams regarding their later positions. The cables of the platform need to be fixed in the separated cable guiding duct. The crossbeam with the side pulley opening has to be pulled across the pulleys of the platform and to be screwed with that. Look at drawing!.

There needs to be attention that the cable and pneumatic hose are not squeezed. The process needs to be done also with the second crossbeam; pulleys and secure steel plate have to be assembled.

The second platform (slave platform) will be assembled and the platform will be aligned to the cross beam in a right angle (measurement diagonal). Fix the screws of the drive platform. Now the columns need to be placed at the guiding pieces, have to be aligned and fixed on the floor. The columns are not allowed to stand cross.

Hilti anchors of the types HSL-GN or HSL has to be taken. Or products which are approved for use in the pull/push zone of the concrete.

The anchors have to grip in the below concrete. The minimum deepness in the concrete for Hilti HSL-M12/HSL-GN-M12 is 85 mm with 40 Nm pressure. The length of the anchors has to be choosen regarding the building up off the concrete. Please look at the recommendations of the anchor manufacturers.

Now the last four guiding pieces need to be assembled. Before the catching bars are installed, a nut has to be screwed on each of it. Now the catching bar has to be fixed in the device below and then pulled into the above head plate. Therefore the safety leverage of the catching device has to be pushed by foot into the column and has to be screwed with an extra nut from above.

Attention: above nut has to be even with the threaded bar

Electric cables need to be fixed as shown on the wiring diagram and the pneumatic and hydraulic hoses have to be connected with the right connections.

Important:

Protective conductor checks must be carried out following initial installation, after repairs. After alterations to the installation, as well as prescribed under the VDE regulations 0100!



Now you can fill in hydraulic oil. The oil tank needs to be filled until the lowest point of the fuel dip stick. The lift has to be connected electrically by a trained electrician like described on the wiring diagram. Based on the VDE 0100 (build-laterally) a service unit is to be connected to the compressor air bleed port and stopped to 8 bar. With the lifting platform with wheel free jack the operating mode selection switch is to be set to rail enterprise. Press the button "lifting". Please note the initial startup of the wheel-free lift (see hydraulic diagram p.24). The lift must rise after some delay (event. direction of rotation reversal by phase exchange).

Attention!

The test run has been made with mineral oil. Only use mineral oil! (E.g. from Shell: Shell Tellus S2 M22)

The hydraulic oil must be possibly supplemented during elevated and following lowering. The cylinder airs out itself by repeated driving, if necessarily at the vent screw air out. Vent screw again well tighten. The oil level must be identifiable there after with lowered lift by the dipstick (only upto max. 5 mm over lower edge to fill up).

Drive lift completely upward and into last rest lock. Now the operating mode selection switch (only wheel free jack) is placed on wheel free jacks. The vent screws at the two wheel free jack cylinders need to be opened a little bit to air out the system. Press lifting "subsequently, briefly on tracers a", until oil withdraws at vent screw and tighten screws again firmly.

Now the wheel free jack is maximally driven out and lowered again. Here on the fact it respects that the handle safety device lies exposed. If the hydraulic system should not be correctly aired out yet, repeat above procedure. Please note the initial startup of the wheel-free lift (see hydraulic diagram p.24) subsequently, surround the operating mode selection switch on rail use and lower the lift on approx. 1 meter. Stage the lift into the setting off rest position drive, rails and crossbeams by adjusting the individual setting off bars, bring in balance.

Afterwards the carrying ropes are adjusted in such a way that with lifting the rails at every four points raise at the same time. The nuts/mothers of the carrying rope become secured by countering. Subsequently, the rope monitoring switches are adjusted. The operating lever is adjusted in such a way that the lift, if an obstacle stands under any cross beam end, switches off with lowering and is still possible to lift it up again (play between limit switch cams and actuator 1-1,5 mm). The rope and sliding surfaces of the guiding pieces at the column openings are to lubricate, the drive on platforms are to be installed and all bolt mountings are on appropriate suit to examine as well as safety device. Control oil level again.

After lift with nominal load was rehearse-driven and all functions were examined by experts, the lift can be taken in use. The result of the examination must be registered in the test book.

Practical use with the post-lifts

For the use of the lift this must be adjusted fully lowered and according to the arbor width of the vehicle.

With the up and driving off the lift it is to be made certain that low-lying vehicle parts are not damaged such as spoiler and so on and the vehicle not laterally slips of the platforms.



The vehicle needs to be absolutely secured with an activated hand brake or with the 1st gear inside!

Make sure before each raising and/or lowering of the lift that there are no persons in the danger area, no articles at the vehicle or the lift lean and no articles under the vehicle lie.

The vehicle total weight may not exceed the load-carrying capacity and the distribution of load of the lifting platform. Put the Operating mode selection switches on the desired position (platform or wheel free jack).

The lifting platform is equipped with an alarm, that is activated starting from a height of 200 mm. In addition the jack stops, and drives with repeated manipulation of the descending tracer with a steady tone into its basic position.

Pressing the control box according to the direction of travel references, the lift is put into operation. After releasing the control box this jumps back automatically into the stop position. The lift is provided with four automatically rest setting off latch plates, which are steered above by pneumatic cylinders in connection with a 3/2 way valve at the engine column. If the platform in any position is to be set off, it is to be proceeded as follows!

Briefly before reaching the desired position release the lowering tracer. Operate the setting off tracer and keep pressed until all setting off latch plates rested. Where upon respect, which all setting off latch plates engage in same height into the setting off bars.

Is to be lowered from this position, then the lift must be switched briefly to lifting, until the setting off latch plates are free and switch only then to lowering.

Their lifting platform possesses a flabby cable safety device, which prevents a skew of the rails around more than 50 mm. If during the lowering process one of the 4 carrying cables is not strained any more, caused by rear-end collision into an obstacle or by a setting off rest in the stroke columns, the lowering process is switched off automatically. In this case only the upward movement is possible. Raise the lift briefly and eliminate the obstacle.

In addition your lift possesses a cable break safety device, which sets the lift with defective carrying elements out of operation. For the explanation of the functions of this safety device they consider please the sketch "flabby cable and cable break safety device. Sketch, figure 1 shows the arrangement of the clamp ear of the roller lever and the guide roller with compression spring in intact condition.

If a cable should tear once, the ear clamp blocks itself on the catch bar (Fig.3). In this defective condition the lifting platform is electrically switched off and blocked. Lowering or a raising is not possible any longer. The defective carrying element must be replaced. The wheel free jack is steered with the same keys as the rails (except resting tracer). For this the operating mode selection lever must point to "wheel free jacks". The lifting platform is to be used intended only as motor vehicle lifting platform, others, appearing also still so practical application type corresponds not to the intended purpose.

Independent serving of the lifting platform is persons under 18 years forbidden. Riding along of persons on the lifting attachment or in the vehicle which can be raised is inadmissible. See also operating instruction at the control box, as well as UVV.

Accessories:

For the up and driving off in a direction, that means drive forward in and drive forward off, there are special ramps offered. For work, to whose completion the wheels must be diminished, a wheel free jack is offered.

Disturbance and cause

- Lift does not lift on (engine does not run)

Tension failed, cable break switches is activated, tax safety device is defectively, main switches on O engine too hot, thermal switches switched off, engine defectively

- Lift does not lift on (engine runs)

Solenoid valve dirty, is blocked in lowering position, engine direction of rotation is wrongly, oil deficiency, relief valve adjusted, seals of the hydraulic cylinder is worn, pump is defective, mechanical safety disconnection is activated, Hydraulic hoses connected incorrectly (wheel free lift)

- Lift does not lower

Retract resistor check valve (in the cylinder) is clogged, single solenoid valve defective, rope break switches is activated or setting off latch plates is in the interference, pneumatic cylinder does not drive not out (wheel free jacks), push button switches defectively, mechanical safety disconnection is activated

- Lift makes noises

wrong hydraulic oil selected with lubricating action lacking, sliding surfaces of the crossbeam guidance are insufficiently lubricated.

Repairs at Consul lifting platforms may be implemented only by authorized customer services. Likewise only original "Consul spare parts" should be used. With use of foreign parts the design permission expires.

Maintenance and servicing

For a long life span and a constant readiness of application of your lift, the care is indispensable. Here those require carrying cable their special attention.

The have to be kept always well greased. Initially the cable due to its different output length and loads lengthen themselves unequal-massively. This entails small Irregularity of the lift and is by adjusting that cable to be corrected. The cable must be so adjusted that under load with lifting the setting off latch plates engage together.

The lift has to be examined further in regular intervals, at the latest however quarterly, for wear. (break of single wires, corrosion, buckling, constriction, flattening, loop formation, basket formation). Special attention requires the spot, at which the cable from the threaded end pieces will withdraw. (Underneath the head end plate - s. sketch rope pattern).

Catching bars are to be likewise provided with fat. All mobile parts, like the shaft and roles of the rangs, setting off latch plate etc., are to be lubricated. Consider also for this the lubrication plan on the column. These maintenance references are only rough recommendations, and relieve the operator thus not of the obligation of an intermediate examination of a sufficient lubrication.

The **unreeling** safety devices must be held in a condition reliable in service.

The oil level in the oil reservoir is to be checked for sufficient quantity. The oil level is good, if with lowered lift the dipstick dives into the oil (max. 5 mm). Ask only prescribed oil refill.

The dowel fixing is to be examined half-yearly and possibly pulled tight. Starting torque amounts to 60Nm. The energy inlets are to be treated carefully, when damage replace, clutches at stroke unit and wall in perfect condition hold, energy supply lines up according to use roll.

Cleaning, care and maintenance instruction

All visible paint spallings are to be mended by the installer after installing the hydraulic lift.

The lift is only to be cleaned using water with small additives of neutral or slightly alkaline detergent. Parts can be scrubbed with cloths or sponges. Please avoid hard scrubbing. The maximum application time of the detergent should not take longer than one hour.

The water temperature should not rise above 25°C. Immediately rinse off the parts with clear water after the cleaning process.

A preservation e.g. with commercially available body-cavity sealing (transparent) can offer additional protection to the coating. Capillaries, that can be found on every surface coating can be closes off by these preservatives. The preservation should be applied to each and every spot that has open edges or shows wetness. Except for the topside of the driving rail.

Attention!

- Don't use solvents that contain ester, ketone, alcohol or alkyl halides.
- Don't use any scratching abrasives.
- Don't use any acidic or strong alkaline detergents and surface-active.
- The detergents can only show 25°C max. Don't use steam injectors.
- The surface temperature of the parts being cleaned should not go above 25°C either.

The time intervals for cleaning and preservation are dependent on the environmental stress.

We recommend cleaning of critical parts (drip edges, heavy contamination or wetness) over a period of 4 to 6 weeks with preservation afterwards. It should be conducted by an installer during the standard maintenance intervals at the latest

Paint damages are to be wheted with sandpaper and mended with the appropriate RAL – colour during the maintenance intervals.

Ultimately preservation and cleaning preserves the optical appearance of the hydraulic lift and both measures contribute to saving consequential costs.

Testing of lifts

The testing of lifts is to be carried out in accordance with the Trade Work Practice Agreements BGG945 and the norms and regulations therein!

Eg, Part 2 Point 5

Nature, extent and execution of tests

Appendix 2: Instruction on the main page in the test book

BGG 945-1: testing of lifts

The quoted paragraphs are extracts: otherwise BGG 945 is binding. The required tests are carried out by Consul Construction Services according to the regulations. Please ask Consul Partners for their reasonably priced maintenance contracts.

Disposal of the lift

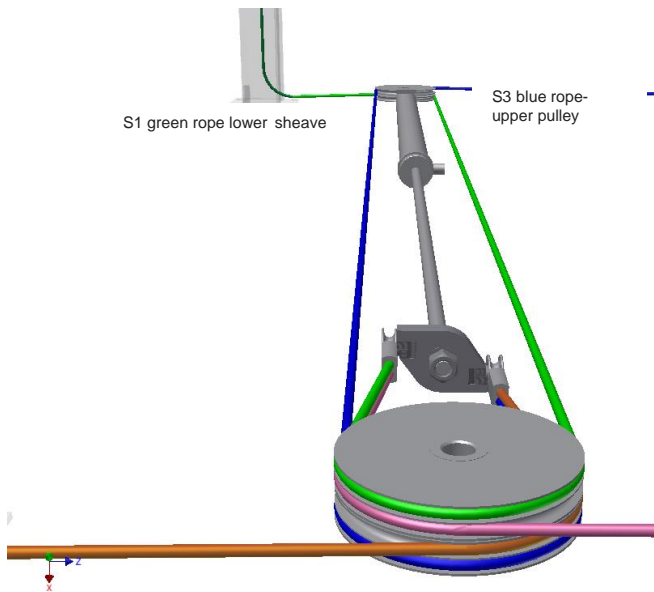
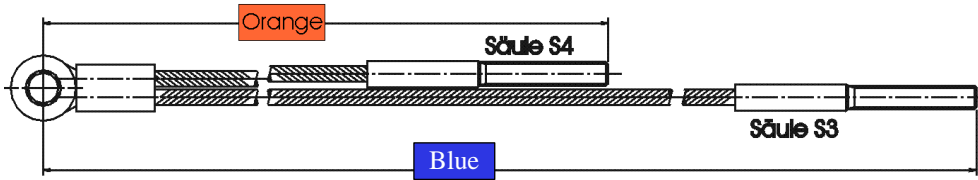
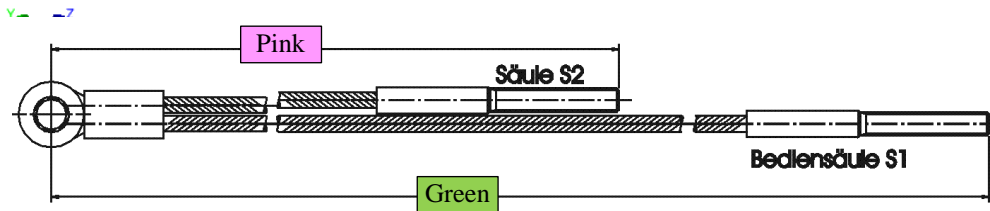
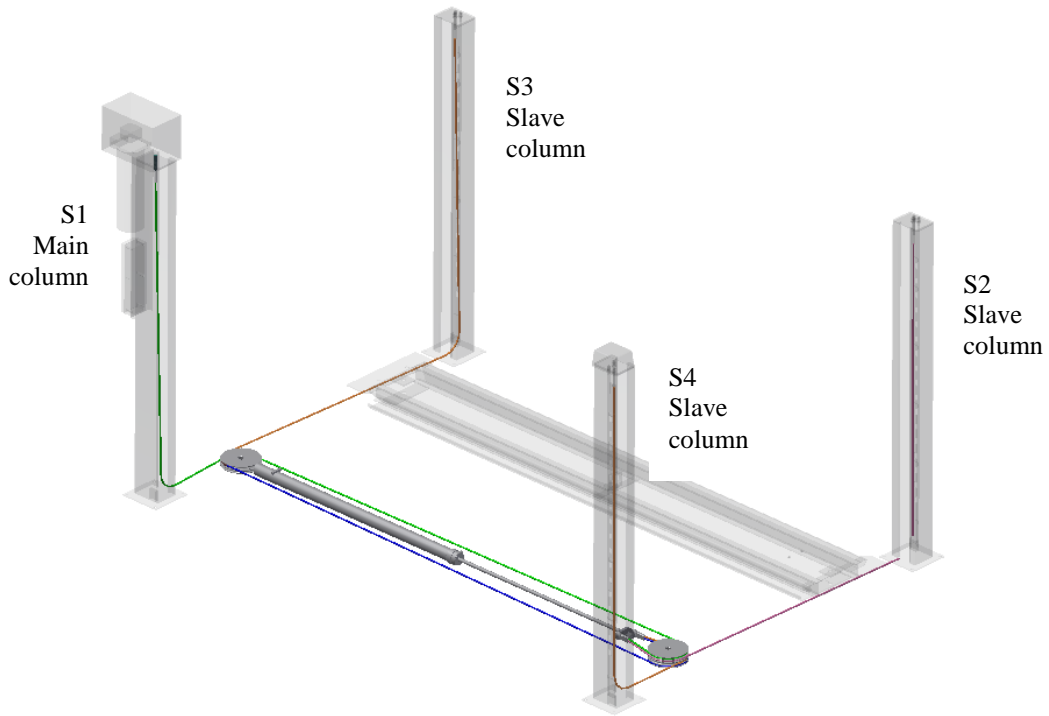
The lift can be disassembled and be disposed only through an authorised specialist. The same regulations must be considered, as when the assembling of the lift. For the case of scrapping, all materials must be disposed in accordance with the laws of the appropriate country, in which the lift is installed.

The scrapping of the lift must be documented according to the country, in which this was installed.

Attention!

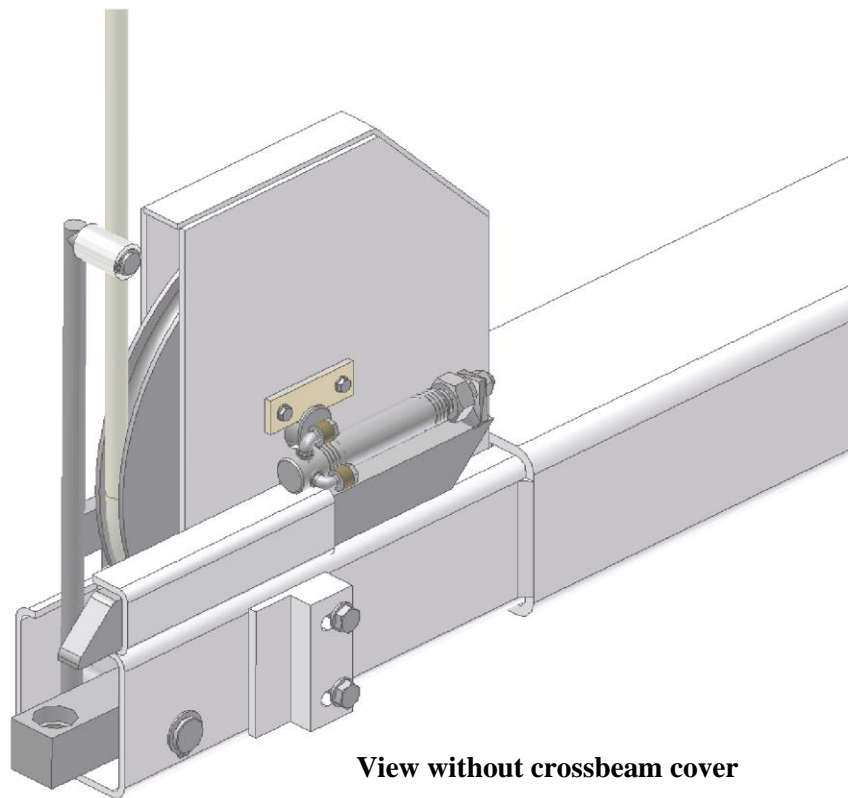
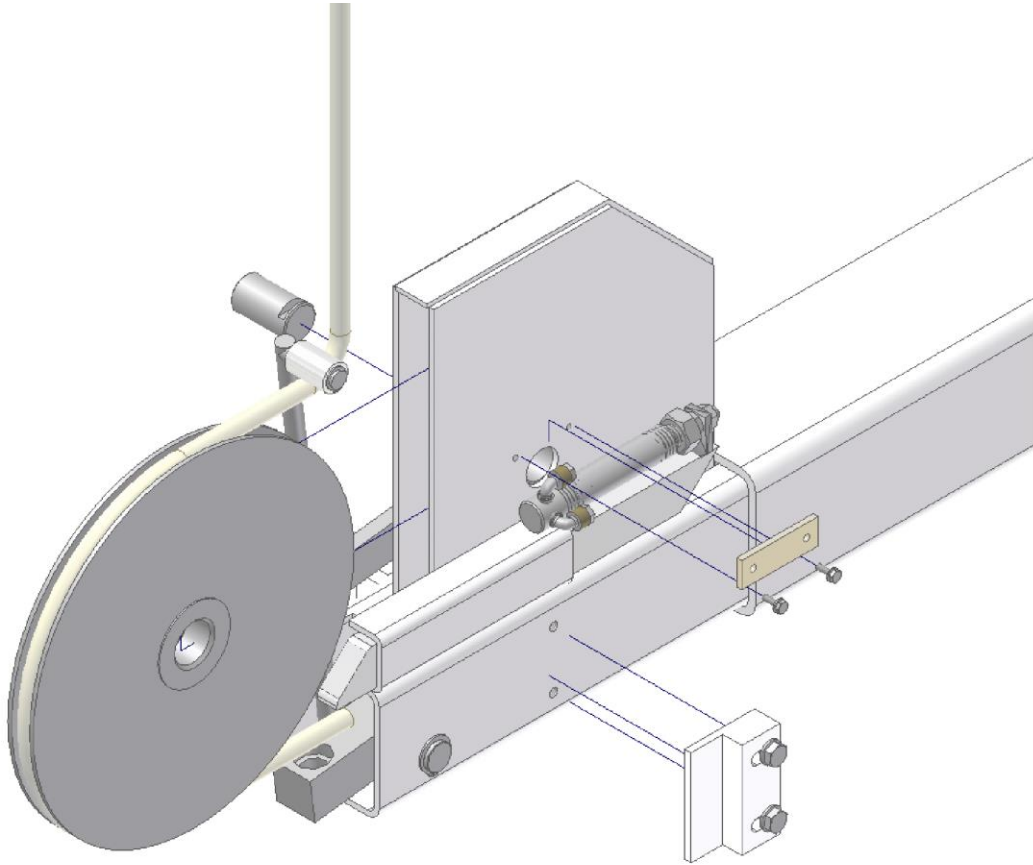
When loading/unloading, moving, installing, assembling or dimishing the lift all precautionary measures are specified by rules for the prevention of accidents (safety helmets, gloves, shoes) are to be obeyed. These rules are in accordance with the laws of the appropriate country.

Cable Mechanism 4-Post-Lift



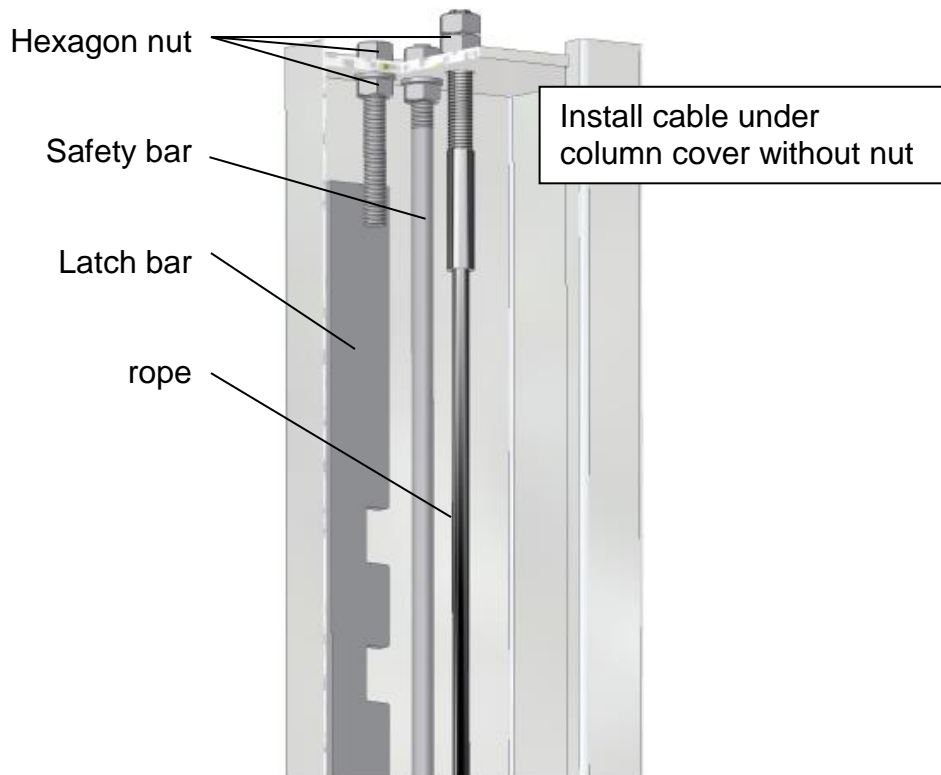
Lift	Type	Blue	Orange	Pink	Green
		Cable Post 3	Cable Post 4	Cable Post 2	Cable Post 1
4440	H305.01 H371.10	9530	3505	5115	7920
4810	H338.01 H372.10	10010	3620	5230	8400
5070	H373.01 H374.10 H375.10 Z106.01 Z073.10	10530	3880	5490	8920
5200	H445.01 H445.02 H444.10 H491.10 Z339.00	10720	3930	5540	9110
5500	H482.00 H483.10	11380	4290	5900	9770

Cross beam: cable installation

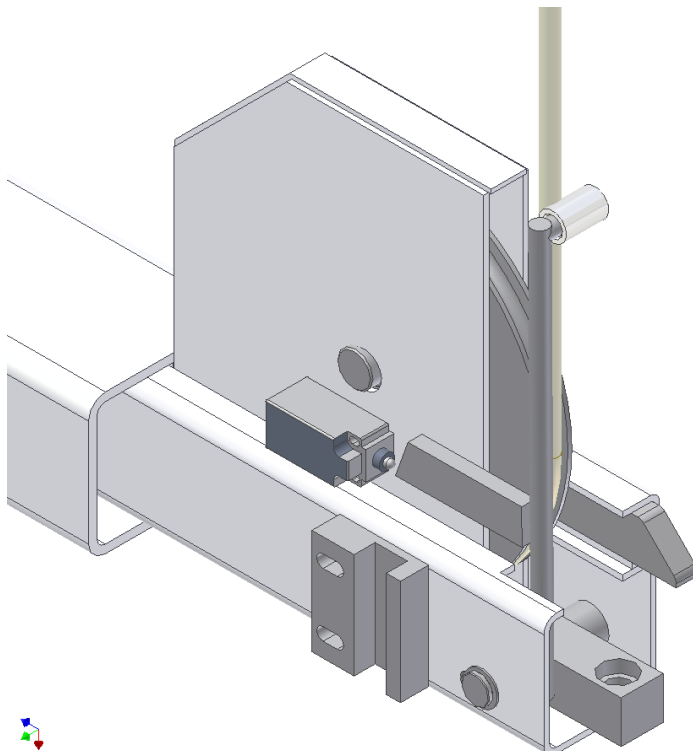


View without crossbeam cover

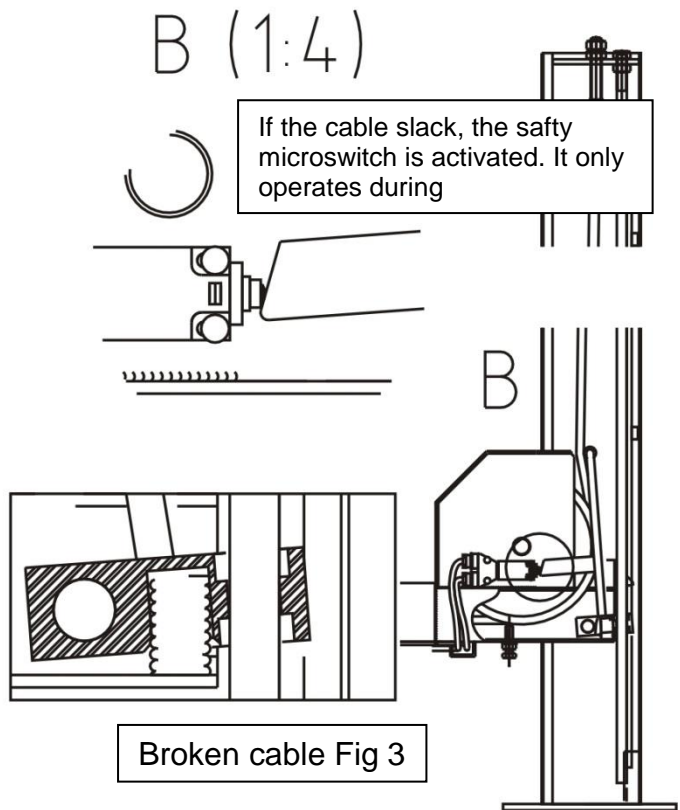
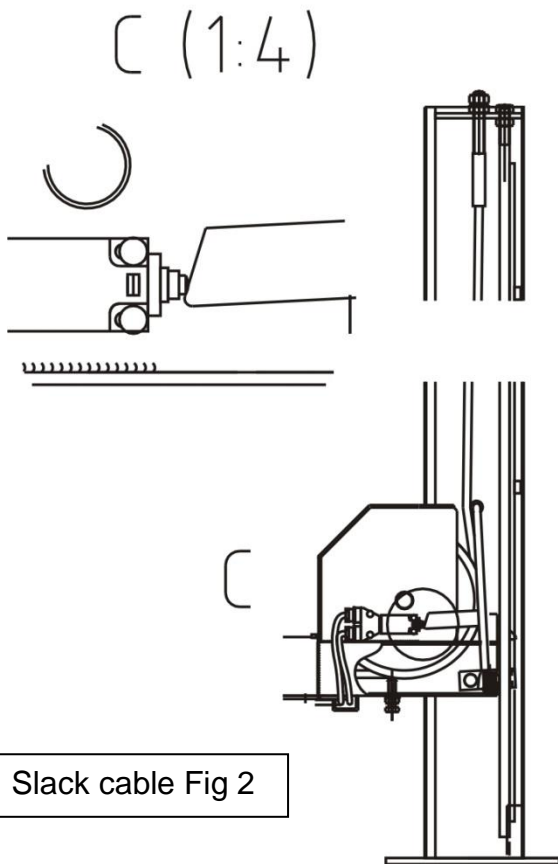
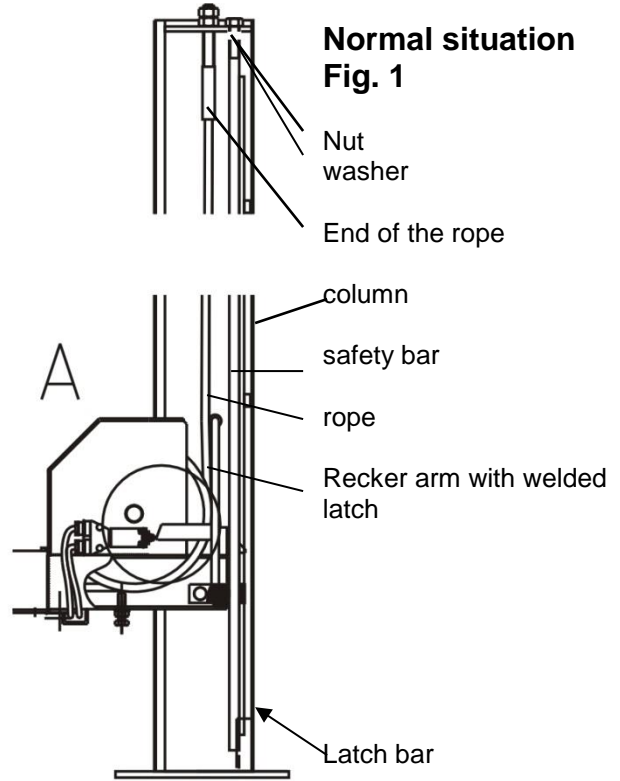
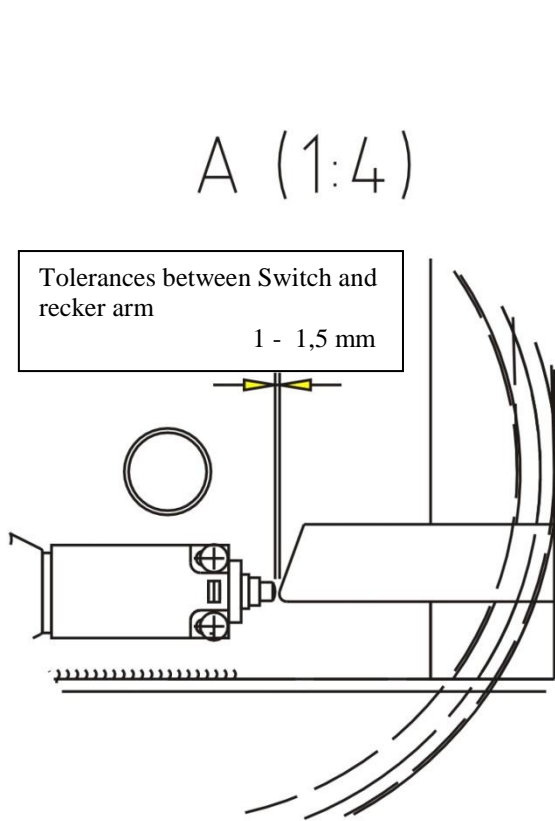
Positions of latch bar, safety bar and rope



Broken cable switching

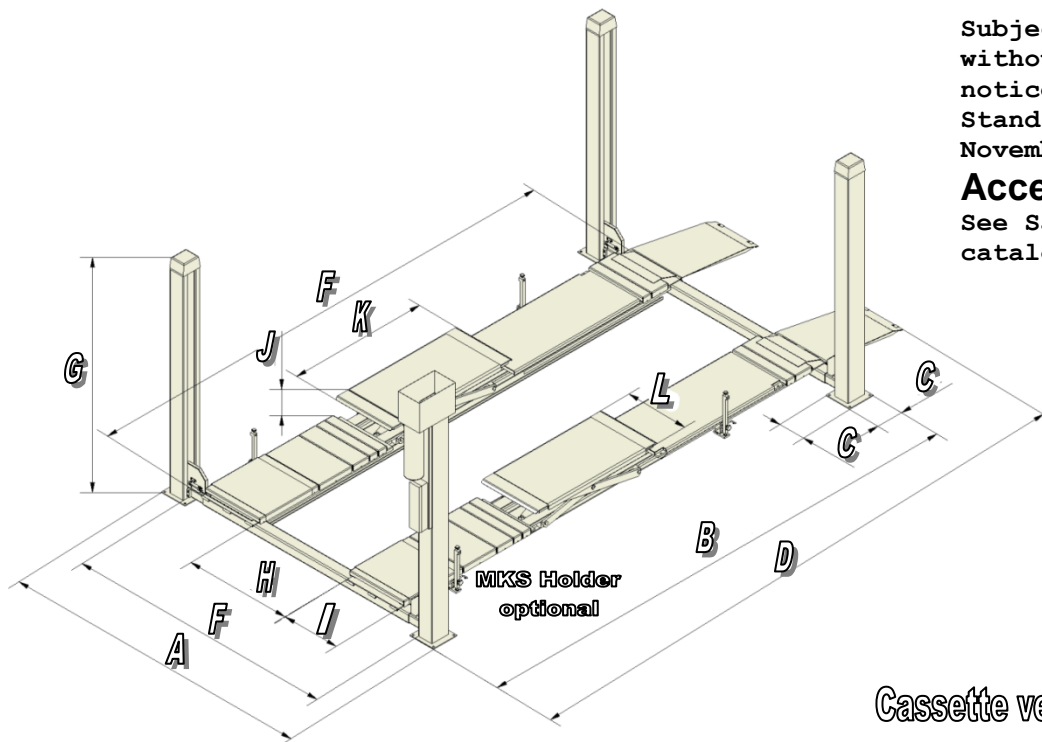


Broken Cable Block Diagram



If the cable breaks, the safty microswitch is activated and the safety device engages the safty bar.

4-Post-Lift Dimension



Subject to change
without prior
notice!
Stand:
November 2014
Accessories:
See Sales
catalog!

Cassette version of AM

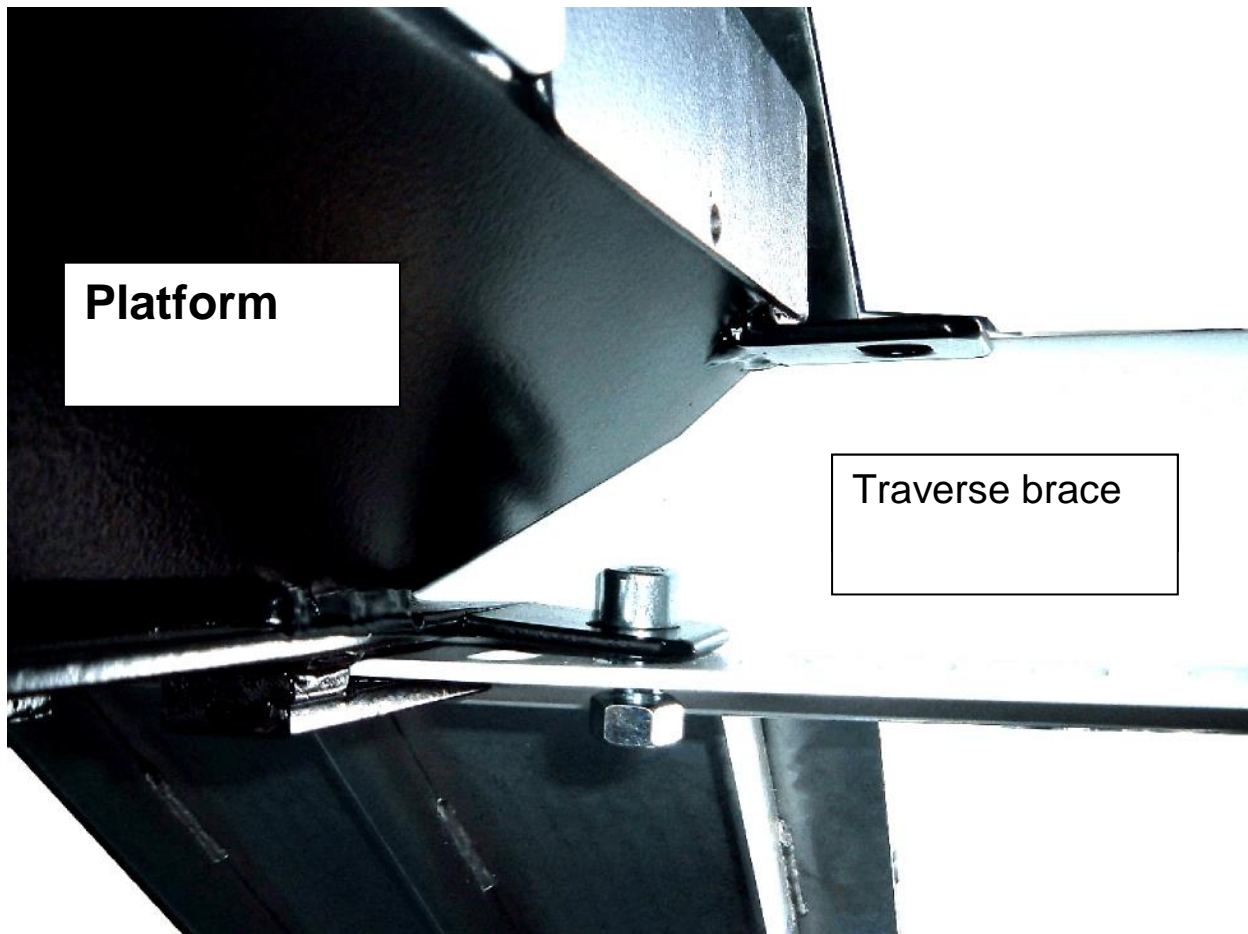
4-Post-lift with scissor free lift

Hebe- Bühnen-Typ:	A	B	C	D	E	F	G	H	I	J	K	L
Consul 4.45 K-SN	3220	4570	280	5560	2780	4440	2450	980 1190	500	450	1400 1900	620
Consul 4.45 L-SN	3220	4960	280	5.930	2780	4810	2450	980 1190	500	450	1400 1900	620
Consul 4.45 SN	3220	5200	280	6190	2780	5070	2450	850 1070	630	450	1400 1900	665
Consul 4.45 SN-AM	3220	5200	280	6190	2780	5070	2450	850 1070	630	450	1400 1900	665
Consul 4.45 SN-DC	3220	5200	280	6190	2780	5070	2450	850 1070	630	450	1400 1900	665
Consul 4.45 LTB SN-ASD	3220	5350	280	6350	2780	5200	2450	850 1070	630	450	1400 1900	620
Consul 4.45 LT-SN (AM)	3220	5350	280	6350	2780	5200	2450	980 1190	500	450	1400 1900	620
Consul 4.45 XLT-SN (AM)	3220	5620	280	6555	2780	5500	2450	980 1190	500	450	1400 1900	620

4-Post-Lift without scissor lift

Hebebühnen Typ:	A	B	C	D	E	F	G	H	I			
Consul 4.45 EK	2900	4150	280	5120	2440	4000	2450	900	500			
Consul 4.45 K	3.220	4570	280	5560	2780	4440	2450	980/ 1190	500			
Consul 4.45 L	3.220	4940	280	5930	2780	4810	2450	980/ 1190	500			
Consul 4.40 BL	3220	5200	280	6190	2780	5070	2450	850/ 1070	630			
Consul 4.45 DC	3220	5200	280	6190	2780	5070	2450	850/ 1070	630			
Consul 4.45 LT(AM)	3220	5350	280	6350	2780	5200	2450	980/ 1190	500			6
Consul 4.45 XLT(AM)	3220	5620	280	6555	2780	5500	2450	980/ 1190	500			

Shift lock



Cylinder head screw M16x30 with nut

The secondary side of the track is shifted along the tranverse brace in order to set the desired track gap.

After the desired track gap has been set, the M16x30 cylinder head screws are inserted into the corresponding long hole at each end of the secondary side of the track.

Stand: June 2005

Hydraulic oil specification

Shell Tellus

Hydraulic oil, thermally stable and readily filterable

The new generation Shell Tellus combines the premium features of the Shell base oils with the latest patented additive technology for demanding lubrication of the last of the corresponding state of the art and highly stressed hydraulic systems, both in stationary and mobile applications. Shell Tellus, a product which sets standards.

viscosity grade

Designation according to DIN51502

Designation according to ISO

kinematic viscosity

at 0 ° C.

at 40 ° C.

at 100 ° C.

Diche at 15 ° C.

Flash point by Cleveland

Pour Point

Corrosion protection method A degree of corrosion

Copper strip corrosion test level

Air release at 50 ° C min

Mechanical testing in the

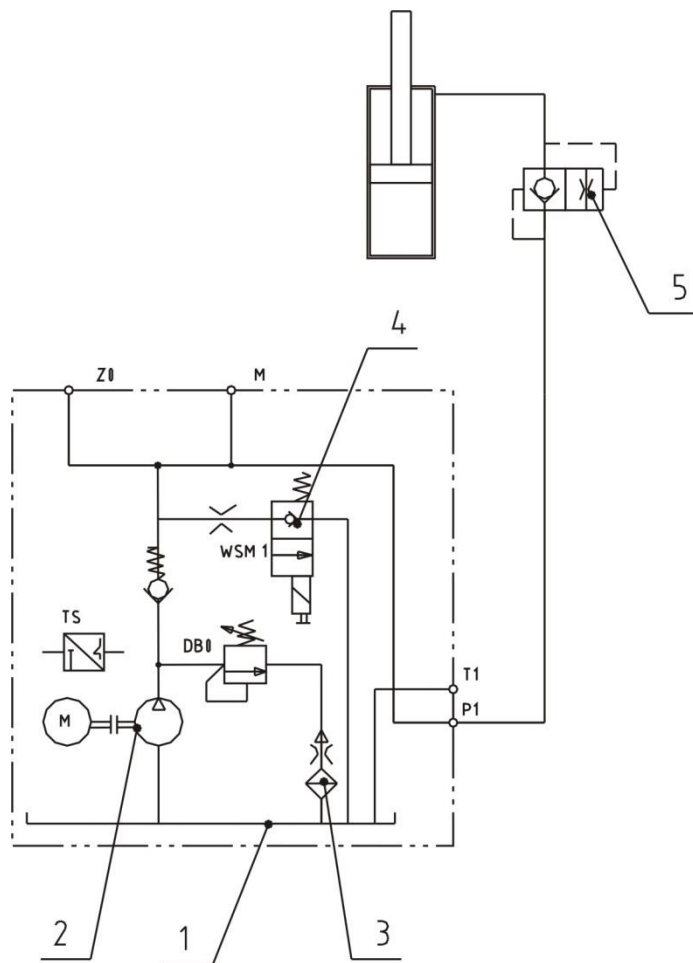
FLV-gear tension testing machine A / 8,3 / 90 load stage

Mechanical testing in the vane pump

Aging increase the Nz m after 1000 hours of KOH / g

Through further development of product and production These characteristics are reserved!

Hydraulic diagram without scissor free lift

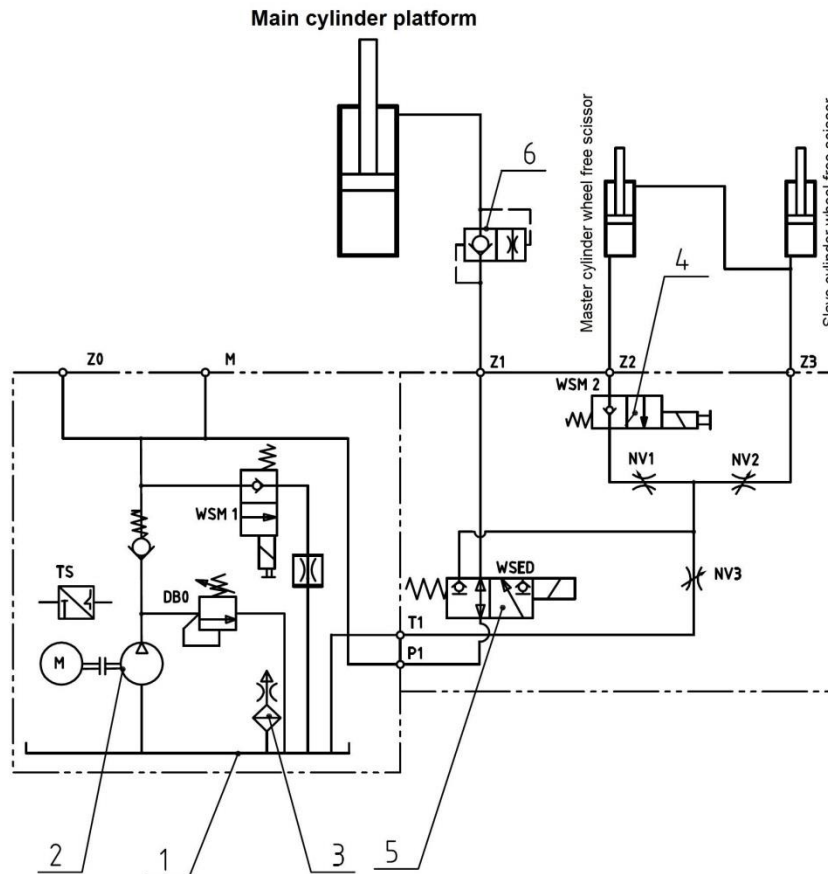


Technical Data	
Motor	
Power	3 kW
terminal voltage	230/400 V
frequency	50 Hz
number of revolutions	2830 min-1
Pump	
funding amount	10 l/min
Pressure	220 bar
Filling volume	9,5 l
Sampling volume	7,9 l
connection size Z1a,Z2,Z3,M	G1/4"
connection size Z1	G 3/8"
Pressure setting DB0	220 bar
Valve voltage	24 V DC
Short time operating	S2
Intermittent	S3

Item	QTY	Description	Ident-Nr.:
1	1	Oil container of 14 l	37879.4
2	1	Gear wheel pump 10 l/min	37877.8
3	1	Ventilating filter	37880.2
4	1	Valve/spool	37881.0/37883.6
5	1	Lowering thrush	

Subject to change without prior notice!

Hydraulic diagram with scissor free lift (Master -/ Slave System)



Technical data:

Motor:
 Power: 3kW
 Connection voltage: 230/400 V
 Frequency: 50 Hz
 Speed: 2830 min-1

Pump:
 Output: 10 l/min
 Pressure: 220 bar
 Filling capacity: 9.5l
 Exit capacity: 7.9l

Connection size Z1a, Z2, Z3, M: G1/4"
 Connection size Z1: G3/8"
 Pressure adjustment DB0: 220 bar
 Valve voltage: 24 V DC

Short time drive: S2
 Suspension drive: S3

Technical changes reserved!

Pos.	Amount	Description	Part.-No:
1	1	Oil container 14 l	378794
2	1	Gear wheel pump 10l/min	378778
3	1	Ventilation filter	378802
4	2	Valve/Coil	378810 / 378836
5	1	Valve/Coil	378828 / 378844
6	1	Lowering choke	

Start-up operations for wheel free scissors:

Use the following instructions for filling the wheel free cylinders with oil:

1. Open NV1 NV2 and NV3 closed Master cylinder will be filled with oil
2. NV1 and NV3 closed, open NV2 Slave cylinder and bypass line will be filled with oil
3. Switch to standard drive; open NV1, NV2 and NV3 closed.

Standard Drive of wheel free lift:

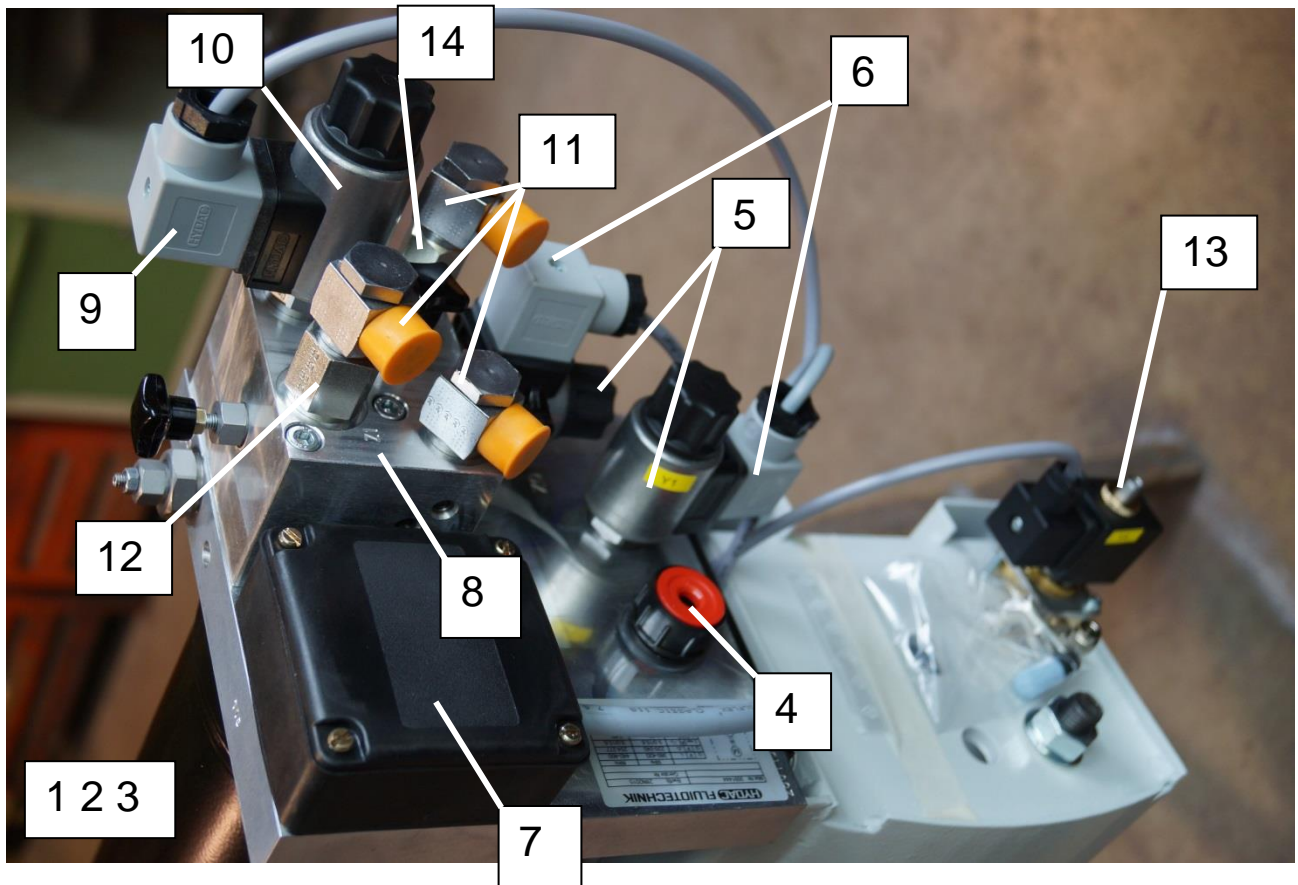
During normal drive the limit chokes NV1 is open and the limit chokes NV2 and NV3 are closed.

Emergency lowering of wheel free lift:

1. Open NV1 and NV2
2. Open emergency release screw at WSM2
3. Open NV3 slowly, scissor will lower

Subject to change without prior notice!

Power Unit (Lifts with scissor free lift)

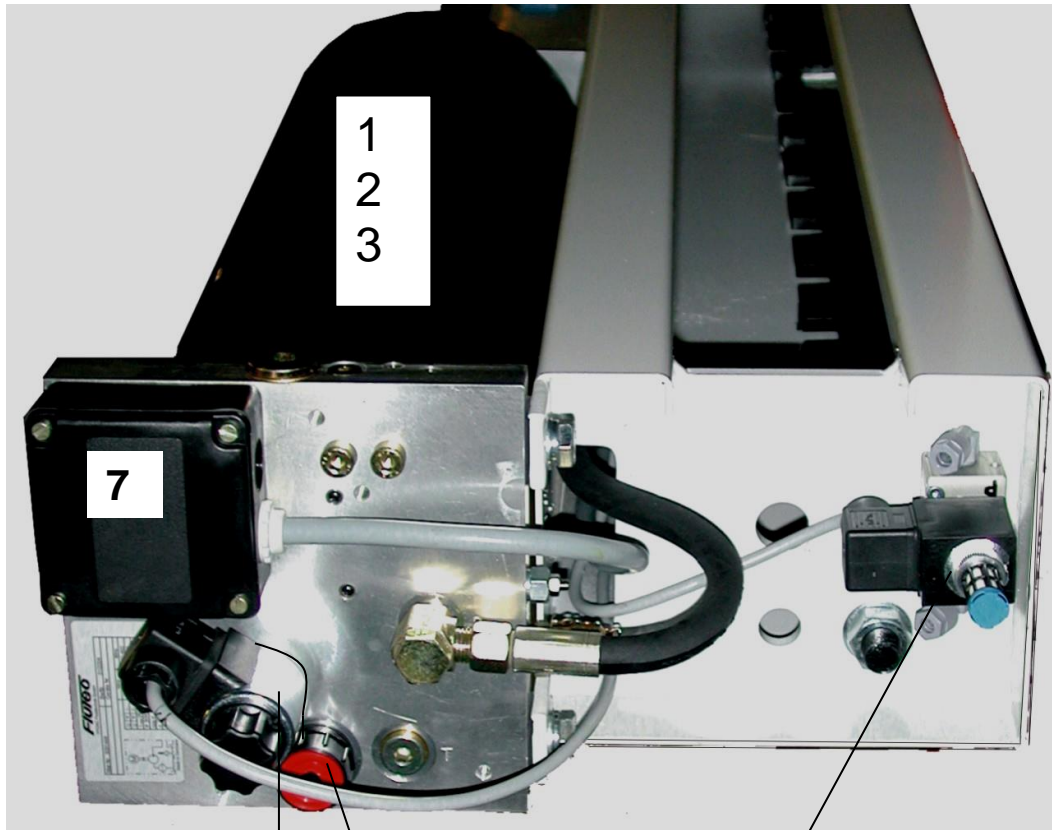


Parts list

1	378778	gear wheel pump 10 l/ min
2	378786	Motor 3.0 kW
3	378794	Oil tank 14 l
4	378802	Filter HP 1/2
5	378810	Valve WSM 060202 without coil
6	378836	Coil DG für 37881.0
7	378869	Terminal strip grey 2polig
8	378158	control valve
9	378828	Valve WSED 551072
10	378844	coil 24 V for 37882.8
11	322586	banjo fittings
12	344432	RED
13	364406	air valve
14	549527	Hydr. extension

Subject to change without prior notice!

Power Unit (Lifts without scissor free lift)



5 6 4

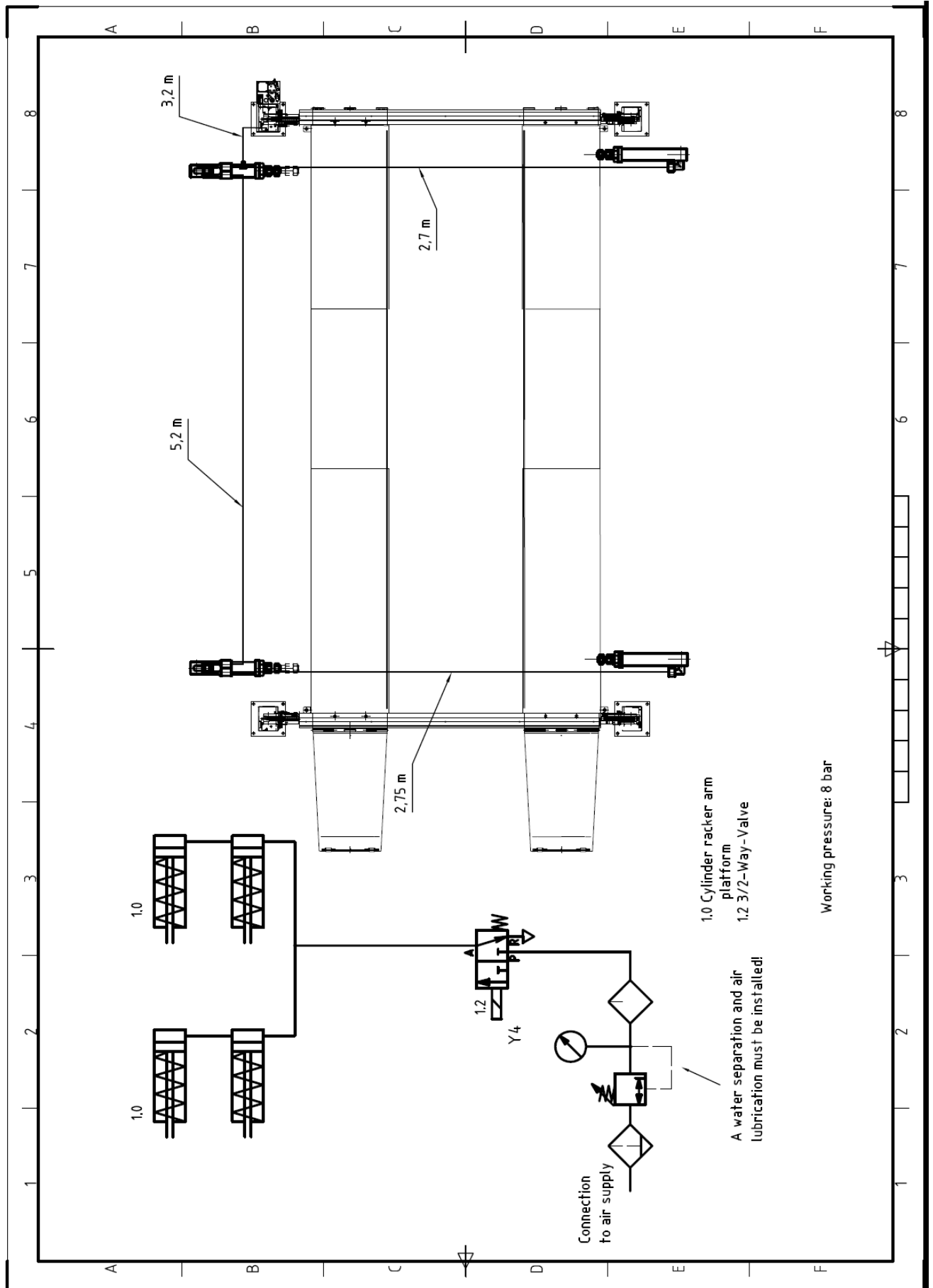
Air valve
(see Pneumatic-diagram)

Spare parts:

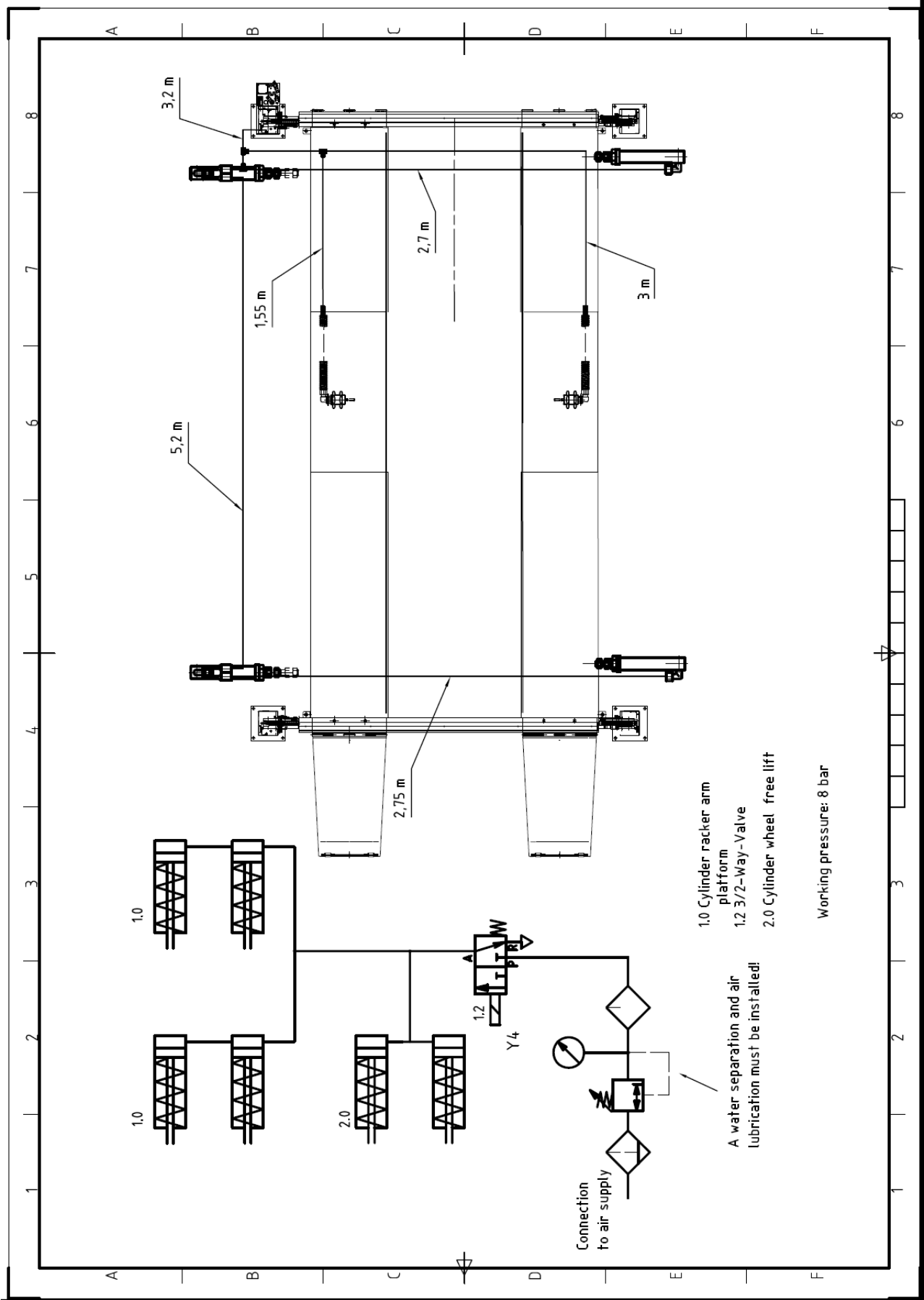
1	378778	Gear wheel pump 10 l/ min
2	378786	Motor 3.0 kW
3	378794	Oil tank 14 l,
4	378802	filter HP 1/2
5	378810	Valve WSM 060202 without coil
6	378836	Coil DG für 37881.0
7	378869	Terminal strip grey

subject to change without prior notice!

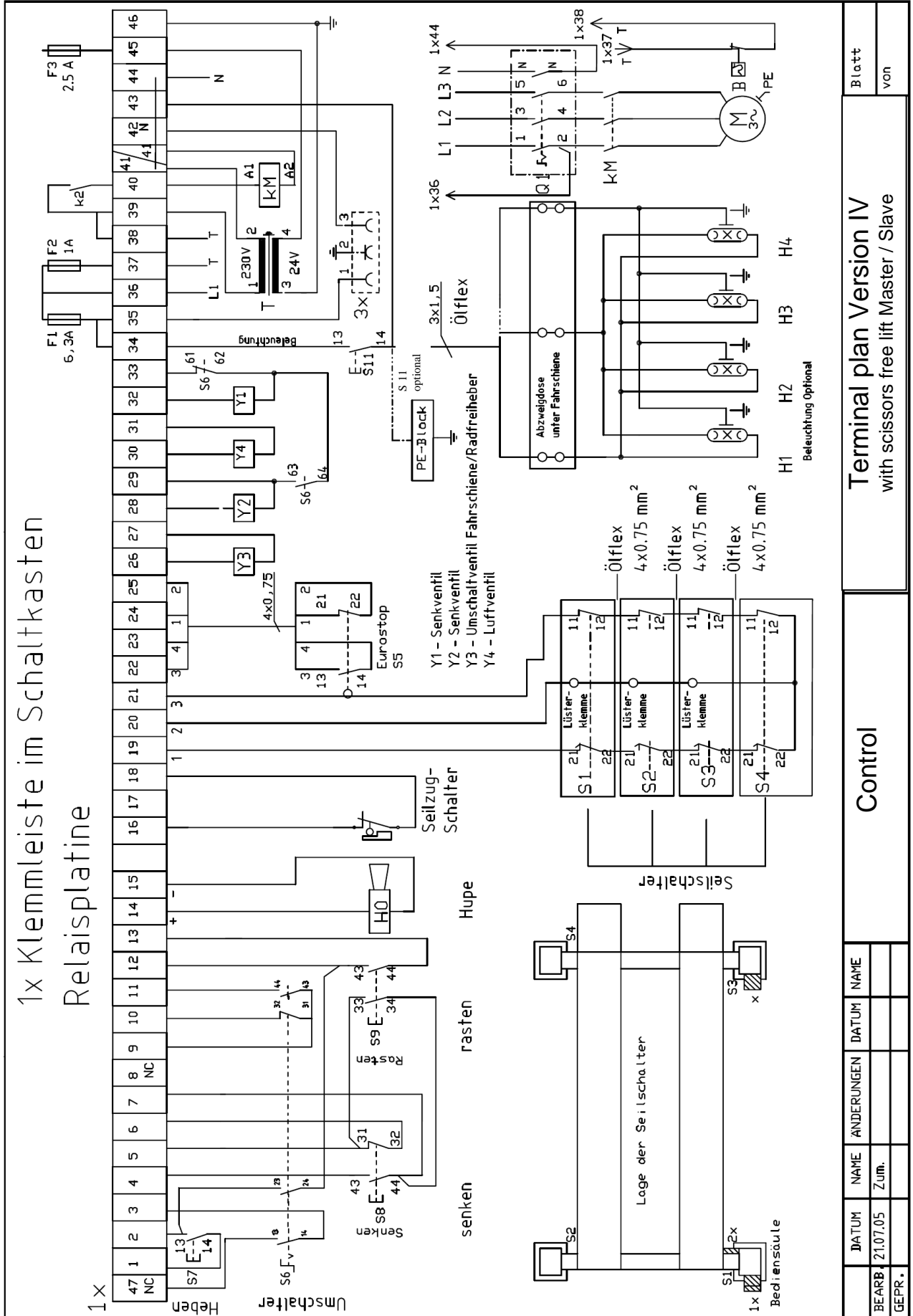
Pneumatic-diagram without additional lift



Pneumatic-diagram with additional lift



Wiring diagram for Post-Lifts with scissor free lift



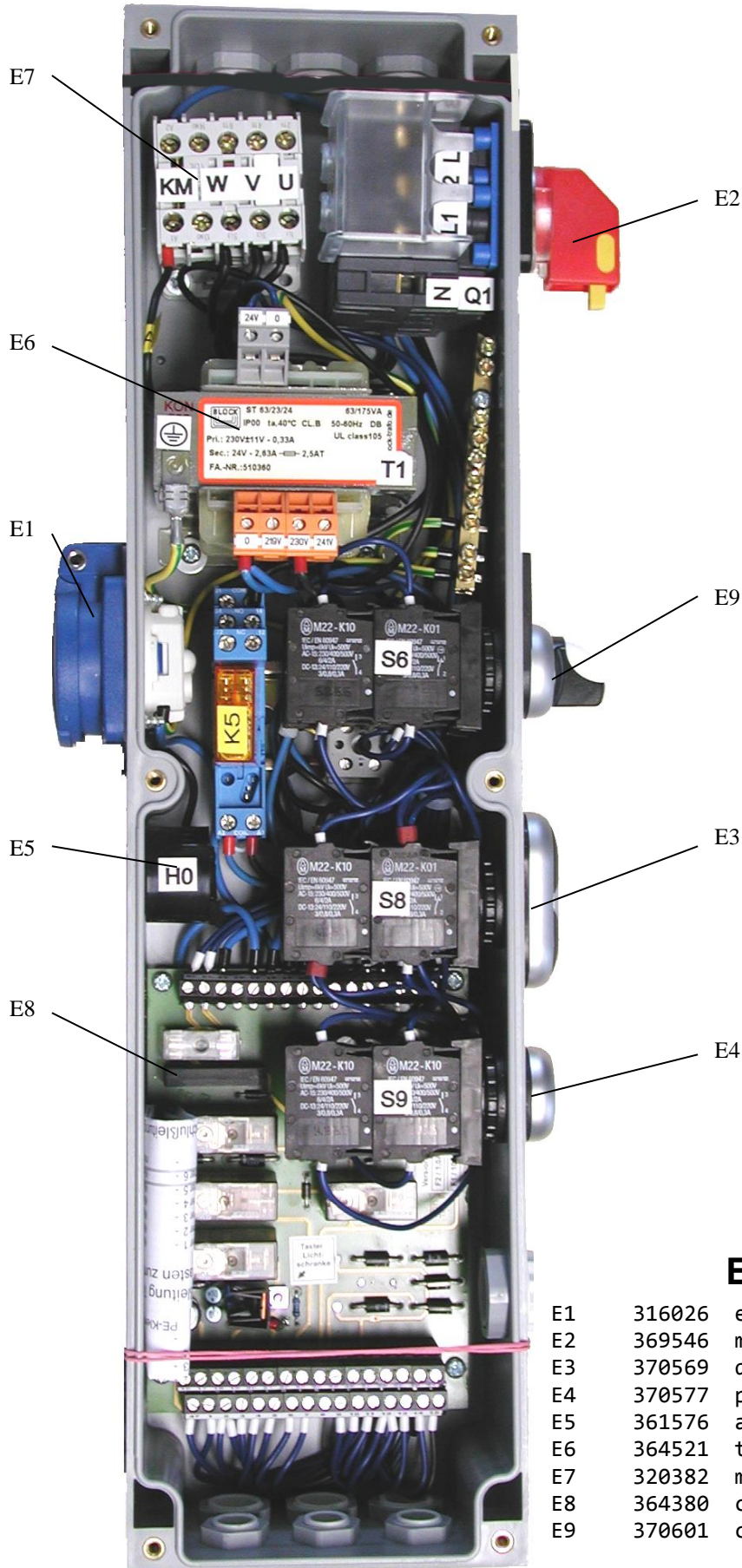
Terminal plan Version IV
with scissors free lift Master / Slave

Control

DATUM	NAME	ANDERUNGEN	DATUM	NAME
BEARB.	21.07.05	Zum.		
GEPR.				

Blatt von

Control unit 4 posts lift with free wheel lift 370585

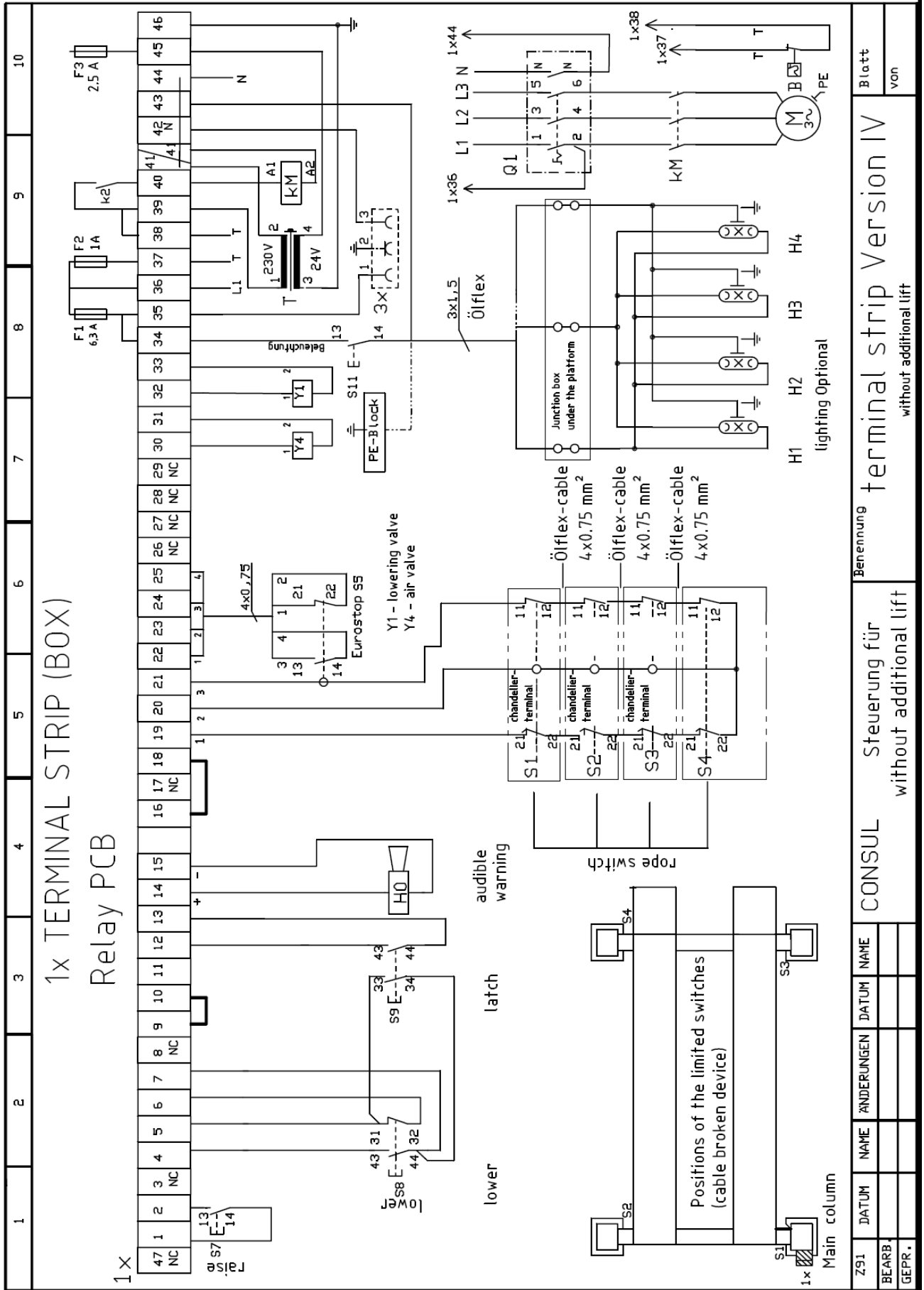


Elektroteile

E1	316026	europian socket
E2	369546	main switch
E3	370569	double switch
E4	370577	push button switch
E5	361576	audible alarm device
E6	364521	transformator,24V
E7	320382	main contactor
E8	364380	circuit board
E9	370601	change-over switch

Subject to change without prior notice!

Wiring diagram for Post-Lifts without scissor free lift



terminal strip Version IV
without additional lift

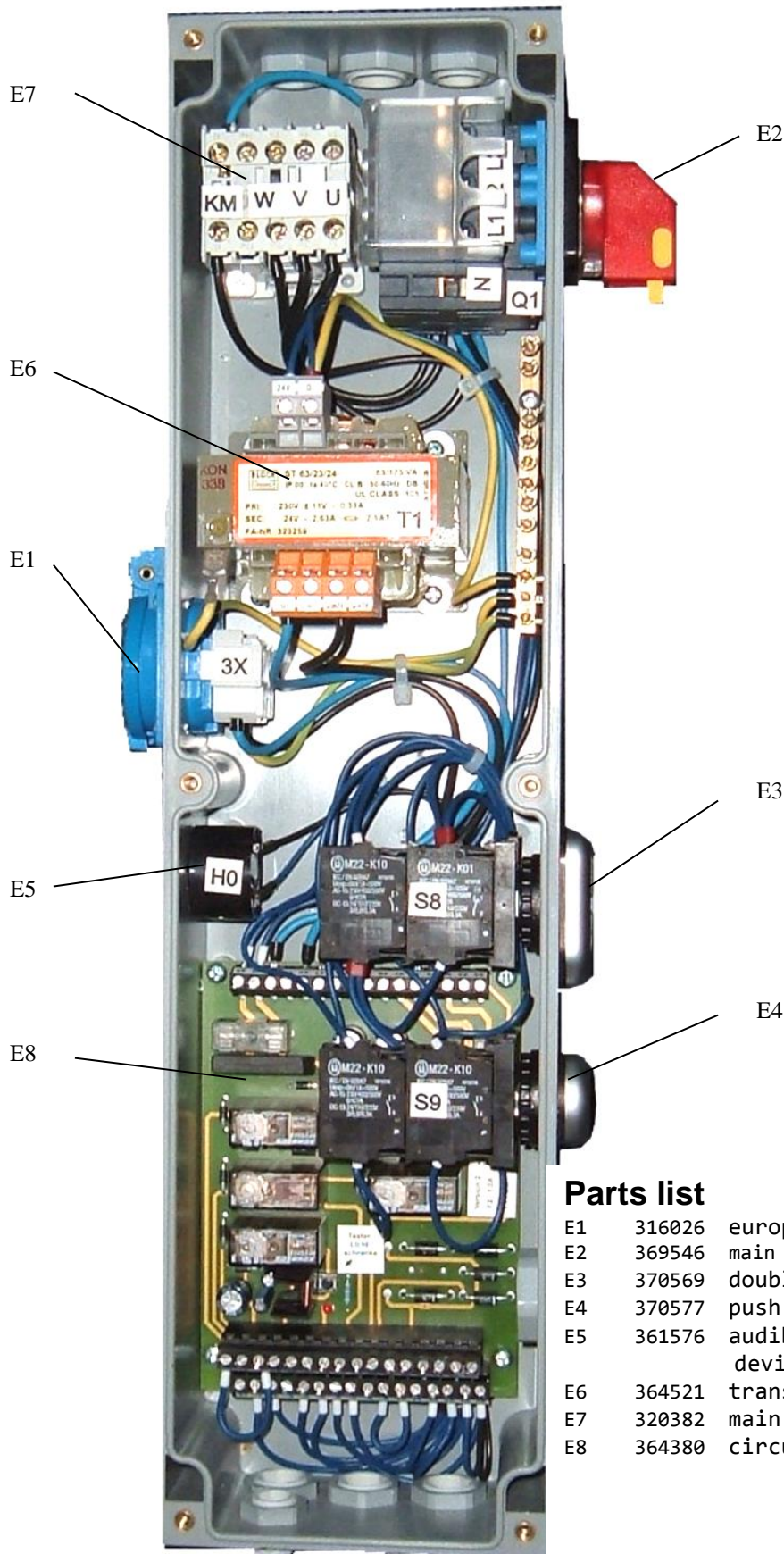
Steuerung für
without additional lift

CONSUL

Z91	DATUM	NAMEN	DATUM	NAMEN
BEARB.		ÄNDERUNGEN		
GEPR.				

Blatt
von

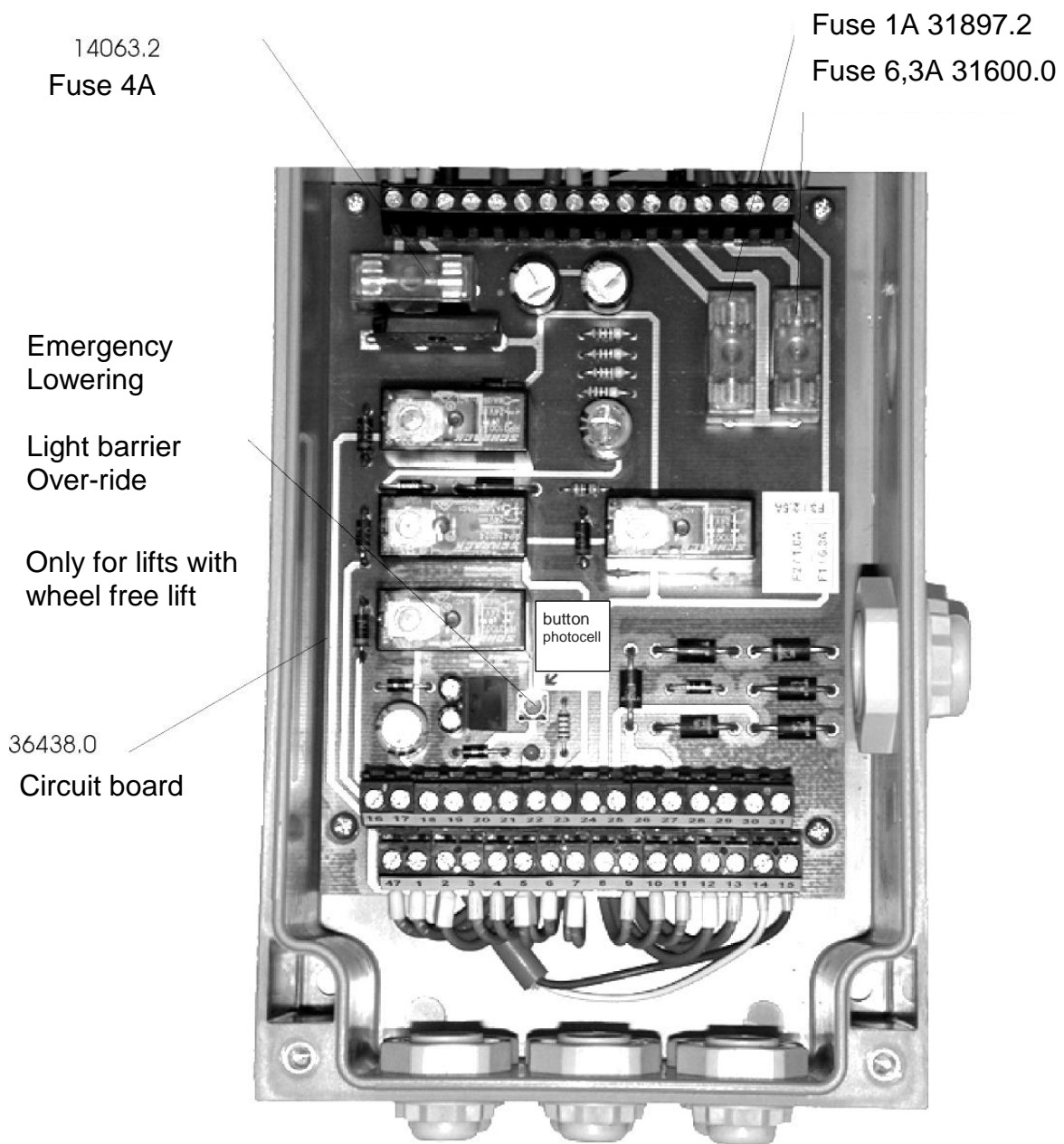
Control unit 4 posts lift without free wheel lift 370593



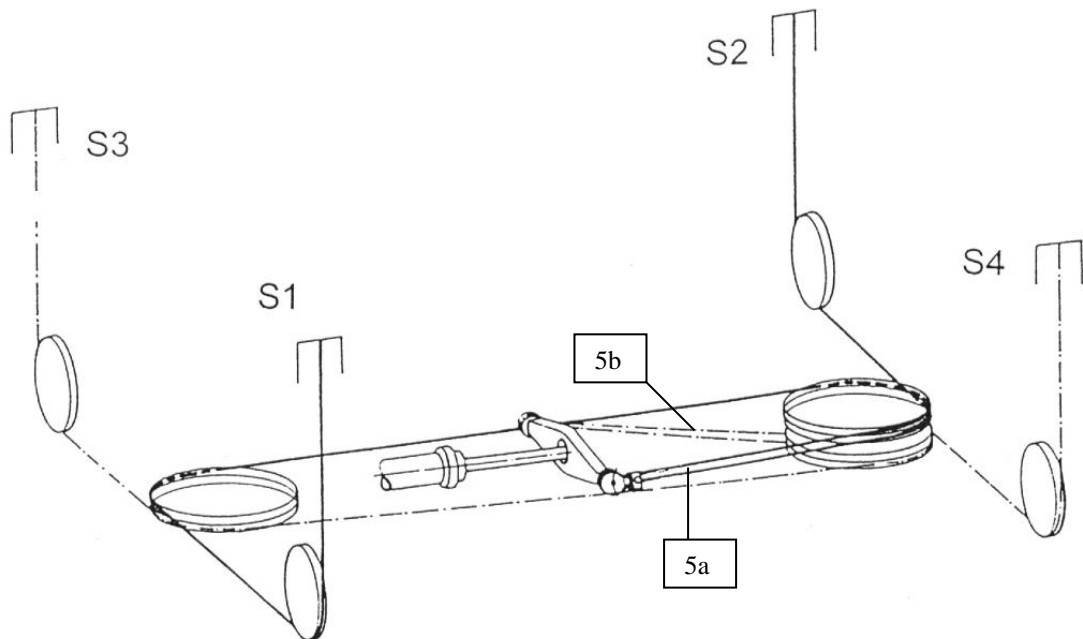
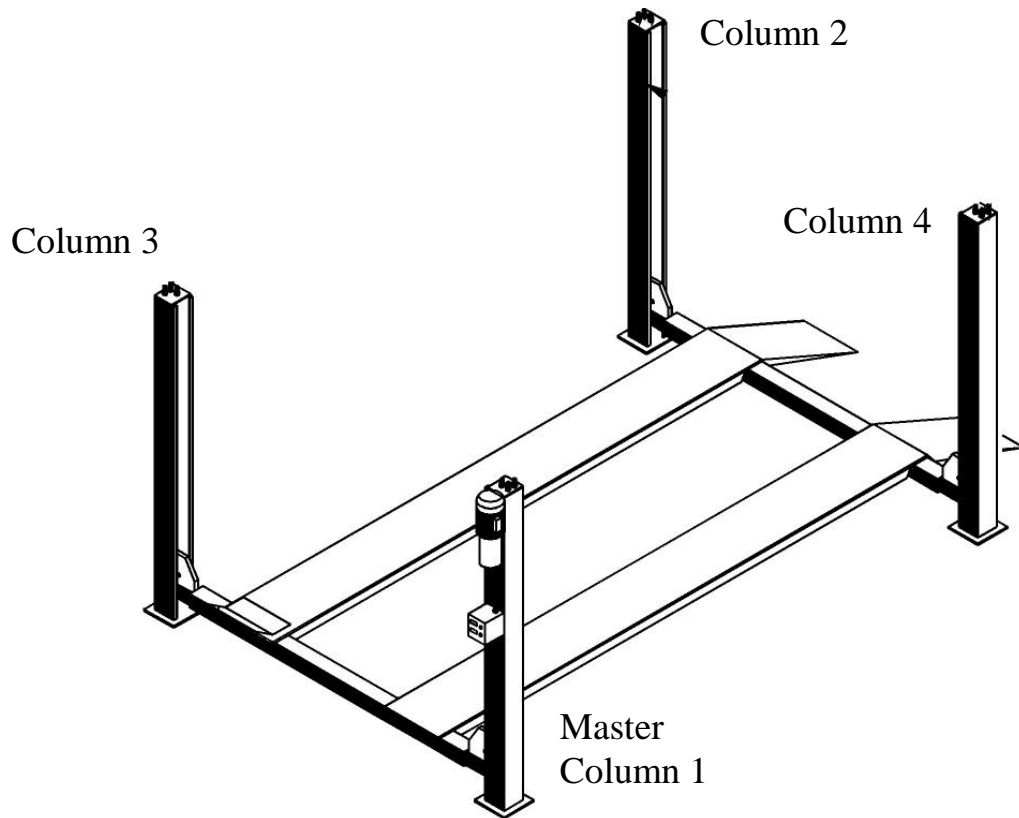
Parts list

E1	316026	europaen socket
E2	369546	main switch
E3	370569	double switch
E4	370577	push button switch
E5	361576	audible alarm device
E6	364521	transformator
E7	320382	main contactor
E8	364380	circuit board

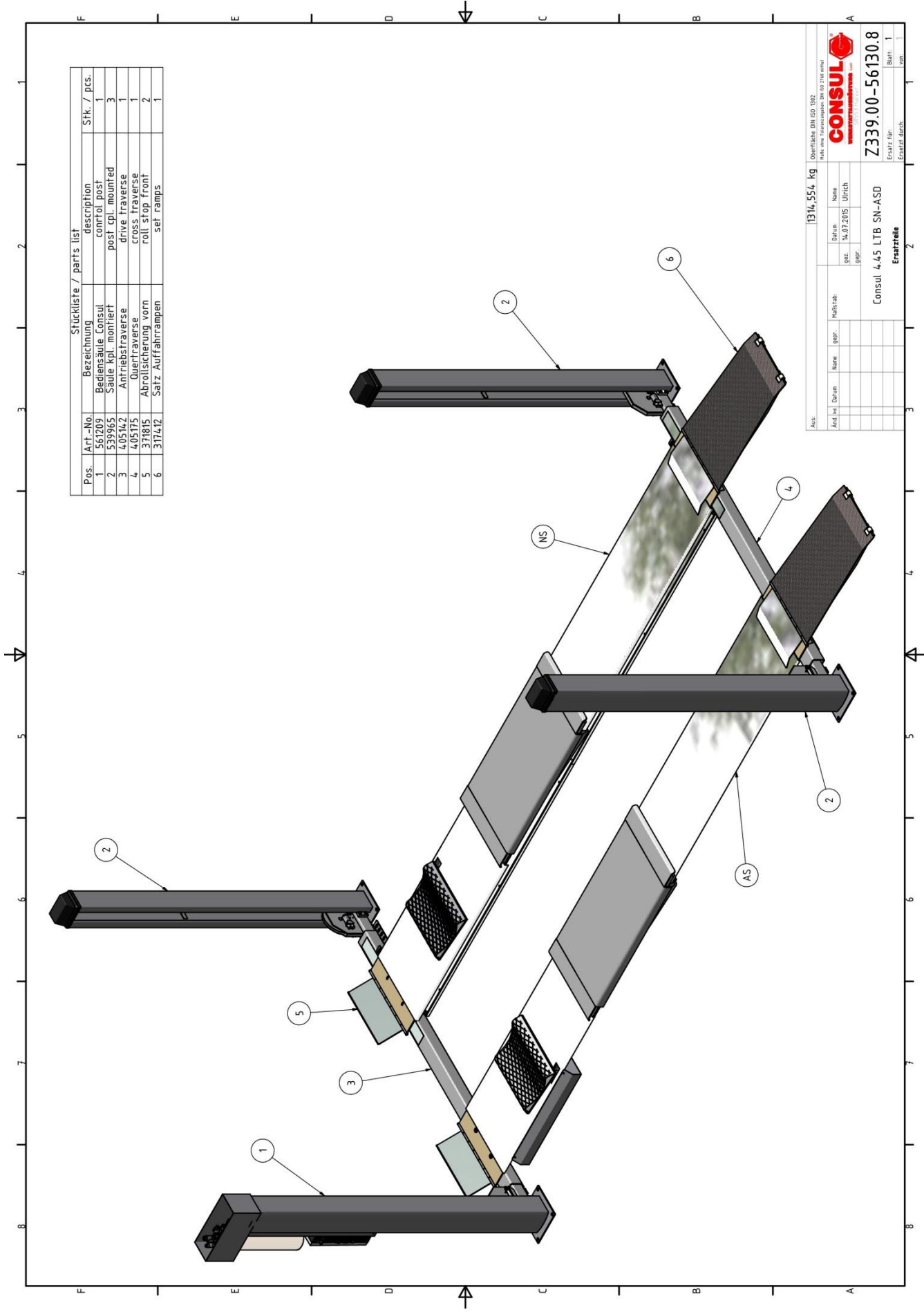
Circuit Board



Parts drawing



Fahrbahn- Länge / Plattform length	Drahtseile kpl. a <i>cable complete</i> (S1 + S2)	Drahtseile kpl. B <i>cable complete</i> (S3 + S4)
4440	544791	544817
4810	559591	559609
5070	559617	559625
5200	500991	501007
5500	544775	544783

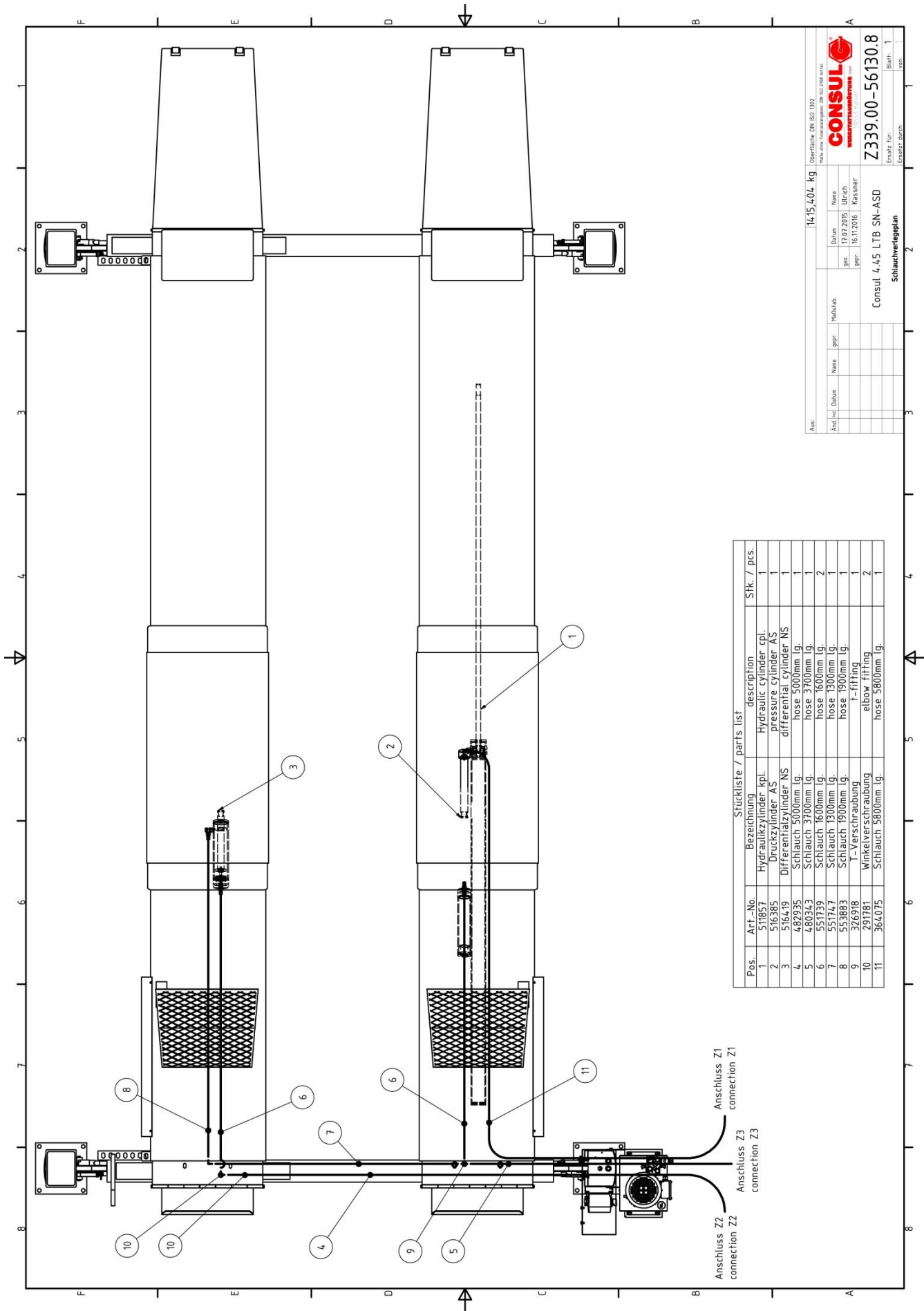


Stückliste / parts list				
Pos.	Art.-No.	Bezeichnung	description	Stk. / pcs.
1	561209	Bediensäule Consul	control post	1
2	539865	Säule kpl. montiert	post cpl. mounted	3
3	405142	Antriebstraverse	drive traverse	1
4	405175	Quertraverse	cross traverse	1
5	371815	Abrollsicke rung vorn	roll stop front	2
6	317442	Satz Auffahrampen	set ramps	1

Oberfläche DIN ISO 1922.
 Maße sind in Millimetern (mm) angegeben.
CONSUL
 WERKZEUGE FÜR DEN VERKEHR
 5052317442

Art. Nr.	Datum	Name	Datum	Name
	gez.	14.07.2015	Ulrich	
	ppf.			

1314,554 kg
 Consul 4.45 LTB SN-ASD
 Ersatzteil
 Z339.00-56130.8
 Ersatz für: Blatt: 1
 Ersatz durch: von:



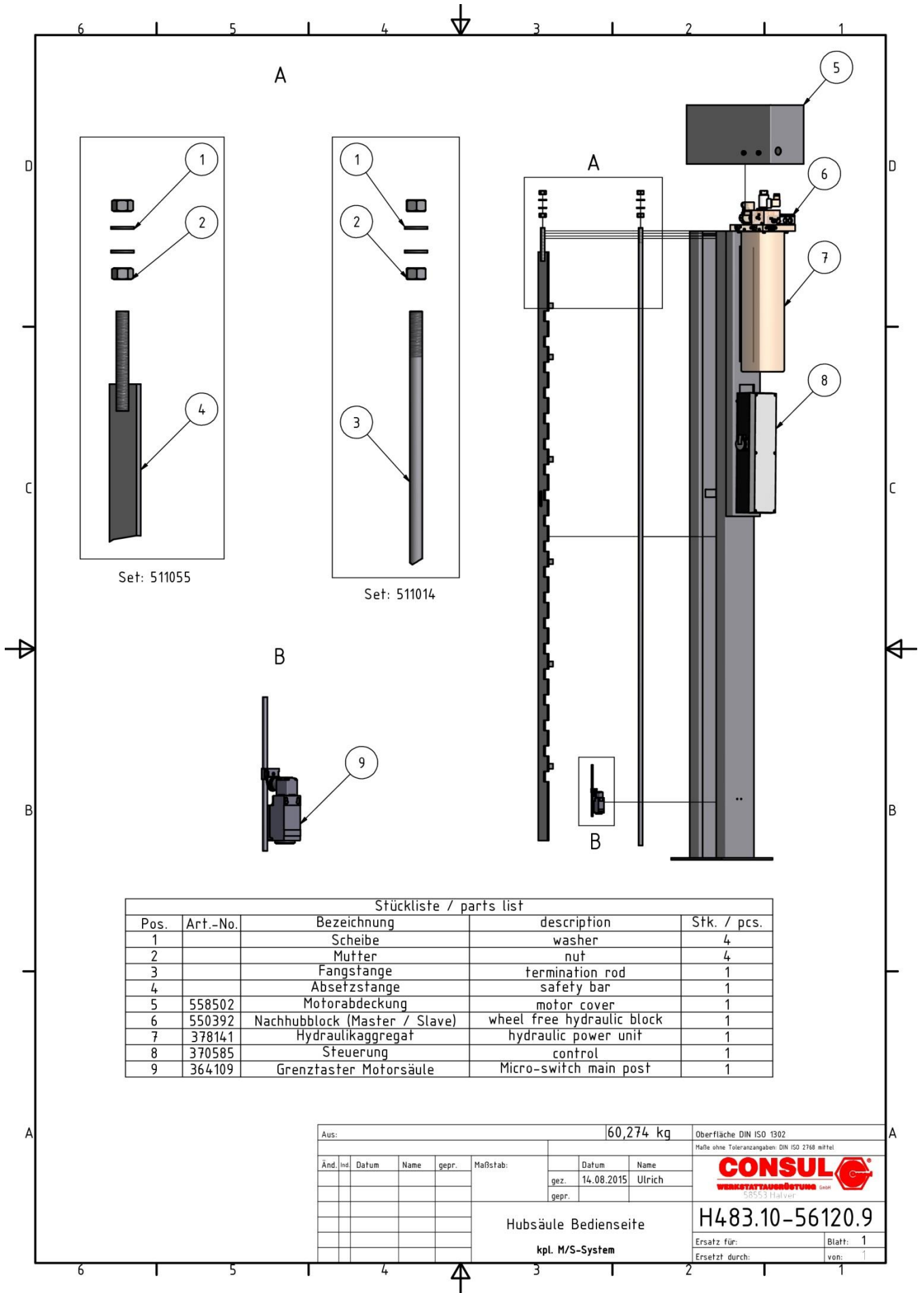
Stückliste / parts list

Pos.	Art.-No.	Bezeichnung	description	Stk. / pcs.
1	511857	Hydraulizylinder kpl.	Hydraulic cylinder cpl.	1
2	516385	Druckzylinder AS	pressure cylinder AS	1
3	516419	Differentialzylinder NS	differential cylinder NS	1
4	482935	Schlauch 5000mm lg.	hose 5000mm lg.	1
5	480343	Schlauch 3700mm lg.	hose 3700mm lg.	1
6	551759	Schlauch 1600mm lg.	hose 1600mm lg.	2
7	551747	Schlauch 1300mm lg.	hose 1300mm lg.	1
8	553883	Schlauch 1900mm lg.	hose 1900mm lg.	1
9	326918	T-Verschraubung	T-fitting	1
10	291781	Winkelverschraubung	elbow fitting	2
11	364075	Schlauch 5800mm lg.	hose 5800mm lg.	1

Oberfläch. DIN ISO 192.
 Nach einer Verzerrung DIN 92 298 mm.
CONSUL
 www.consul-austria.com
 10551 1101010

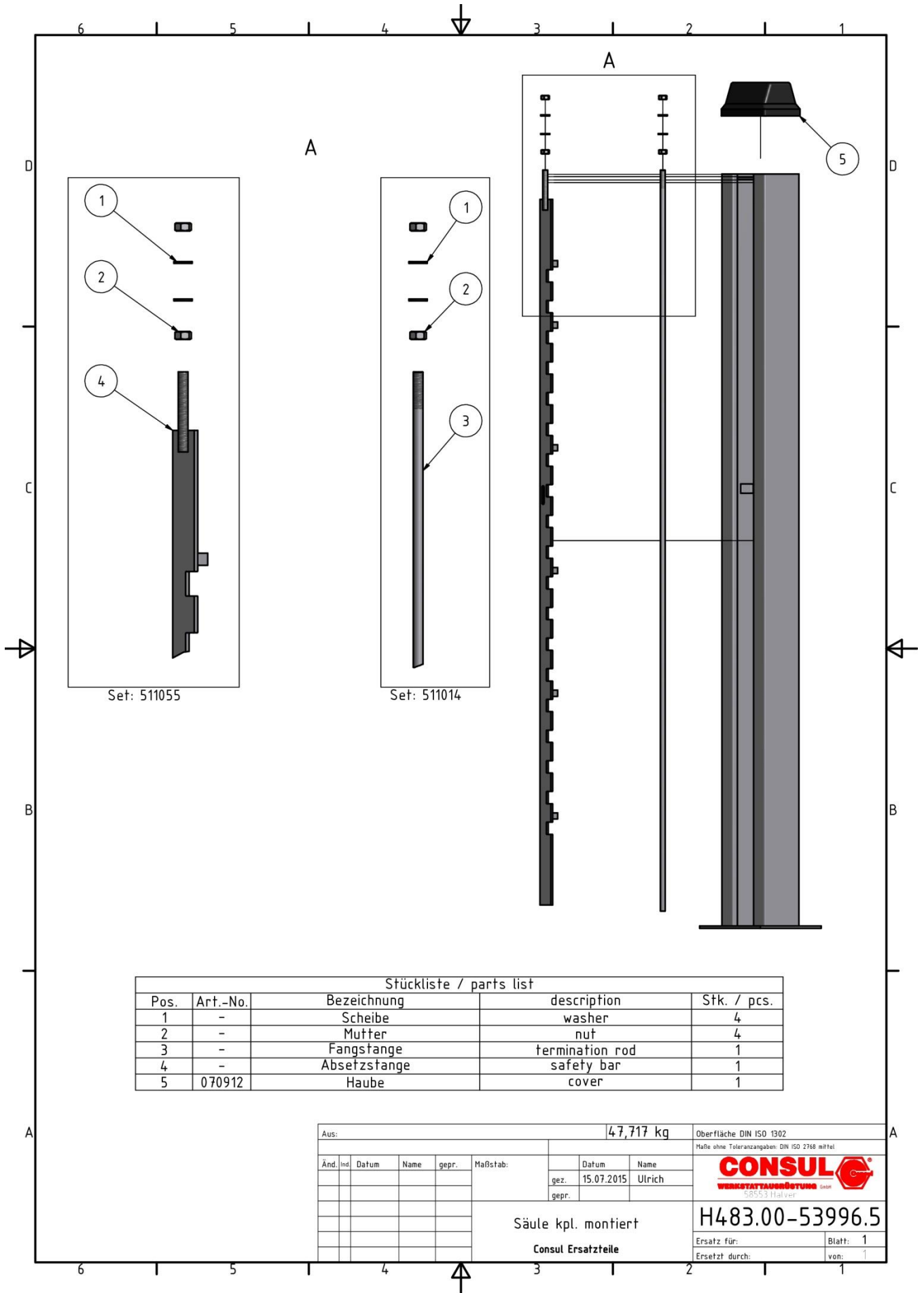
Gewicht: 14,15,404 kg
 Art.-No.: Z339.00-56130.8
 Ersatz für: Schweißverlegplan
 Ersetzt durch:

Ans.	Art.-No.	Datum	Name	Mafstab	gepr.	Datum	Name
		17.07.2015	Ulrich				
		16.11.2016	Kassner				



Stückliste / parts list				
Pos.	Art.-No.	Bezeichnung	description	Stk. / pcs.
1		Scheibe	washer	4
2		Mutter	nut	4
3		Fangstange	termination rod	1
4		Absetzstange	safety bar	1
5	558502	Motorabdeckung	motor cover	1
6	550392	Nachhubblock (Master / Slave)	wheel free hydraulic block	1
7	378141	Hydraulikaggregat	hydraulic power unit	1
8	370585	Steuerung	control	1
9	364109	Grenztaster Motorsäule	Micro-switch main post	1

Aus:		60,274 kg	Oberfläche DIN ISO 1302	
			Maße ohne Toleranzangaben: DIN ISO 2768 mittel	
Änd.	Ind.	Datum	Name	gepr.
Datum		Name		
gez. 14.08.2015		Ulrich		
gepr.				
Hubsäule Bedienseite			CONSUL	
kpl. M/S-System			WERKSTÄTTENGRÜNDUNG GmbH 58553 Halver	
			H483.10-56120.9	
Ersatz für:		Blatt: 1		
Ersetzt durch:		von: 1		

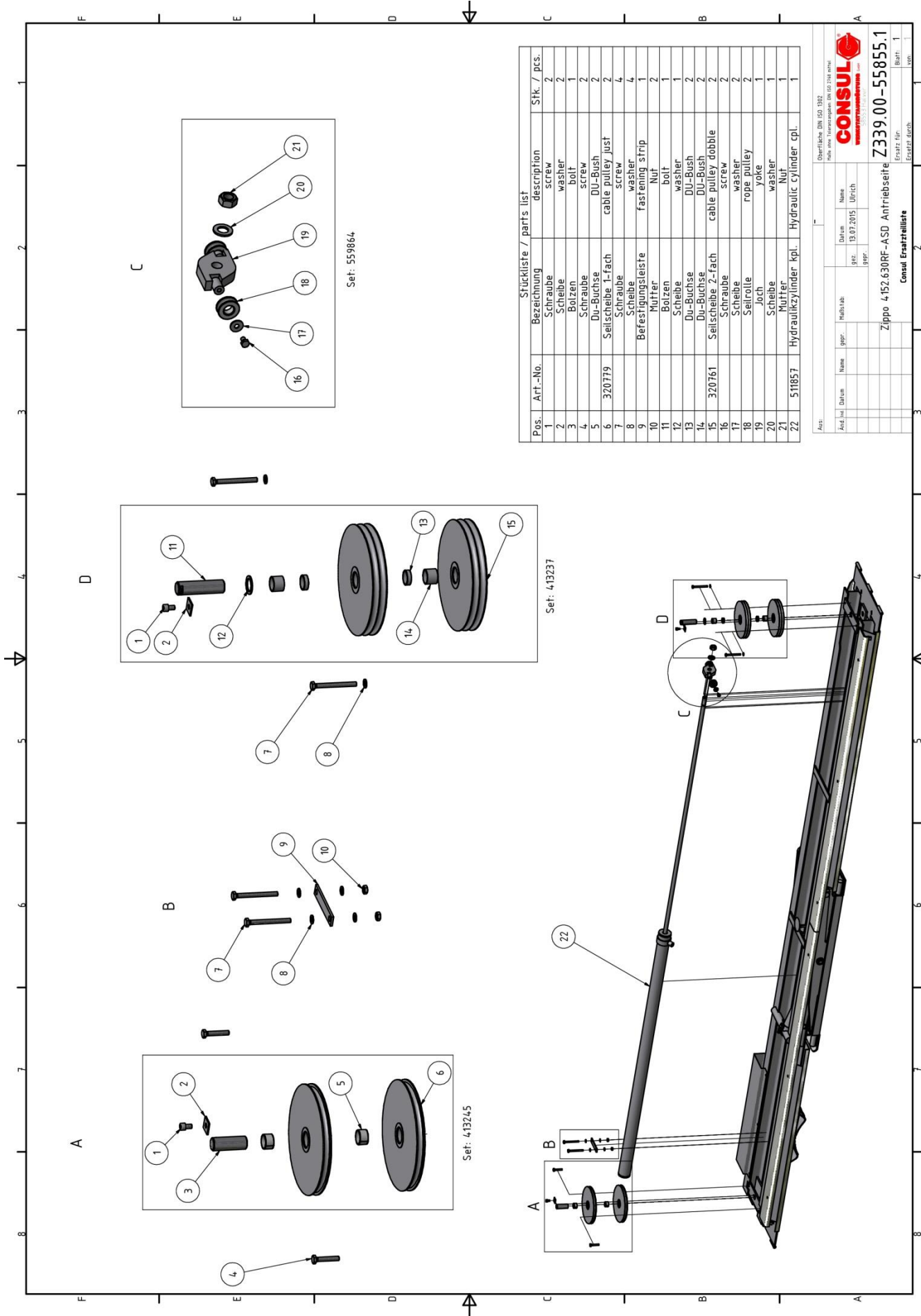


Set: 511055

Set: 511014

Stückliste / parts list				
Pos.	Art.-No.	Bezeichnung	description	Stk. / pcs.
1	-	Scheibe	washer	4
2	-	Mutter	nut	4
3	-	Fangstange	termination rod	1
4	-	Absetzstange	safety bar	1
5	070912	Haube	cover	1

Aus:		47,717 kg	Oberfläche DIN ISO 1302	
			Maße ohne Toleranzangaben DIN ISO 2768 mittel.	
Änd.	Ind.	Datum	Name	gepr.
Maßstab:		Datum	Name	
		gez. 15.07.2015	Ulrich	
		gepr.		
Säule kpl. montiert				
Consul Ersatzteile				
			CONSUL WERKSTÄTTENAUSRÜSTUNG GmbH 58553 Halver	
			H483.00-53996.5	
Ersatz für:			Blatt: 1	
Ersetzt durch:			von: 1	



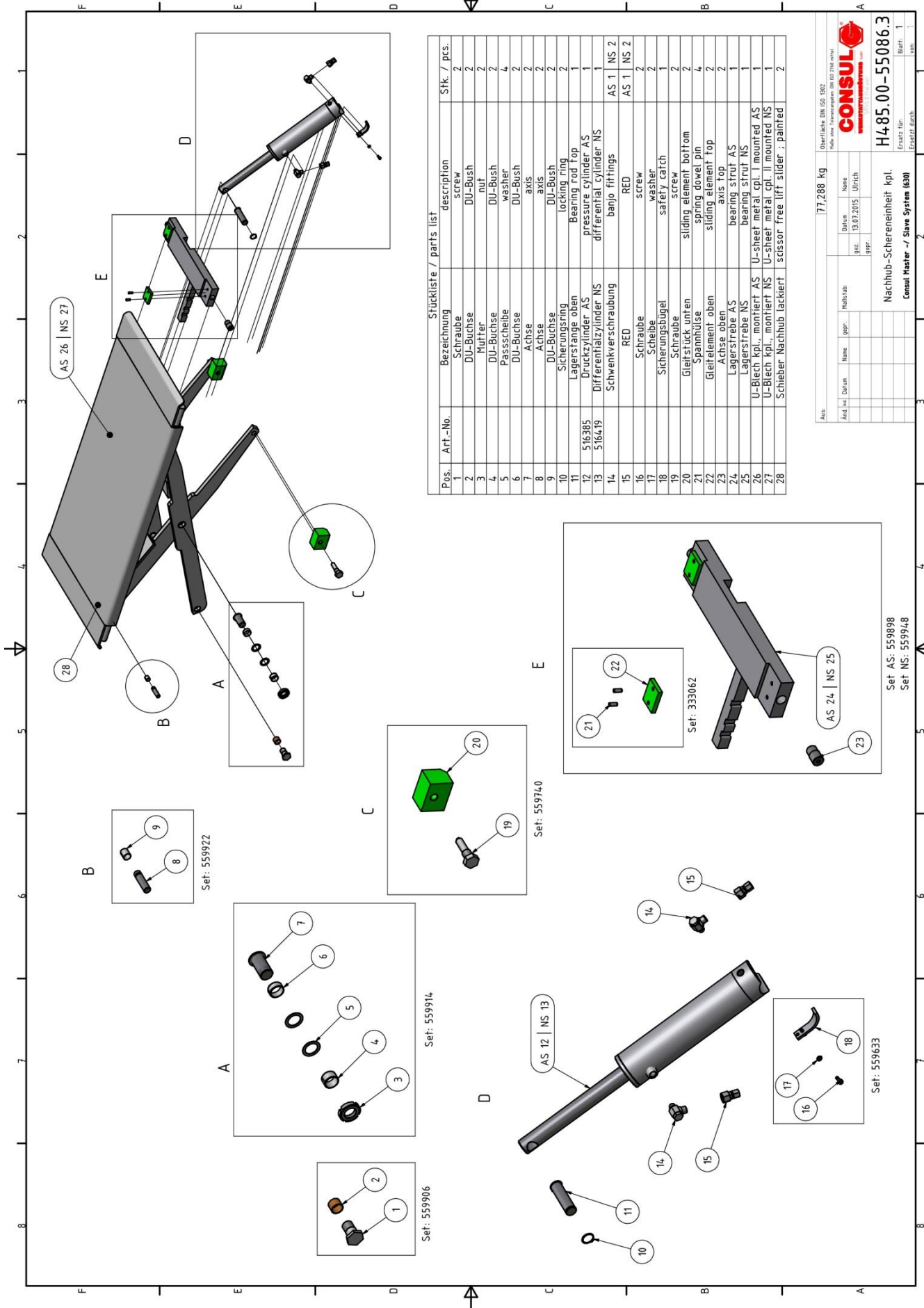
Stückliste / parts list

Pos.	Art.-No.	Bezeichnung	description	Stk.	/ prs.
1		Schraube	screw	2	
2		Scheibe	washer	2	
3		Bolzen	bolt	1	
4		Schraube	screw	2	
5	320779	Du-Buchse	DU-Bush	2	
6		Seilscheibe 1-fach	single pulley	2	
7		Schraube	screw	4	
8		Scheibe	washer	4	
9		Befestigungsleiste	fastening strip	1	
10		Mutter	nut	2	
11		Bolzen	bolt	1	
12		Scheibe	washer	1	
13		Du-Buchse	DU-Bush	2	
14		Du-Buchse	DU-Bush	2	
15	320761	Seilscheibe 2-fach	double pulley	2	
16		Schraube	screw	2	
17		Scheibe	washer	2	
18		Seilrolle	rope pulley	2	
19		Joch	yoke	2	
20		Scheibe	washer	1	
21		Mutter	nut	1	
22	511857	Hydraulikzylinder kpl.	Hydraulic cylinder cpl.	1	

Art.: _____
 Oberfläche DIN ISO 1922
 Maße sind in Millimetern angegeben (DN 10 216 mm)

Art./Teil	Datum	Name	ppr.	Multisub	ppr.	Datum	Name	ppr.
						13.07.2015	Ulrich	

Zippo 4152.630RF-ASD Antriebsseite **Z339.00-55855.1**
 Ersatz für: _____
 Ersetzt durch: _____
 Blatt: 1 von: 1
CONSUL
 Ersatzteile



Pos.	Art.-No.	Bezeichnung	description	Stk. / pcs.
1		Schraube	screw	2
2		DIU-Buchse	DIU-Bush	2
3		Mutter	nut	2
4		DIU-Buchse	DIU-Bush	2
5		Passscheibe	washer	2
6		DIU-Buchse	DIU-Bush	2
7		Achse	axis	2
8		Achse	axis	2
9		DIU-Buchse	DIU-Bush	2
10		Sicherungsring	locking ring	2
11		Lagerstange oben	Bearing rod top	1
12	516385	Druckzylinder AS	pressure cylinder AS	1
13	516419	Differentialzylinder NS	differential cylinder NS	1
14		Schwenkschraubung	banjo fittings	AS 1 NS 2
15		RED	RED	AS 1 NS 2
16		Schraube	screw	2
17		Scheibe	washer	2
18		Sicherungsbügel	safety catch	1
19		Schraube	screw	2
20		Gleitstück unten	sliding element bottom	2
21		Spannhülse	spring dowel pin	4
22		Gleitelement oben	sliding element top	2
23		Achse oben	axis top	2
24		Lagerstrebe AS	bearing strut AS	1
25		Lagerstrebe NS	bearing strut NS	1
26		U-Blech kpl. montiert AS	U-sheet metal cpl. I mounted AS	1
27		U-Blech kpl. montiert NS	U-sheet metal cpl. II mounted NS	1
28		Schieber	scissor free lift slider ; painted	2

Art.: 77288 kg
 Oberfläch. DIN ISO 182
 Maße nach Normenempfehlung DIN 182 216 mmHl
CONSUL
 www.consul.com
 Name: Ulrich
 Datum: 13.07.2015
 pos.:
 ppf.:
 Nachhub-Schereneinheit kpl.
Consul Master - / Slave System (S30)
H485.00-55086.3
 Ersatz für:
 Ersetzt durch:
 Blatt: 1 von: 1

Set: 559922
 8
 9

Set: 559914
 3
 4
 5
 6
 7

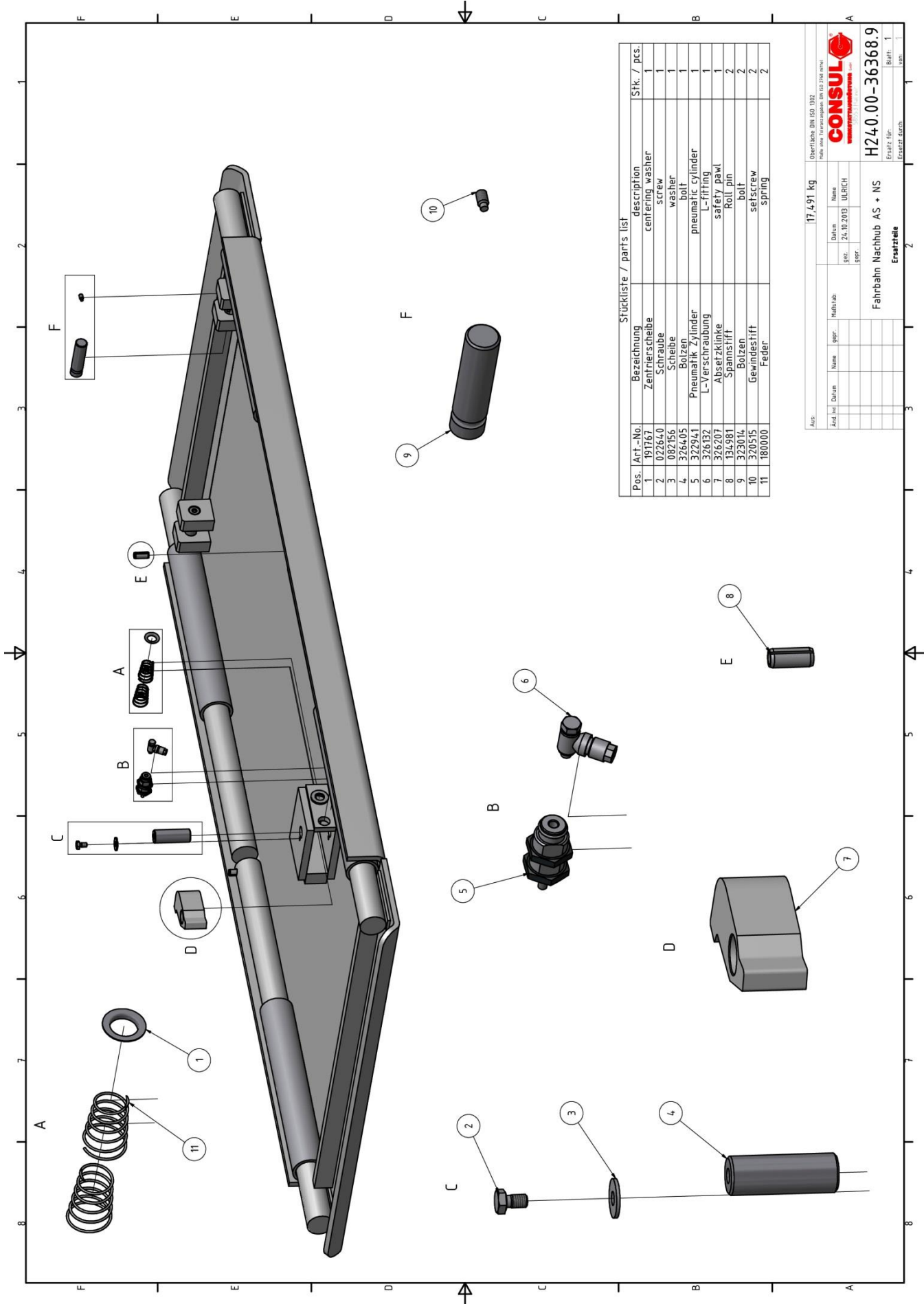
Set: 559906
 1
 2

Set: 559740
 19
 20

Set: 333062
 21
 22
 23
 24
 25

Set: 559633
 10
 11
 14
 15
 16
 17
 18
 AS 12 NS 13

Set AS: 559898
 Set NS: 559948



Pos.	Art.-No.	Bezeichnung	description	Stk.	/ pcs.
1	191767	Zentrierscheibe	centering washer	1	1
2	022640	Schraube	screw	1	1
3	082156	Scheibe	washer	1	1
4	326405	Bolzen	bolt	1	1
5	322911	Pneumatikzylinder	pneumatic cylinder	1	1
6	326132	L-Verschraubung	L-fitting	1	1
7	326207	Abseerklinke	safety pawl	1	1
8	134981	Spannstift	Roll pin	2	2
9	323074	Bolzen	bolt	2	2
10	320515	Gewindestift	setscrew	2	2
11	1800000	Feder	spring	2	2

Art.-No. **17.491 kg**
 Oberfläch. DIN ISO 1922
 Maße ohne Toleranzenangaben (im 1:2 Maß) mm

Art.-No. Datum Name
 24.10.2013 ULRICH

ppr. ges. ppf. ppf.

CONSUL
 www.consul.de

H240.00-36368.9
 Ersatz für: Blatt: 1
 Ersatz durch: von: 1

Fahrbahn Nachhub AS + NS
 Ersatzteile

