2-Posts-Lift

Consul 2.30-EL (H505)

Original Manual

Cover

Design by: Consul Werkstattausrüstung GmbH · Daimlerstraße 1 · D-58553 Halver
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Version 05.2019

Documentation-Data:

2-Posts-Lifts	Types	Consul 2.30-Limited (H500),
First Edition:		04.2019
Modification:		05.2019 Remark about FI-switch

Contents

WORKS CERTIFICATE

Herewith it is certified that the supplied vehicle lift, according to our type description, corresponds to the title and tested construction sample. It was manufactured to the regulations of technology and can be used without alterations for its purpose to the regulations of the corresponding test regulations

Consul Werkstattausrüstung GmbH - Halver, den 03.01.2017

(Frank von der Crone)

DATASHEET

Manufacturer: *Consul Werkstattausrüstung GmbH D-58553 Halver*

Type: *Consul 2.30-EL (H505)*

Serial - No.:

Year of construction:

Day of initial operation: .....

Confirmation in accordance §5 section 4 of the Accident Prevention Regulations for „Electrical Appliances and Equipment" (BGV A3)

It is herewith certified that the electrical equipment / the electrical appliances / the electrical installation of the machine or plant

Two-Posts lift Type Consul 2.30-EL (H505)

(Accurate details about type and location of installation)

Serial-No. _____

corresponds to the regulations for Accident Prevention for ”Electrical equipment and electrical appliances” (BGV A3)

This confirmation serves exclusively the purpose of the owner’s / user’s exemption from the testing of the electrical equipment / the electrical appliances / the electrical installation before its initial operational use (§5 section 1,4 of the BGV A3). This confirmation does not include any guarantees under Civil Law, nor does it serve to cover liabilities.

Manufacturer or Installer of the Equipment / appliances:

Consul
Werkstattausrüstung GmbH
Daimlerstraße 1
D – 58553 Halver

Halver, 03.01.2017

(Ort und Datum)

(Frank von der Crone/Geschäftsführer)

Important Information!

for our lift end customers in case of
Damages in transit

Delivery

Please check the goods immediately after delivery in the presence of the carrier.
If the goods show damages of transport, the carrier must not be given a blank receipt.
If necessary, note the damage on the haulage documents.

Claim for damages:

In order to ensure a quick and unproblematic claim settlement of the damage, each damage in transit must be reported immediately to the Consul GmbH and the customer service partner after the damage has been noticed.

The notification can be made by telephone, in writing or by fax / e-mail and must contain the following:

- No. of assignment on the Consul GmbH-delivery note and date of delivery
- Type of lift and serial number
- Exact description of the damage

(If necessary, use the back side of this information sheet.)

Rectifying damages and settlement

The company Consul GmbH- can only deal with transport damages if a damage claim, as described above, has been made.

Repairs or deliveries of spare parts as well as the financial settlement of transport damages are handled by your Consul Service partner.

Notification of Damages in Transport

On the lift	Type:	_____
	Serial no.:	_____
Delivered with	Delivery note no.:	_____
By	Company:	_____
	Date:	_____

The following damage was noticed:

☐ on delivery

☐ during unpacking

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Accurate description of the damage)

The packing was

☐ damaged

☐ not damaged

_____ _____

Place / Date Customer

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:	**2 post lift**
Type designation:	2.30-EL (H505)
Machine - No.:	_____
Year of Construction:	_____

Current EC - Regulation	2006/42/EG
Electro-magnetic compatibility	2014/30/EU
notified by EC-commission No.:	0044
Applied wtth 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 G308-003
Technical responsible of documentation:	Fa. Consul Werkstattausrüstung GmbH D-58553 Halver

As the working means cannot be delivered ready for operation, the working means must be checked for readiness for operation by an expert prior to initial commissioning. The company-trained fitters of the Consul partners are experts.

Place: **Halver**

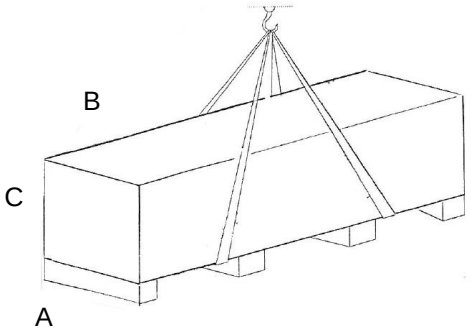
Date: **03.01.2017**

Unterschriften:

Frank von der Crone
CEO

Frank von der Crone
CEO

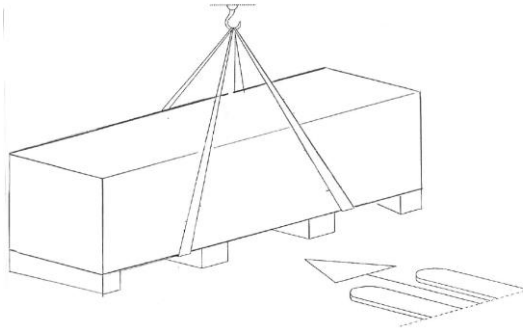
Delivery/ Transport/ stack

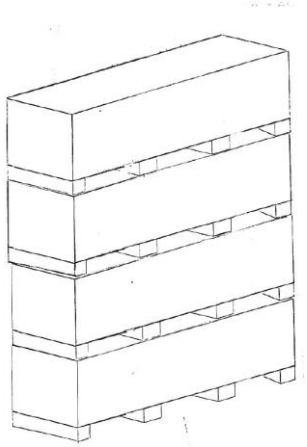


Dimensions:

Lift	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
Dopple scissor lift	680	1660	790

Dimensions in mm!

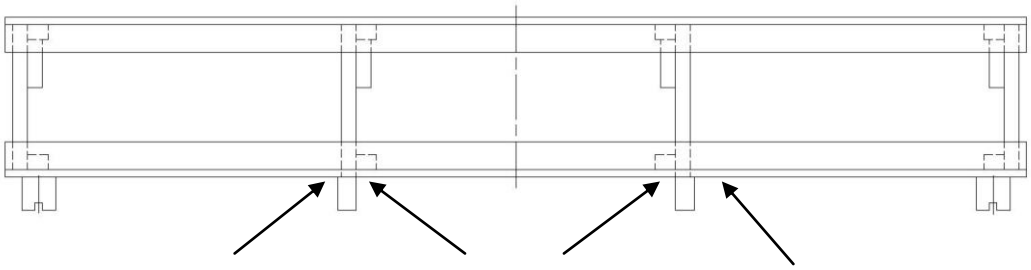




max. 4 pieces

Transport and Storage

The packed lift should only be lifted at the appropriate points. Gripping the lift from below with a fork-lift truck can lead to costly repairs.



The lift should not be stored outside.

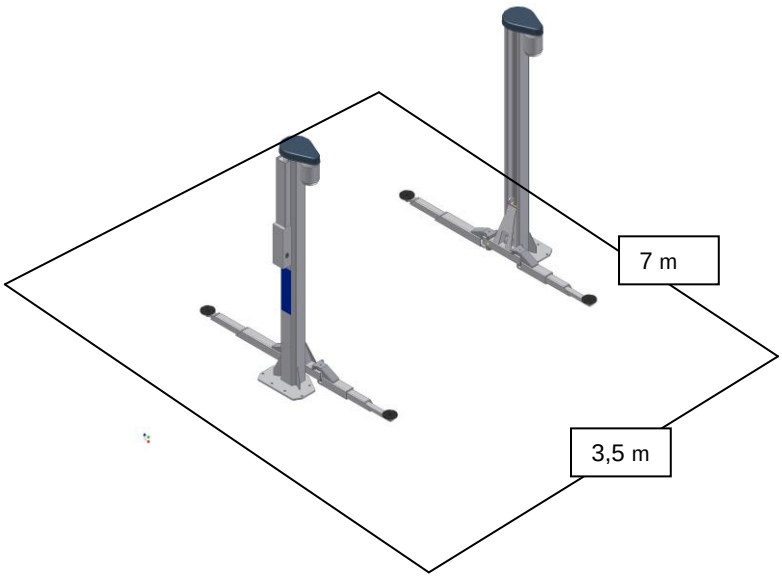
The lift should only be unpacked at its installation place.

It has to be taken care, that the column isn't knocked or dropped, otherwise the spindle might become deformed and a smooth run is not guaranteed any more.

Unpacking

When the lift and the accompanying packages are unpacked, possible damages of transport should be noted and the carrier as well as CONSUL GmbH should be informed immediately (see enclosed notification form). The individual parts must be laid out in such a way that nothing can be lost when the packing material is disposed of.

Workplace area



2 post lift
Required floor space
Min 1 m in front, lateral and behind the vehicle / Lift

Operating range and appropriate use

The 2-column-hydraulic lift is tested for functionality and durability. It offers you best efficiency and safety. It's up to you to make use of these advantages.

Essential conditions are the right operating, an impeccable attendance and taking good care of the hydraulic lift. Please read through this manual carefully. It gives you all the required information and shows you how to always keep your hydraulic lift working.

The hydraulic lift is meant to lift motor vehicles. Passenger transport is strictly forbidden. If you're using the hydraulic lift in paint shops or rooms, in which large amounts of solvent-containing materials are used, please watch out for explosion hazards. The standard engine is not explosionproof.

The hydraulic lift is solely designed to lift motor vehicles whos total weight does not exceed the hydraulic lifts max. lifting capacity, and whos mandatory position points lie in the positioning region of the hydraulic lift.

Buildup is only to be done by experienced and trained staff.

Safety devices

Your lift is equipped with several safety devices, to ensure workers safety, if the lift is used according to this manual.

Please take care of these safety devices, when installing the lift and check them after any case of failure.

Only trained service people are allowed to repair this lift.

Only original parts are to be used for repair. If third parts equipment is used for repair, the CE certificate of conformity will be avoided.

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

Records must be kept of inspections.

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

Safety Instructions

General Safety Instructions

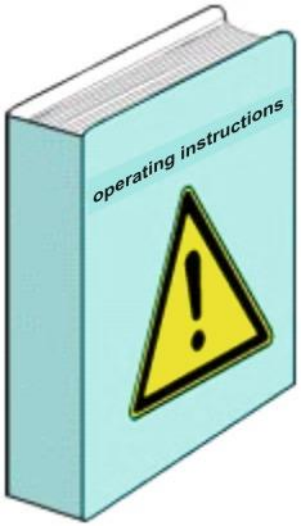
Owner's Responsibility:

The vehicle lift is constructed and built to legal standard and further technical specifications. It therefore corresponds to current technology and guarantees the highest degree of safety in operation.

Please note, that the machine is only safe in action when all necessary measures have been met. It is the responsibility of the vehicle lift owner to plan and check that the regulations are adhered to.

The owner is responsible for the following safety aspects:

- The vehicle lift must only be used for its intended purpose
- The vehicle lift must be kept in good functioning condition and especially the safety equipment must be checked regularly to ensure that it is functioning reliably.
- Operating, maintenance and repair staff must be supplied with the necessary protective gear and it is essential that this is worn.
- The operating instructions must be kept in a legible condition and must be available where the machine is used.
- Only qualified and authorised personnel should operate, maintain and repair the machine.
- The personnel must be regularly informed about relevant operational safety and environmental protection issues and must know the operating instructions and above all the safety regulations contained therein.
- Any safety labels and warnings attached to the vehicle lift must not be removed and must be legible.



Basic Safety Measures during Normal Operation:

The vehicle lift may only be operated by authorised personnel who has received special training, knows the operating instructions and is able to adhere to them.
Before switching on the lift, the following must be checked and ensured:

- that only authorised persons are present in the working area of the lift.
- that nobody can be injured when the lift is set in motion.
- Before each use, the lift must be checked for visible damages and it must be ensured that it is only operated in good condition.
- Faults must immediately be reported to the responsible member of staff
- Before starting to operate the machine it must be checked and secured that all safety equipment is in good functioning condition.
- Inspection and maintenance intervals stipulated in the operating instructions must be observed.

Basic Safety Measures during Maintenance and Repair:

Before maintenance or repair work is carried out, the working area of the lift must be made inaccessible for unauthorised persons. A sign should show clearly that maintenance or repair work is in progress!

Before maintenance or repair work is carried out, unplug the power supply or, if this is not possible, switch off at the main switch and secure it with a padlock. The key to this padlock should be kept by the person who carries out the maintenance or repair work. If heavy machine parts are to be exchanged, the load bearing equipment and buffer should be appropriate and in good condition.

Any lubricants, coolants or cleaning agents which might endanger the environment, should be disposed of properly.

Electrical Work:

Repair work on the electrical system of the lift should only be carried out by a qualified electrician.

Electrical installations should be checked regularly.

Loose connections should be tightened.

Damaged leads / cables must be exchanged immediately.

Keep housing of electrical installations closed at all times. Access is only permitted to authorised persons in charge of the key / tools.

Housing of electrical installations must never be cleaned with a hose pipe.

Protection of the Environment:

During all work with and on the vehicle lift the statutory regulations regarding the avoidance of waste and proper waste disposal must be adhered to.

In particular during installation, repair and maintenance work, water contaminating materials must not be allowed to seep into the soil or into the sewage system. These include:

- grease and oils
- oils for hydraulic systems
- coolants
- detergents containing solvents

Such materials must be kept, transported and collected in suitable containers and disposed of.

Practical Safety Instructions and Signs:

The following operating instructions contain practical safety instructions in order to draw attention to any unavoidable remaining risks which might occur while the vehicle lift is in operation. Such remaining risks endanger

- people
- products
- the environment

The signs used in the operating instructions are there mainly to draw attention to the safety directions.

The sign points to danger for persons (peril of death or injuries)

This sign points to danger for machines, materials and the environment.

Danger – general sign

This sign is a reminder that the power supply to the housing must be switched off and locked so that it is secured against accidental switching on.

The most important aim of the safety instructions is to prevent injury to people.

The respective applied sign cannot replace the text of the safety instructions. The text must always be read in full.

This sign does not relate to safety but gives information which should lead to a better understanding of the machine processes.

General Safety Instructions for Vehicle Lifts:

The vehicle lift must only be used for lifting vehicles in accordance with the technical data.

Only trained personnel may operate the system.

Safety devices must not be replaced.

Necessary repair work may only be carried out by instructed customer service personnel. Unauthorised alterations of the equipment exclude any liability by the manufacturer for any resulting damages.

Work on electrical installations may only be carried out by electricians.

The vehicle lift must not be operated in environments liable to explosions.

General Vehicle Lift Safety Instructions:

An uneven distribution of load on the front and back pick-up platforms should not exceed the listed ratio of the types:

2.30-EL (H505) at a capacity of 3000 kg <u>3 to 2 and 2 to 3</u>

The vehicle must always rest on all 4 supporting pads.

The vehicle must be picked up at the points stipulated by the manufacturer.

The vehicle and the lift must be observed during all vertical movements.

While the lift is operated, the danger area must be kept free. Travelling on or climbing up on the lift is not permitted. Persons under the age of 18 must not operate the lift.

The safety devices must not be changed in their position or function.

Repairs should only be carried out by authorised specialists.

The statutory accident prevention rules must be adhered to.

No work must be carried out on the vehicle during vertical movements.

The nominal load shown on the lift must not be exceeded.

After a brief lifting of the vehicle it should be checked that all lifting arms are securely bolted. If necessary, the vehicle should be lowered again and by a slight swinging movement of the lifting arm the bolt should slip into place.

During assembly and dismantling of vehicle parts the shift of the centre of gravity must be taken into account

Take care when vehicles are loaded!
(other total weight and weight displacement)

If electrical welding on the vehicle or on the
lift have to be done, please turn the main switch on position O

If the safety instructions are not observed there is a danger of injury!

Remaining Risks:

During vertical movements of the lift, no person is permitted to stand underneath a lifted vehicle or in the danger area. If this prohibition is not adhered to, there may be the danger of injury. The operator must be expressly instructed to activate the up and down switch only if no person is standing in the danger area.

The foot protection corresponds to statutory regulations, but this does not exclude all imaginable possibilities of injury, but only those which are probable according to experience. The operator must be instructed to activate the up and down switch only if no person is standing in the danger area.

Before each use, the protective device of the lift must be checked for its perfect functionality.

If a vehicle has been picked up correctly onto the lift according to instructions, there will be no danger of accidents. If, however, the vehicle has not been picked up according to instructions, there is the danger of injury. Special care must be taken with loaded vehicles or in cases of shift of centre of gravity through mounting or dismantling of heavy parts. The operator has to be instructed to check the correct pick up of the vehicle before work commences.

Power supply

Electrical connections:

Danger

A lift operated by electrical power must have a fixed device at an easily accessible place, so that the lift can be safeguarded against unauthorised used when it is no longer in legitimate use (lockable switch to power supply).

Drive power:	*2x 2,5 kW (without 230 V sockets)*
Power supply:	*3 Ph, N, PE - 400 V; 50 Hz*
Cable:	*5x 2,5 mm²*
Safety valve: *(on site)*	3x 20 A slow for type (2.30-EL (H505))

***Air plug**:*
A permanent connection for air supply which can be turned off must be installed in a place which is easily accessible from the lift.

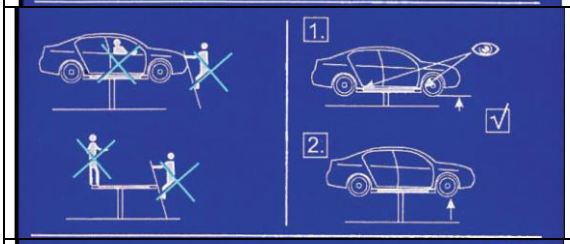
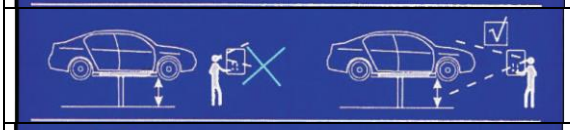
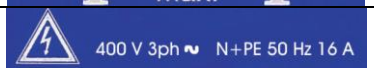
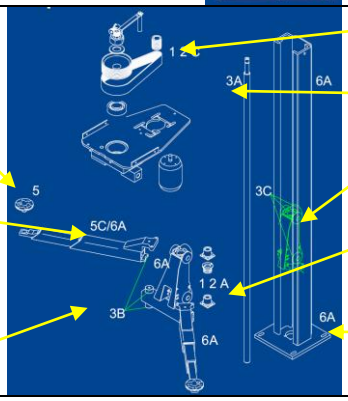
Notice

The supply cables can be lead directly to the column head of the control column or through a power channel in the foundation directly under the base plate of the control column.

Notice

If power sockets are installed on the scissor lift or the control cabinet, these must be secured separately by the operator via an FI switch.

Description of The Manual Sticker

Picture	Description
	Before using the lift, read the instruction manual carefully. Only qualified personal is permitted to operate the lift! According to the regulations for prevention of accidents, persons under the age of 18 are not permitted to operate the lift without supervision.
	The carrying of people is not permitted. 1. Raise the vehicle only by the manufacturers designated lifting points. Raise the vehicle a short distance and check the lifting points again. Then raise the vehicle
	During the movement of the lift, the load must be observed!
	During the movement of the load, no persons are in the vehicle loading area!
	Before lifting or lowering a vehicle check that nobody is in danger, that nothing is leaning against the vehicle and no obstacles are underneath it.
	Loading capacity of the Lift! Do not overload the lift!
	The load distribution should not exceed the ratio 3:2 by 3000kg The load distribution should not exceed the ratio 3:1 by 4000kg
	Danger! Electrical current-carrying parts (for example main switch, contactors ,..! Electric shock when touching of energized electrical parts Electrical power consumption!
	1 - Please read the manual and the inspection logbook. 2 - Visual check 3 - Grease with multi purpose grease 4 – Lubricate with Oil – for this lift use grease 5 - Keep clean and greaseless! 6 – ph-neutral funds use A - Maintenance period monthly! B - Maintenance period quarterly! C - Maintenance period half-yearly!
Please keep the pick up support clean and greaseless Please keep the lifting arms clean and greaseless Please grease the functional areas of the lifting arm retainer periodical! 	See chapter Ribbed drive belt Lubricate the lifting spindle monthly with Multipurpose grease! Lubricate the rollers and the running surface with multi purpose grease twice a year! See chapter Safety lock device! (load nut failure) See chapter “Cleaning, care and maintenance instruction”

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 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 foundation (see standard foundation).
- ♦ Laying of electrical connection to place of setting up.
- ♦ Laying 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.

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, nd/ 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 corresponding test procedure
- Examination of the individual structural components.
- Entry in the check list according to corresponding test procedure.
- 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.

Foundation

Most Consul 2 post lifts are of a “baseless” design, therefore the floor fixing is critical .The entire load (dead weight of lift and moving weight of vehicle) are transferred to the floor through the anchor bolts.

Before setting the lift up, it is imperative to be certain about the existing base (see sheet ‘Base anchoring for the lift equipment corresponding test regulations).

When installing the lift on a suspended floor, the floor’s suitability must be verified by a structural engineer, or other competent person.

Only after checking of the available underground, a decision can be made about the corresponding fixing system!

The penetration depths of the anchors (anchors are **not** supplied) have to be followed (see instructions of the anchor manufacturers). Otherwise the safety of the lift may be compromised.

The correct length (L) of the active part of the anchor bolt is obtained by adding the measurements „h“ + thickness of the floorcover and height of the files and the height of the installation base. Drill size and the thightening torque are in accordance to the bolt manufacturers instructions.

To achieve a perfect installation, the unbreakable concrete floor should be flat and level (min. C20/25, frost proof) with the corresponding load capacity.

According to the type of anchor used for the 21^{+1} mm hole in the base plate, the washers must be of sufficient size!

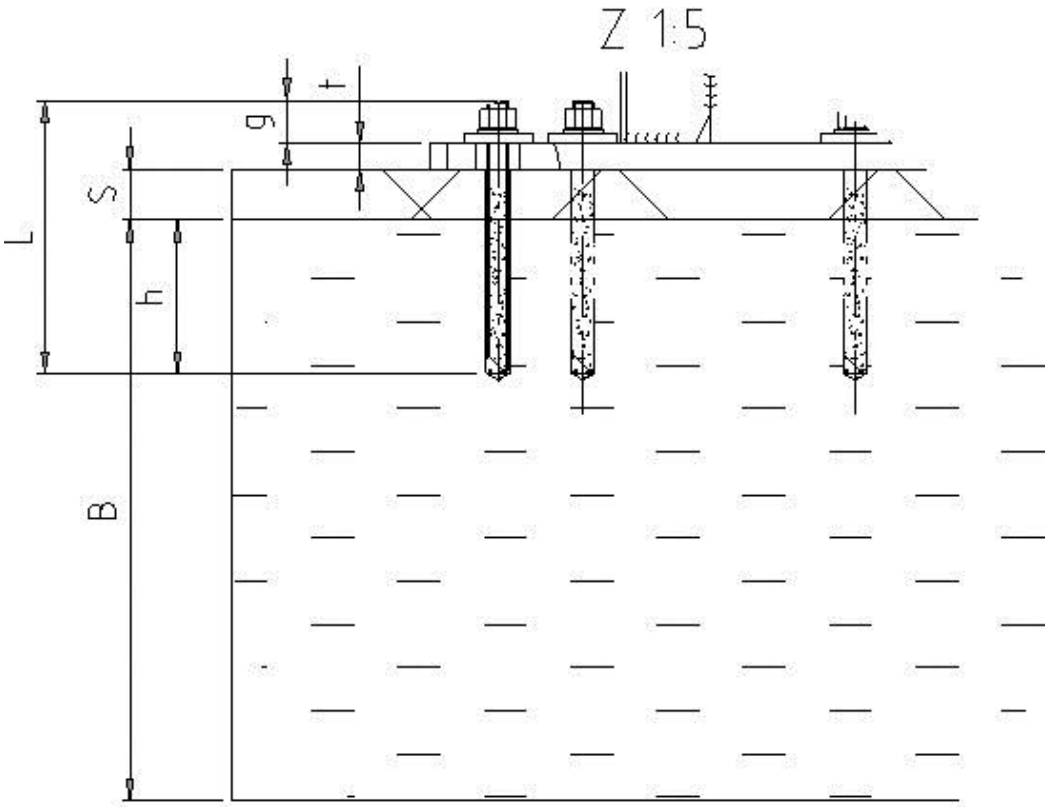
Floor fixing for lifts up to 4 to

B = floor thickness (21 cm)
H = anchoring depth of anchors
s = thickness of ground covering til concrete C20/25
t = thickness of component
g = threaded length
L = length of anchors
X = according to indications of manufacturer
Length of dowels: L = h + s + t + g

Depending on the type of anchoring, use appropriately-sized washers for 21+1 mm drill holes in the baseplate!

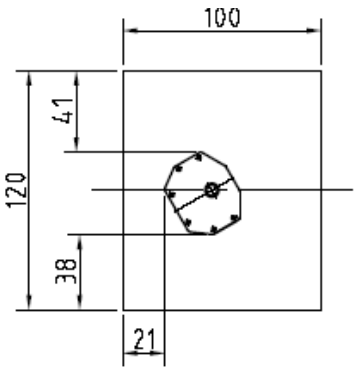
Subject to change without prior notice!

Dimensions in mm

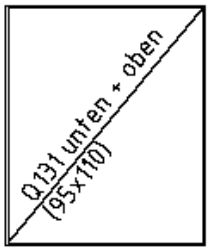


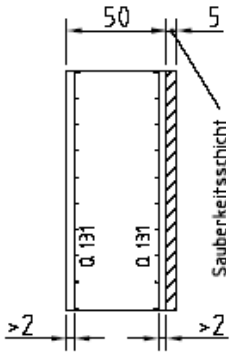
Foundation work for lifts till 4 to

Single pad



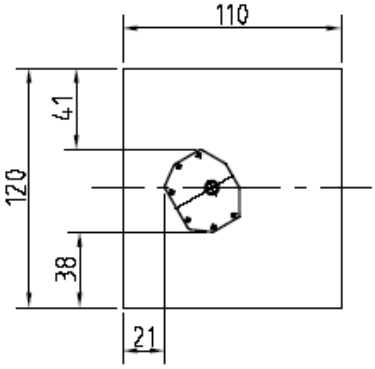
Reinforcement

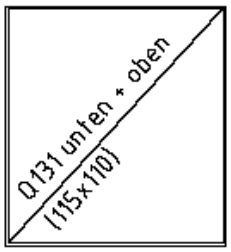


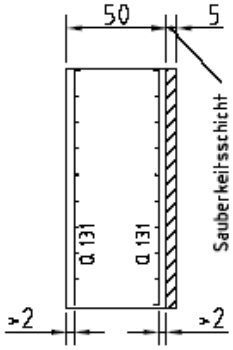


Underground concrete without damages
Permissible sigma $_b$=200KN/m²
C20 /25, BST 500 M
Concrete floor > 2,0 cm

Schalung

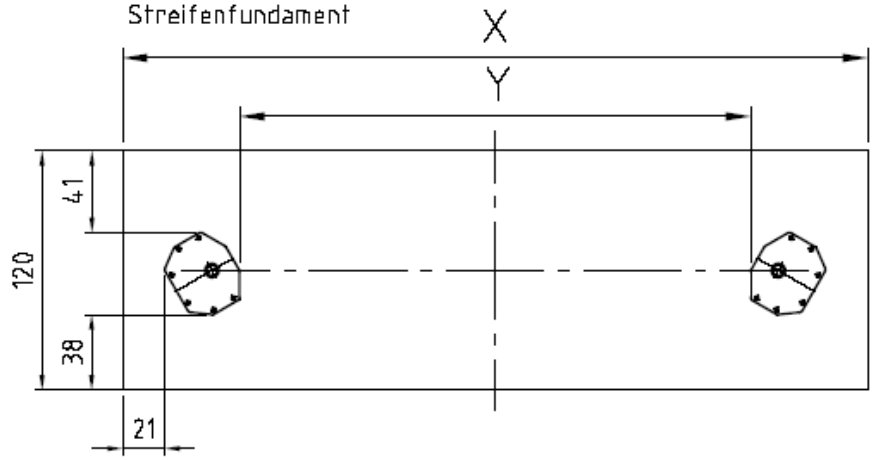






Permissible sigma $_b$=150 kN/m²

Streifenfundament



2.30-Limited (H500):
X = 374 cm
Y = 257 cm

Floor plate C 20/25 without damages
Thickness: d >= 21 cm

Necessary a_{sx}	= 2,57 cm²/m	- lower reinforcement	BST 500 M
Necessary $a_{Sx,y}$	= 3,77 cm²/m	- upper reinforcement	BST 500 M

Column fixing: e.g. Hilti HVA/HAS-M12x110 mm

Important: Always follow the asssembly instructions and keep to the min. anchoring depths specified by the dowel manufacturers!

Tests on existing concrete floor are necessary for anchoring!

Fixing specifications & 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 4710-1 unbreakable concrete	Anchroing depth dowels see manufacturer	**Important: all securtites „slowly-acting"**
1.25	H321	Shear connector Hilti HVA/HAS-M16x125 (6 Stück)	80 Nm	150 cm	200 cm	15 cm	C 20/25	12,5 cm	400 V/ 50 Hz/ 3x16 A
2.30-Classic 2.35-Premium 2.30 Limited 2.30 EL 2.35 HD FLEX 2.35 HD PRO	H440.10 H400.10 H500 H505.00 H480.10	Shear connector Hilti HVA/HAS-M12x110 (12 Stück)	40 Nm	120 cm	100 cm	21 cm	C 20/25	11 cm	400 V/ 50 Hz/ 3x20 A
2.40-Classic 2.40-Premium 2.40 HD FLEX 2.40 HD PRO 2.45 Premium	H440.10 H327.10 H480.10	Shear connector Hilti HVA/HAS-M16x125 (12 Stück)	80 Nm	120 cm	100 cm	21 cm	C 20/25	12,5 cm	400 V/ 50 Hz/ 3x20 A
2.55 2.55 HD FLEX 2.55 G 2.65 2.65 HD FLEX	Z240 H476 H331 H331.1	Shear connector Hilti HVA/HAS-M16x125 (12 Stück)	80 Nm	150 cm	150 cm	21 cm	C 20/25	12,5 cm	400 V/ 50 Hz/ 3x25 A 3x20 A
4.45 …		Shear connector Hilti HVA/HAS-M12x110 (16 Stück)	40 Nm	100 cm	100 cm	18 cm	C 20/25	12,5 cm	400 V/ 50 Hz/ 3x16 A
4.55 4.70		Shear connector Hilti HVA/HAS-M16x125 (16 Stück)	80 Nm	100 cm	100 cm	18 cm	C 20/25	12,5 cm	400 V/ 50 Hz/ 3x16 A
0.30 KH	H435.20	Optional: Shear connector Hilti HVA/HAS-M12x110 (8 Stück)	40 Nm	150 cm	100 cm	15 cm	C 20/25	11 cm	400 V/ 50 Hz/ 3x16 A
0.32 DS 0.35 DS	H410	Shear connector Hilti HVA/HAS-M12x110 (8 Stück)	40 Nm	250 cm	150	21 cm	C 20/25	11 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 bolt manufacturers' instructions must be followed!
Subject to change without prior notice! Date: 06.01.2015

The most important designations

according to the new concrete standard B 4710-1

Exposition classes (environmental classes)

XO	no corrosion risk, no frost;
XC1 XC2 XC3 XC4	corrosion released by carbonation
X0	non-reinforced 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 **frost demand** for curved (> 5 %) and vertical surfaces, all under-faces with frost
XF2	concrete with **frost and rope means** (salt) for curved (< 5%) and horizontal surfaces
XF3	rain and **frost demand** for horizontal surfaces; hydraulic engineerings
XF4	concrete with frost and **rope means** (salt) for horizontal surfaces (in former times: FTB)

Concrete strength classes

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

C 8/10 ..... B 8/B 80
C12/15 ..... B 15/B 160
C16/20 ..... B20 / B225

C20/25 ..... B25

Attention!

Important instructions for assembling the 2-Post-Lift!

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.
5. Instructions for the foundations of the lift must be strictly observed.
6. Ensure that the motor axis is hanging parallel to the spindle axis. For any adjustment please loosen the screws from baseplate and retigten them.
7. Check the locking mechanism of the swing arm, then ensure that the bolt is vertical and parallel to the front of the column.
8. The lift is preprogrammed in the factory and must be adjusted to local conditions. Check that the foot protection facility is at the correct height (compulsory stop and signal tone).
9. Be aware of the alignment (outward lean) of the columns.
10. Check the gap between the steering frame and the tension band (correct and grease the back of the tension band when necessary).
11. The self-securing swing arm screws only reach complete tightness after 24 hours (check for a gap of 1 to 2 mm between the screw head and the swing arm bearing)
12. Observe maintenance schedule (swing arms, spindles, bearings of turntable).
13. For lifting, use all 4 swing arms only at permitted lifting points by the manufacturer.

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Installation and initial operation

In order to install a lift correctly the concrete must be flat and horizontal and have the required load strength (minnimum C20/25). First of all the posts are set up on their positions. The distance dimensions of the posts base plates are shown in the relevant sketch of dimensions.

In accordance with EN1493 there must be a safety margin of 500 mm minimum between the lift columns and any other obstacle (wall, etc) and, similarly, between any load to be raised and another obstacle.

After repeated checking of the set-up situation, the baseplate is dowelled through the existing drilled holes (the base plates must lie on with their entire surface!). According to the chapter “Foundation”, 12 anchor bolts M12 are required. Other anchor bolts can also be used that have been appproved for the concrete by the building supervisory authorities, resp. for this region. Dowels are ***not*** supplied.

The lift columns should be vertical. They should not lean inwards in no case.
A slight outward lean (up to 10 mm) is desirable. If necessary, extra shims can be placed between the column base plates and the floor for levelling purposes.

In the slave post there are the cables which are connected to the main post. These cables will be passed through an empty tube (install on site) to the main column. A cable bridge can also be additionally for this connection. When installing the cables it is important to ensure that the wires are not mixed up! Before commencing the electrical work, please read and observes the instructions regarding initial installation (following pages) carefully! For further questions, Consul Service is available.

The electrical installation for the lift must be carried out by an electrical engineer and according to the enclosed circuit diagram and the VDE regulations 0100. The lift should operate in accordance with the travel direction symbols when the main drive switch is activated. If necessary, change the direction of turn by swapping aroung the 2 phases.

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

Grease the take-up bolts thoroughly. After attaching the support arms is necessary to consider that the pawl engages the teeth on the support arm.

The lift has to be lubricated at the column according to the lubrication schedule (following pages).

Securing of the lift apparatus (eg, swing armes) against being disconnected:

Secure the eye bearing with a hexagonal safety screw on the take-up bolt so that there remains a gap of 1 to 2 mm between the eye and the screw head.

Attention: ***The self-securing screws only reach complete turning security after 24 hours.***

The guide brackets for the flexible cover must be sufficiently spaced from the column so that the flexible cover does not catch and get damaged. The guide brackets may need to be adjusted. The spindles must be greased.

Should there be a noise from the flexible covers when the lift is in drive then multi-purpose grease can be applied to the back of the cover. By doing a test run, check or reprogramme the limits and safety stop. After examination of the function of the lift by experts, the start-up can take place.

The results of the check must be recorded in the check book.

Testing of lifts

The examination of lifts must only take place according to the accident prevention and insurance association principles and the standards and specifications listed therein.

For example, part 2, item 5

The nature, scope and execution of the tests

Appendix 2: Information on the master data sheet in the log book

Lift testing

The sections listed above are excerpts, otherwise the corresponding test regulations is binding. The required tests are correspondingly carried out by Consul's assembly services according to the specifications. Please ask Consul´s sales associates for inexpensive maintenance contracts.

Disposal of the post 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.

Installation – Service checklist

			Customer adress	
	Service partner	Type:		
		Serial No.:		
		Year:		
		Commissioning:		

				O.K.	n O.K.
A.	**Before the installation.**				
1.	Before the installation please check for any shipping damage (e.g. control box, head plate etc.). In case of shipping damage inform the operator (Commerce / Shipper).				
2.	Check the completeness of the lift incl. Accessories.				
3.	Determine the required space of lift.	Note here: Ceiling height, vehicle positioning, safety distances and location of control post			
4.	Test drilling	For 2-post lifts one test drilling for each post and foundation cheeck (anchor tensile force) o. foundation verification			
5.	Floor levelness / descent.	2.-post:	L.=max 1% max. 1%		
		4.-post :	L.=max 0,6% max. 0,5%		
		Scissor :	L.=max 0,6% max. 0,5%		
		Scissor AM :	L.=max 0,6% max. 0,5%		
6.	Energy supply on site.	Electronic connection (400V / 20A gl) only made by electronic- specialist according to VDE 0100. Air: 8-10 bar with maintenance unit			
B.	**During the installation:** Important references before and during the installation of the 2-post lift generation				
1.	Installation only to be made by factory-trained technical staff according to standards of the Installation manual (otherwise the warranty will expire)				
3.	Closing insulation check must be done according to DIN VDE-guideline 0100 – local electric specialist -				
4.	Made aware of the test specification according to corresponding test regulations				
5.	Implicitly observe the references for the foundation of the lift				
6.	Observe mounting dimensions according to installation manual				
9.	Pay close attention to the parallelism of the motor axle and spindle axle. For a correction of the head plates the two head plate screws can be loosened and retightened.				
10.	Test function of the swivel arm locking mechanism. ATTENTION! When lowering the swivel-in height after installation the swivel arm locking mechanism must first be stopped functioning and then readjusted afterwards.				
11.	Implicitly fill the supporting lubrication system with original spindle oil.				
13.	The lift comes ex works pre-programmed and must be adjusted to the conditions on site. Check the correct height of the acoustic foot protection (forced stop and alarm sound)				
14.	The alignment of the posts (outer tilting) must be observed, approx. 10 mm on post length				
15.	Check upper and lower distance on the deflection bar of the cover tape (correct if necessary and grease back side of cover tape if required).				
16.	Don't tighten self-tightening swivel arm safety screws approx. 1mm clearance swivel arm movement (Observe clearance between screw head and swivel arm bearing of 1-2 mm).				
17.	After the first test run without load another test run with the approx. nominal load must be done. Adjust setup if necessary. Afterwards adjust the running mechanics with a vehicle of				

	medium weight (approx. 2/3 of nominal load) and counter with counter nut.			
18.	Observe maintenance points! (see lubrication and maintenance plan)			
19.	Only lift with all 4 swivel arms at the valid pick-up points stated by the vehicles manufacturer.			
20.	Check all detachable connections			
21.	Repeated checking of all adjustments (e.g. security devices, end stop points, belt tension, running mechanics, brake)			
22.	Presentation and briefing of lift on function, security devices, servicing and maintenance.			
C.	**After the installation.**			
1.	Completely fill out test book.			
2.	Extensive briefing of customer on the function of the lift,			
	-- Briefing on security devices and emergency lowering,			
	-- Briefing on operation and proper use of the lift (e. g. 4 arms – 4 pick-up points)			
	-- Briefing on maintenance, servicing and yearly UVV-approval			
	-- Name of briefed person: _____(person in authority)			
3.	Handover of test book, installation manual and the brief instruction (with indication of attention!)			
D.	**Maintenance obligations of the operator 2-post (Maintenance intervals: quarterly)**			
1.	Arrange yearly check according to corresponding test regulations!			
2.	Maintenance according to operation manual			
3.	The lubrication applies supporting lubrication to spindle and nuts! However this lubrication does not always suffice (e.g. thick oil due to cold). Check monthly! Manual lubrication acn help when faced with eventual rough running features.			
4.	Grease swivel arm mounting bolts.			
5.	Check belt tension, retighten if necessary.			
6.	Check castor brake, retighten if necessary.			
7.	Regularly check safety devices (e.g. swivel arm locking mechanism).			

A briefing on function, operation, servicing and the safety devices of the lift has taken place.
A briefing on the MAINTENANCE OBLIGATIONS OF THE OPERATOR has also taken place. The operator has been extensively briefed and has assured himself of the faultless function of the lift. Indication of attention of the extensive operation manual! Without properly filling out this brief instruction the warranty will expire!

Notes: _____
_____
_____
_____

_____	_____	_____	Stamp operator:
Date	Signature	Name in block letters operator	
_____	_____	_____	
Date	Signature	Name in block letters briefed person	
_____	_____	_____	Stamp service partner:
Date	Signature	Name in block letters briefed person	
_____	_____	_____	
Date	Signature	Name of installer / service partner	

Product description

The lift basically consists of the main column and a slave column. In both columns are to be found the lifting spindles and the lifting carriages with load bearing apparatus.

The drive turns the lifting spindle. On the spindles are nuts which are attached to the lifting carriage which, according to the turning direction of the drive, moves up or down and thus performs the raising and lowering operation. The lifting carriage is borne on maintenance free roller bearings within the column.

In each column is a motor driven belt which turns the spindles. The even running of the lifting carriages is ensured via an electronic synchronizing governor. Any lack of synchronization in the lifting carriages (eg, because of an uneven load, lack of lubrication, etc) is regulated by the synchronization control to within a distance of approximately 10 mm. The advancing lifting carriage is briefly stopped until the slower carriage reaches the same height. This check may be observed several times in the course of the lift.

By shifting the main drive switch at the control box the lifting motion corresponding to the movement symbols is switched on. Similarly, it is stopped again by its release and via a programmable electronic device in the upper and lower position. For safety reasons, the downward movement can be programmed to automatically stop at a height of 200 mm (between the floor and the underside of the lifting apparatus). By releasing and the reengaging, the main drive switch the carriages on lowering to the sound of a warning tone.

The main drive switch goes automatically to the stop position when released and the movement of the lift is stopped in the corresponding position of the load bearers. In addition, the lift is equipped with a variety of both passive and active safety devices. An example of this would be the safety device for broken load bearing nuts which transfers the load to a reserve safety nut in the event of a worn thread. At the same time, a mechanical blocking system is engaged which prevents continued movement to the lowered position in the event of worn threads. In this way, unintentional travel on the safety nuts is avoided.

The swing arm lock stops the load arms moving after travelling upward a short distance from the lowered position. This is to prevent the lifting apparatus slipping from the jacking points on the vehicle being raised. Operating safety is paramount!

The heat sensors in the drive motors stop the lift in the event of overheating and only allow the lift to restart after a cooling down period.

The lift Consul 2.30 Limited is executed with asymmetrical brackets . It has a load capacity of 3000 kg and can with a max. Permissible load distribution of 3:2 are operated.

If using the asymmetrical version of the arms, the swing arms have difference length. The vehicle has to be placed in drive-on direction with the short-double extendable pick up arms in front and the long arms, only single extendable, backwards.

The vehicle to be lifted is positioned so that the front door hinges are close to the lift columns in order to facilitate a wide opening of the doors. It is desirable that the vehicle’s engine is towards the short swing arm (the centre of gravity of the vehicle as close as possible to the centre of the lift)! All 4 lifting points are positioned at the jacking points laid down by the vehicle manufacturer!

Practical use of the post-lifts

Switch the main switch to the "Ein" (on) position. Turn the control knob to move the lift in the direction indicated by the arrows. On release of the control knob it returns automatically to the “off” position.

Operating of the lift is only permitted by authorised persons!

According to the regulations for prevention of accidents, persons under the age of 18 are not permitted to operate the lift without supervision.

The lift is designed only as a vehicle lift, it should not be used for other purposes.
See instruction on the lift column.

If there are any faults with the lift, turn off electricity, make safe, secure against unauthorised use and contact the Consul Service Section.

See the operation label on the lift column!

Before lifting or lowering a vehicle check that nobody is in danger, that nothing is leaning against the vehicle and no obstacles are underneath it.

Attention:
With some vehicles, higher lifting apparatus is necessary. As an necessary, a set (4) spacing bushes is available. This ensures safe lifting of the vehicle.

When using a drive-on chassis, the chassis must be fully lowered before driving on to the lift.
The total vehicle weight **must not** exceed the authorised capacity and load dispatching.

In order to guarantee a safe lift of the vehicle it may only be lifted at all 4 lifting points as laid down by the manufacturer.
Check the safety of the lifting after having set up a little the vehicle.

Only original accessories may be used as load supporting devices (type tested parts), wooden blocks or other devices for load lifting are not permitted. It is advidable that the vehicle should be driven on so that the centre of gravity is between the lift columns (especially with the asymmetric swing arms).

Pay attention to the centre of gravity when working with heavy parts as it can cause the vehicle being raised to fall. Only use the lift as intended: for lifting vehicles. Other, apparently practical uses are not among ist intended purposes.

It is forbidden to use the lifts to raise heavy vehicle parts, eg, engines. The swing arms are fitted with blocking devices which work automatically. They will the moving of the swing arms after a short lifting distance and release again when lowered by 15 mm.

If the arms have to be swung to a greater height, eg, in order to place a vehicle on a bench, then a hand bolt can be installed.

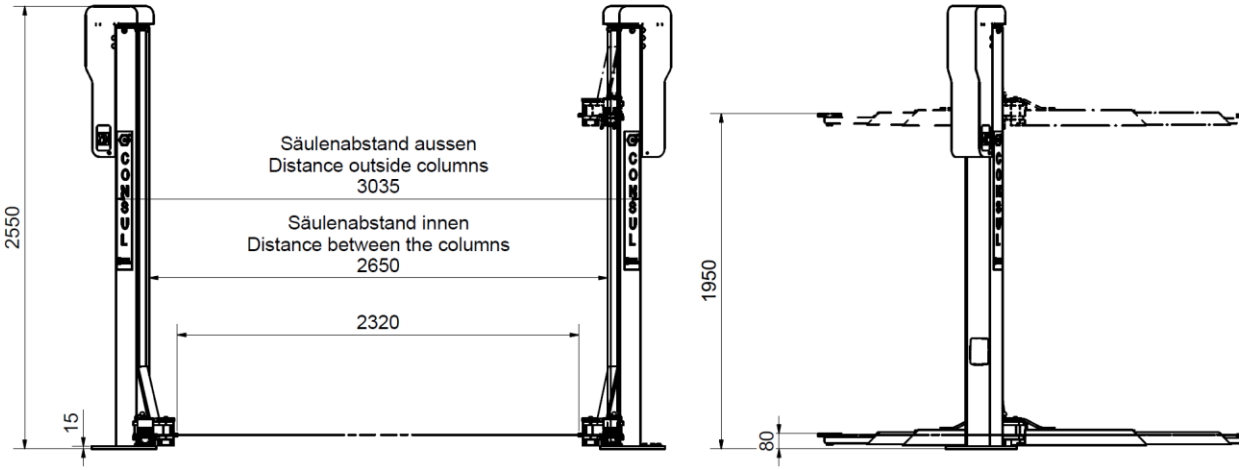
Technical details

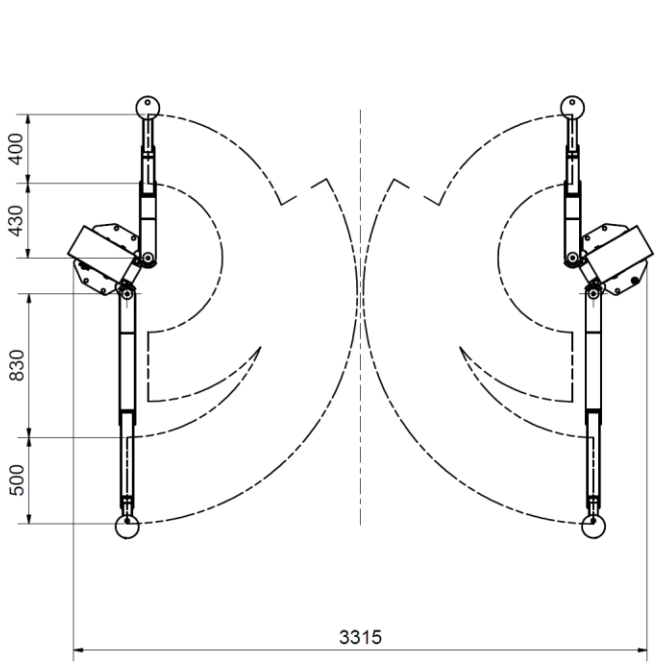
Type: Cline	2.30 EL (H505)
Remark:	with asymmetric swing arms
Width (mm):	3315
Height (mm) ca.:	2550
Max. vehicle width (mm):	2320
Range (mm):	1.920
Lifting height (mm):	2005
Min. arm clearance (mm):	85
Lifting time (sec):	35
Net weight (kg):	500
Capacity (kg): *	3000
Motor power (kW):	2 x 2,5
Voltage (V):	400
ED-power:	S3 – 10 %
Current (A):	16
Fuse rating (A gl):	20
Noise level (dB(A)):	78

Subject to change without prior notice!

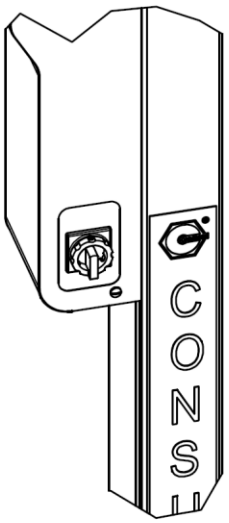
* **The load distribution should not exceed the ratio 3:2 by capacity of 3000 kg!**

Dimensions 2-Post-Lift
Consul 2.30-EL (H505)





B (1 : 5)



Accessory:

See catalogue!
Subject to change without prior notice!

Safety lock device (load nut failure)

Your lift is equipped with a safety lock that stops the operation if a nut has failed. For explanation of the function of the safety lock device, please check the following sketch.

Fig. 2 and 3 shows the position of load nut and respectively safety nut with the angled safety catch between nuts on the driving angles. The load carrying device are enclosed within the lifting carriage and cannot be accessed from outside.

When using the lift in normal operation, there is a clearance between safety nut and carriage which allows the safety nut to run without load.

If the thread of the load nut is worn out, the load nut will fail. In this case the carriage falls on the safety nut and activates the safety lock which presses against the back wall of the column (see fig. 3).

If the lift is running on the safety nut once, it can be lowered. If the carriage is moved upwards again, the safety lock catches on the back wall of the lift stops the lift rising.

The locking mechanism must not be disconnected under no circumstances.

If the lift stops about 10 mm above the ground level, the safety catch is engaged.

Load nut failures can only be repaired by qualified lift engineers!

To prevent load nut failure, the following check should be carried out periodically:

Faulty or improper repairs be a danger to people remain below the lift!!!

Load nut testing

With inspection nut „trapezoidal thread Tr 40x5”, available as special accessory (Ident-Nr.: 49053.2).

1. Remove the flexible cover so that the load nut can be seen in the carriage.
2. Using a bar, lift the carriage as and hold.
3. Fix the testing nut on the spindle, turn anti-clockwise until it touches the load nut
4. Lower the carriage
5. Measure the gap between the load nut and the testing nut with a gauge or vernier.

If the wear is over 1mm, the load nut must be replaced!

Load nut Failure

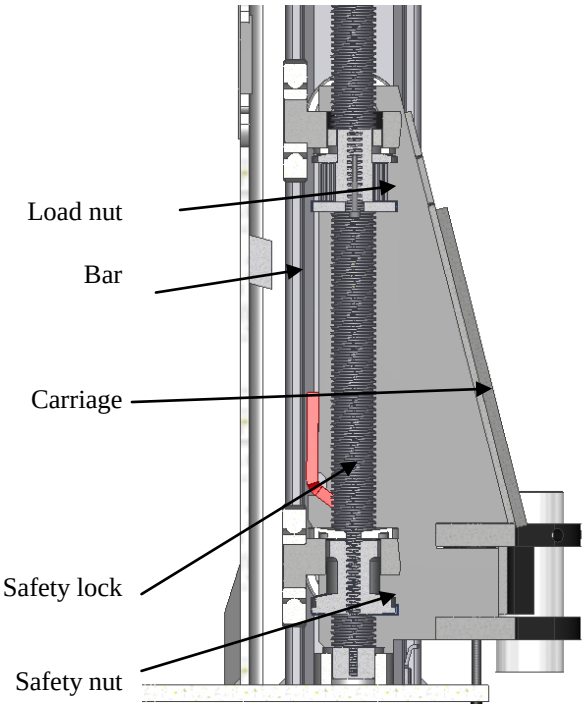


Fig 2
Load nut o.k.

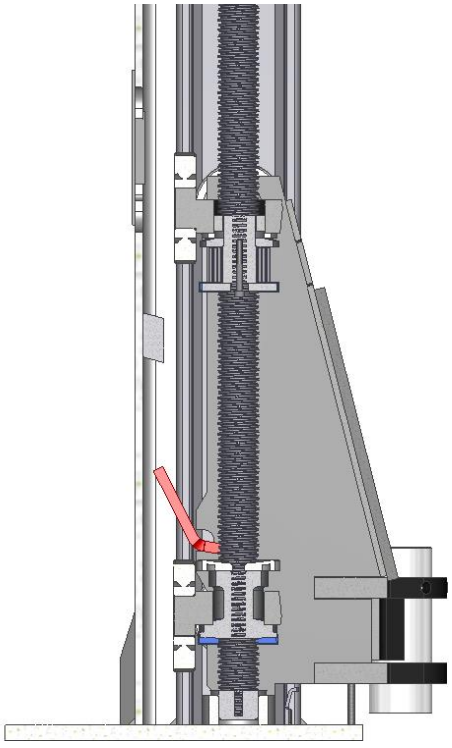
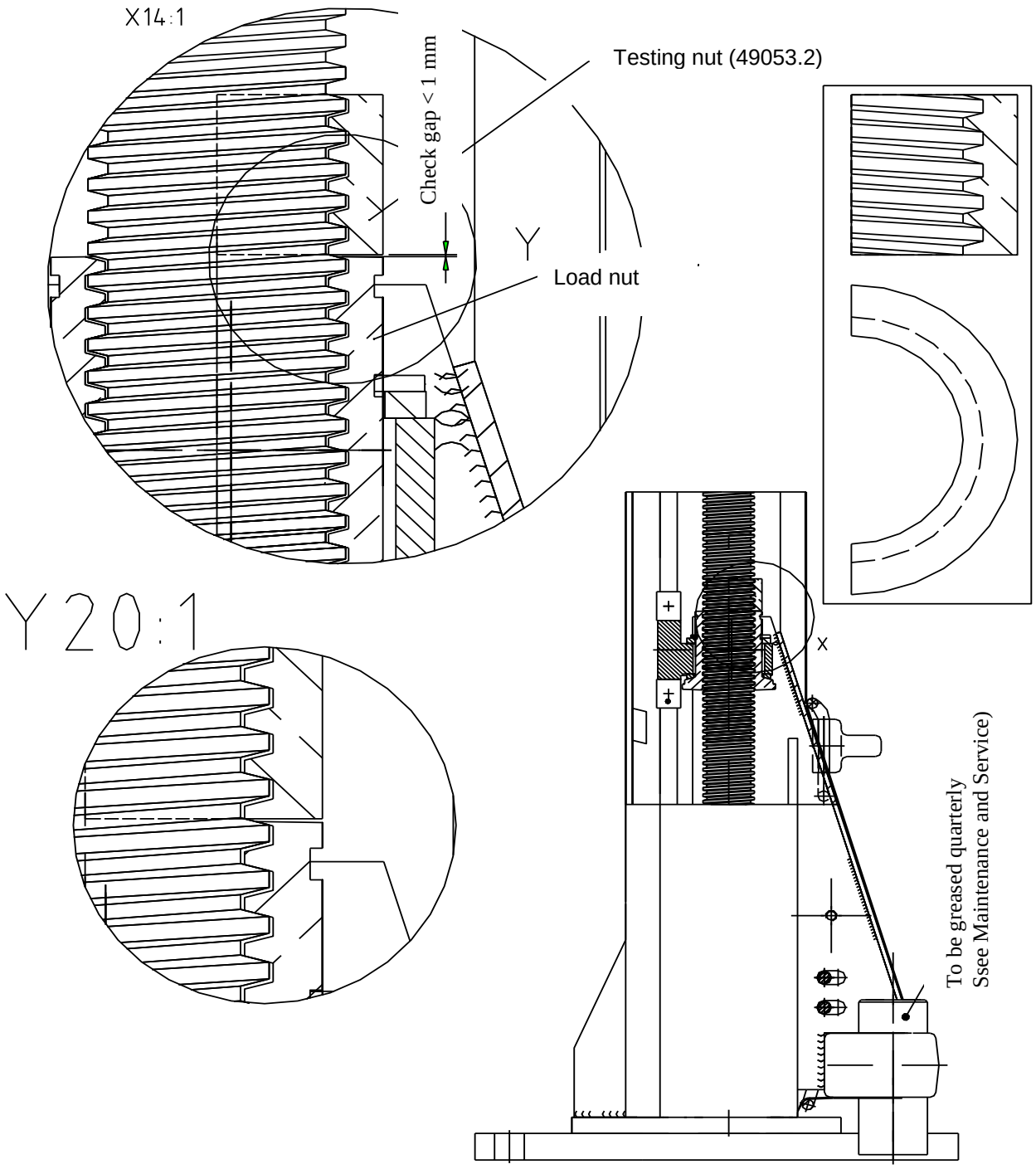


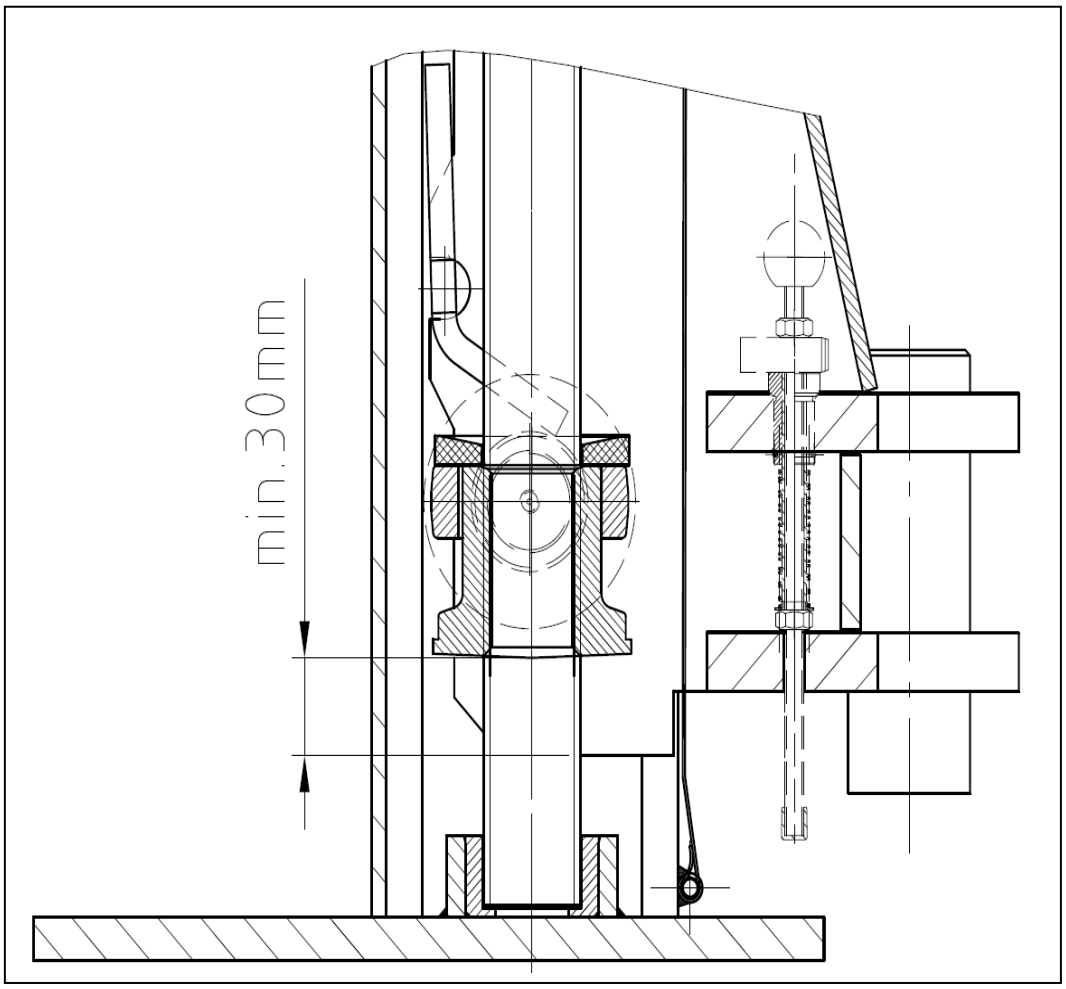
Fig 3
Load nut destroyed

Load bearing nut testing



Changing the Bolts

By changing the bolts please take care of the distance between the bottom line of the carriage and the bottom line of the lock nut to be minimum 30mm.



Assembly 2nd Control Panel

The auxiliary posts are equipped with a cover plate to which a second control panel with two plug sockets and an air connection can be mounted. In order to mount it the perforated part of the cover plate of the auxiliary post has to be quarried out and burred.

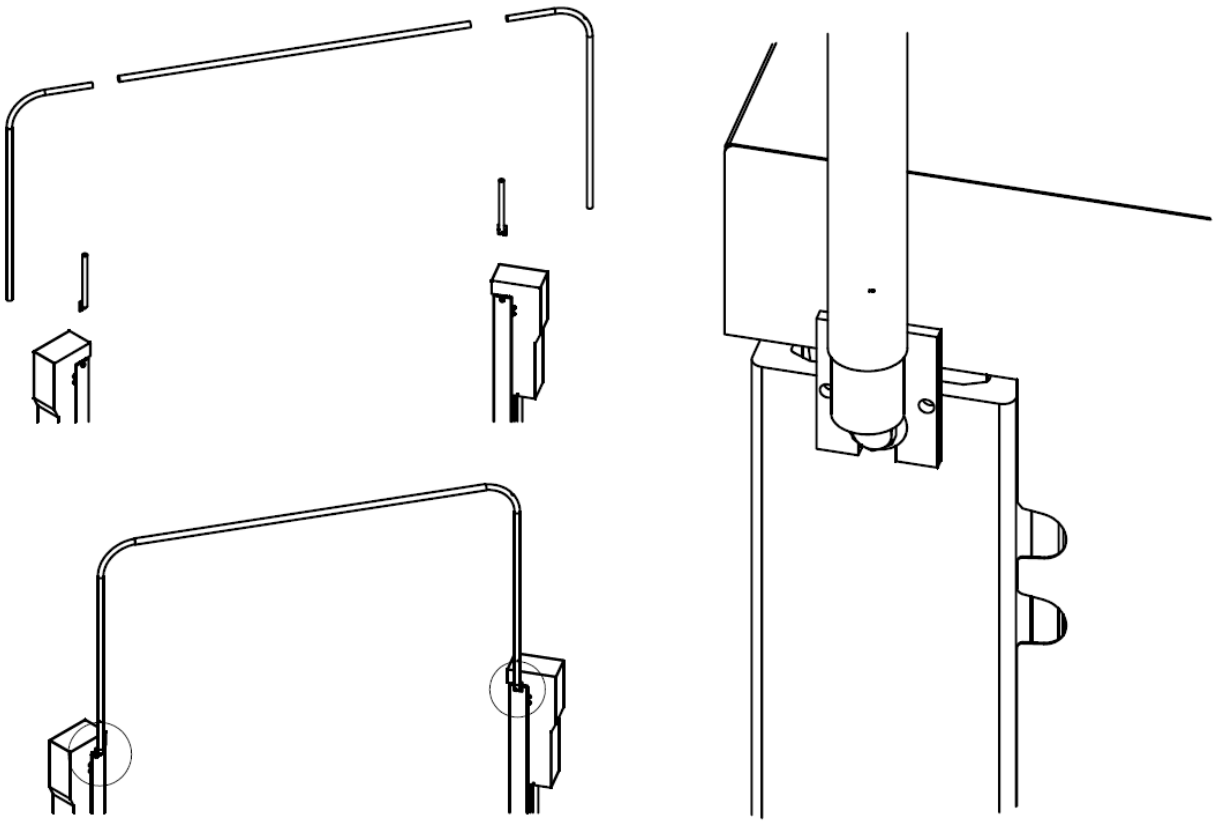
The installation of the second control panel has to be carried out in accordance with the circuit diagram by an electrical specialist according to local VDE guidelines.

In this case the supply has to take place at the auxiliary post!

Now the control panel can be hinged into the recess at the auxiliary post and screwed with the cover plate (like at the main post).

Assembly wire link

According to the following representation, first, the screws and washers of the motor holder have to be unscrewed. With respect to Z230-Z240-Original (H440.10), now the angle support is fixed to the main and auxiliary post as represented.



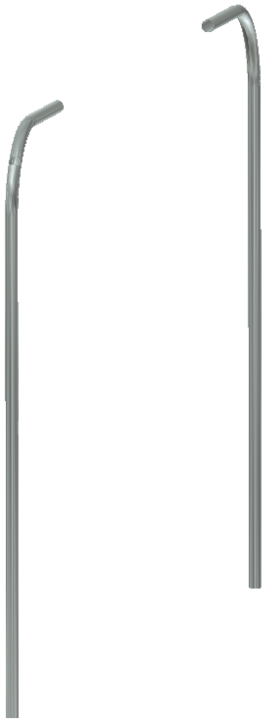
If a control panel is planned at the auxiliary post, the cables for the main switch, the supply, the potentiometers and sockets must be pushed through the pipe of the wire link altogether, starting from the auxiliary post. Then the two halves of the motor cover have to be mounted. Finally, the halves of the motor cover are fixed with pipe clips at the pipe of the wire link.

Assembly wire link Original

Order-No.: 492025

Delivery:

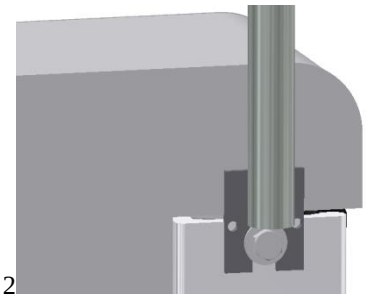
492058 (2x)



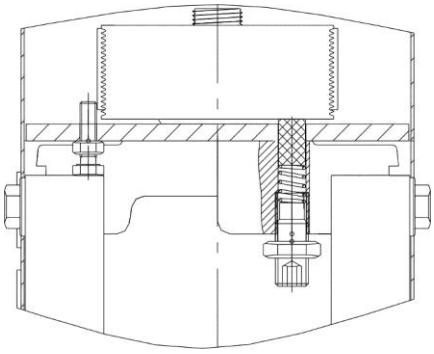
492033 (2x)

492249 (1x)

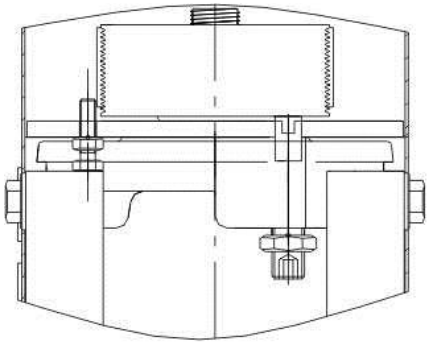
Tool: Wrench SW19

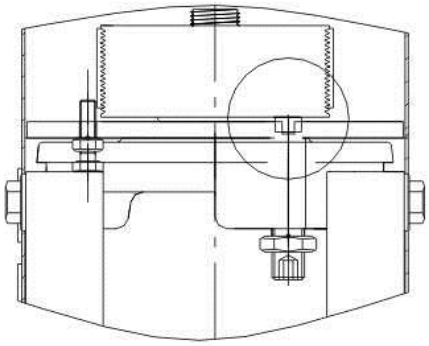
Description of the steps:	Pictorial representation:
1. Loosen the appropriate tool so that the mounting plate fits between the disc and teh column.	 Bild 1
2. Mount the fastening tab on the operation column as well as on the secondary column and tighten the screws with the washers.	 Bild 2
3. Connect pipes 92° (492033) to mounted pipes	 Bild 3
4. Intermediate the intermediate pipe (connection pipe 492249 (connecting pipe 492249 (2505mm long)). 5. Use pipe clamps to secure the intermediate pipe. 6. Insert the cable grommets into the corresponding holes in the connecting pipes.	 Bild 4

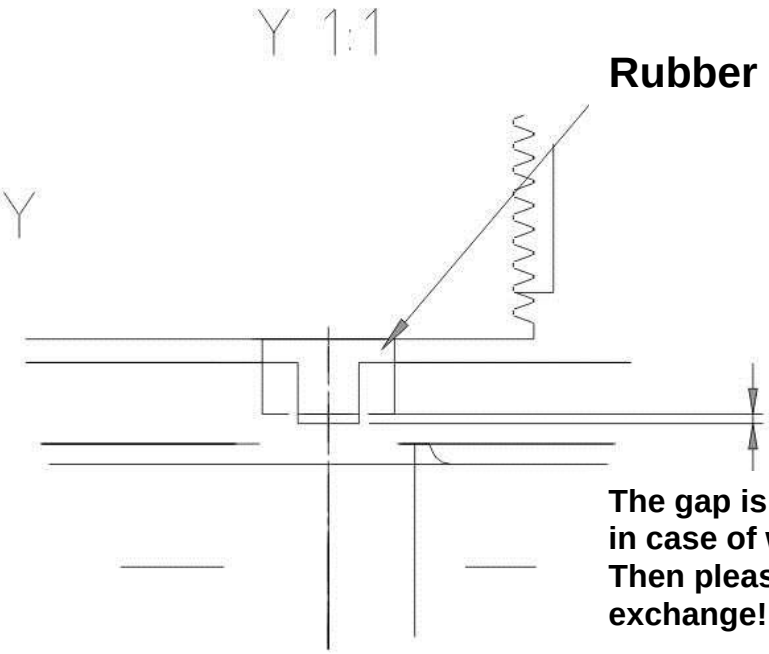
Mechanical gyrating masses regulation



The rubber piece pad at the motor holder plate must be tensioned by the hexagon screw, in such a manner that the spindle on the big v-ribbed belt pulley can be turned with approx 10-12 Nm (types 2.35, and 2.40 - with the lifting arms hung in! This corresponds approximately to the force required to turn the pulley with one hand. (Attention: Please loosen the spindle guide before adjusting the mechanical syncronisation device!)





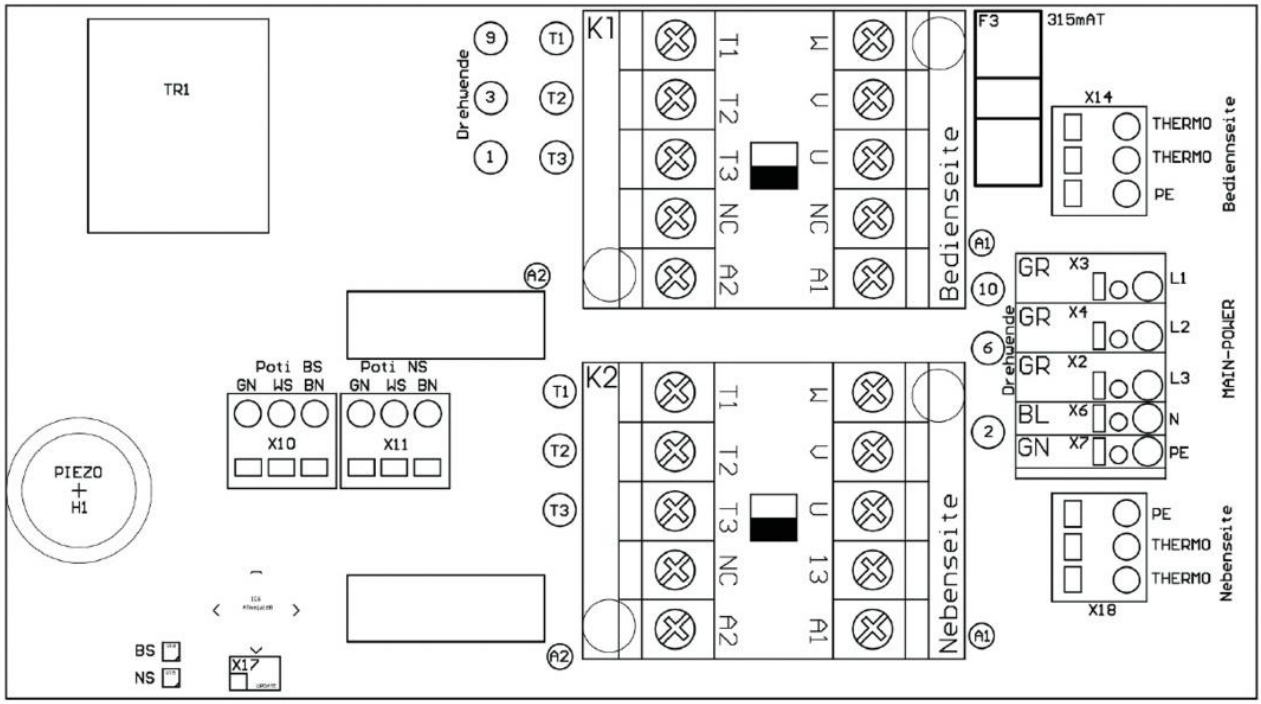


Rubber piece

The gap is visible in case of wear! Then please exchange!

When the motor cover is removed and the lift is without load then the big belt pulley should be rotatable by hand (rough-running). Die properly tension of the belt is 194 – 224 Hz.

CPU board – Connection and initial operation



1. Connection of supply – right rotary field.
X3 - **L1** ; X4 - **L2** ; X2 - **L3** ; X6 - **N** ; X7 - **PE**

2. Connection motor slave column on K2 – slave column
wire 1 – **U** ; wire 2 – **V** ; wire 3 - **W**

3. Connection of thermo motor slave side and PE.
wire 4 – **THERMO** ; wire 5 – **THERMO** ; PE – **PE**
Attention: take care about correct connection of PE!!!

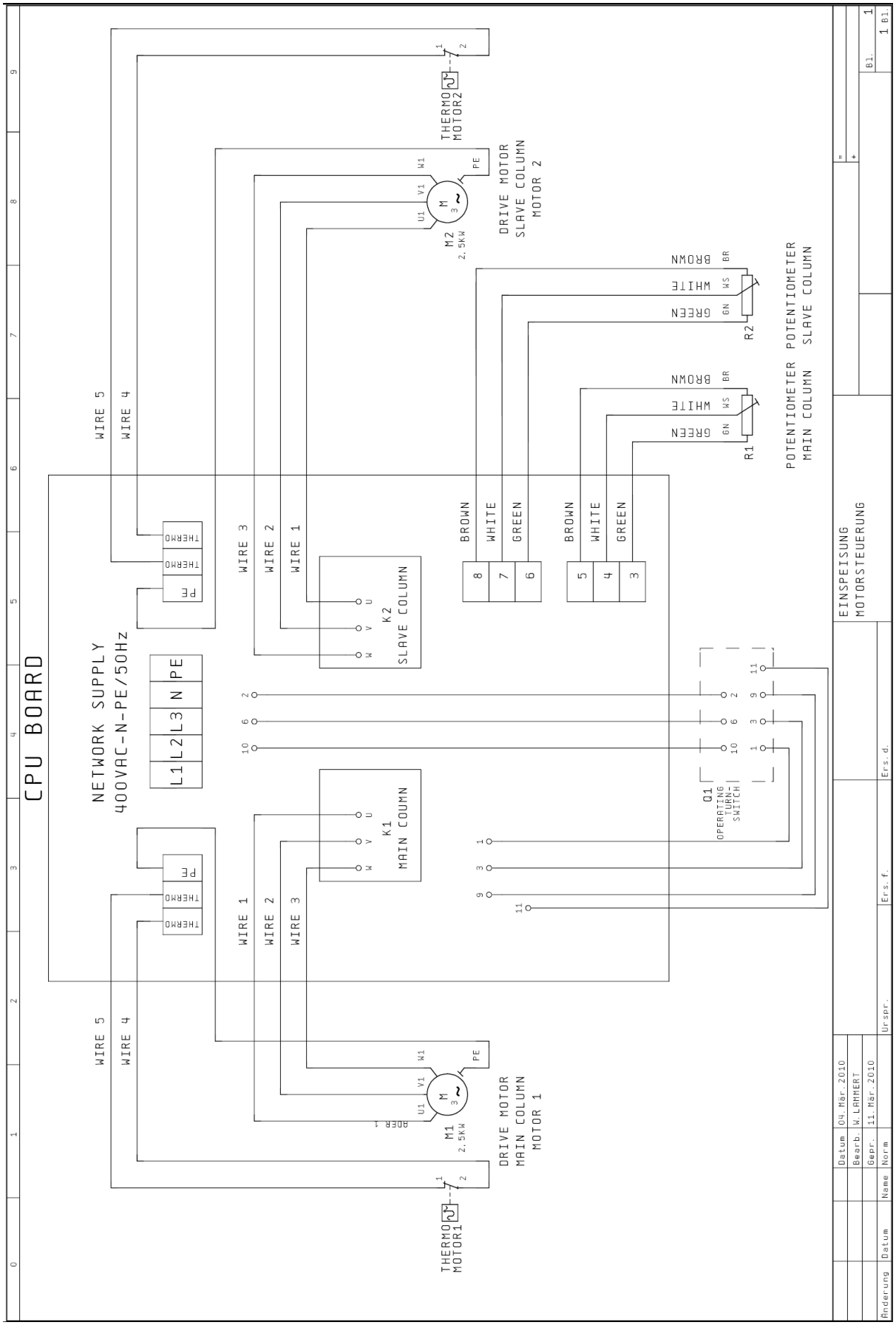
4. Connection of potentiometer slave column.
GREEN – X11- 6 ; **WHITE** – X11 - 7 ; **BROWN** – X11 - 8

5. 400V AC POWER „ON“ – Drive mode.
Lift is moving upwards.

Attention: Please observe sequence!!
6. Turn switch „UP“ – slave side moves downwards.
Interchange supply L1 and L2.

7. Turn switch „UP“ – slave side moves downwards.
Interchange wire 1 - U and wire 2 - W on contactor **K2- slave side**.

Electric diagram



Control unit black box

Item-No.: description:

19.30.015 PCB CPL with contactors
19.30.021 operating turn switch
19.30.020 control BOX empty black

01/2009
Subject to change without prior notice!

Emergency lowering

Important:

During emergency lowering procedure, the automatic end limits are switched off. If lowering the lift onto mechanical limit stops the lift might be damaged

Notes:

The procedure described below, for lowering in an emergency case may only be executed by authorised and trained personnel. A second person should take care about this procedure from outside the operating area to ensure the safety of the operator and vehicle.

The emergency lowering procedure must be terminated immediately, if any danger should arise. Restarting the emergency lowering procedure should restart when cause of the danger has been removed. It is only possible to lower the lift once, making sure that the arms do not touch the floor.

Operation of emergency lowering procedure:

An emergency lowering by using the motors can be necessary if the electronic controls fail. If other elements fail, then the lift should be lowered manually (by turning the bolt on the large pulley). The main switch must be on position “0” or off. Both contactors cn be used for any emergency lowering once- turn switch 0 to 1. Position of main switch must be 1.

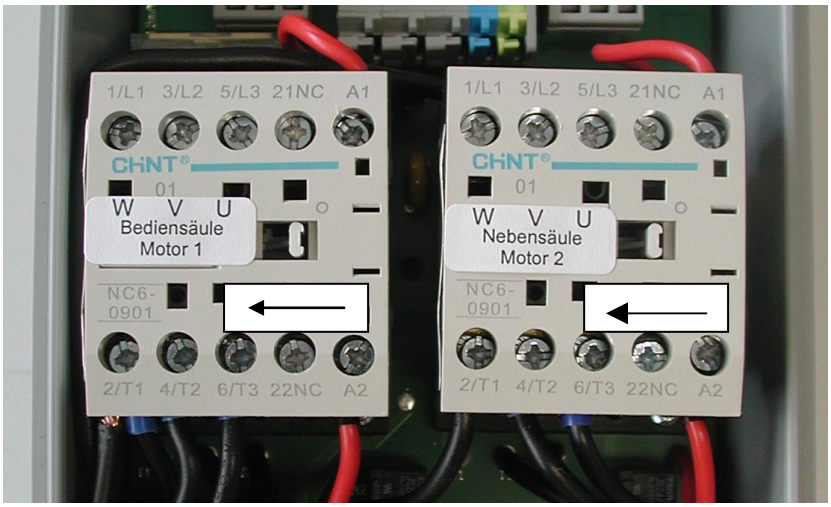
If both carriages are not at the same height, there is the possibility by locking only one contactor from „0“position to „1“position and the arms can be brought on the same level. This levelling should be done in small steps and with increased attention.

Locking the contactors

Through mecanical locking of the contactor, the emergency lowering can be carried out.

Warning: ***<u>No</u>*** automatic end switching-off

When the maximum necessary lower position of the load carrying equipment has been reached, the emergency lowering can be stopped immediately. The lift can be used again, only after removing of all defects by authorised personnel.



K1 – Contactor main column Motor 1
K2 – Contactor slave column Motor 2

You may use different contactors.

ABB contactor
Colour: black

Condor contactor
Colour: grey

Maintenance and service

Before doing any servicing or maintenance the lift should be isolated from the electricity supply and protected from any unauthorised use!

For a long lift cycle and constant readiness of the lift the maintenance is the key.In certain conditions (e.g. increased employment, low temperature, etc.) the spindle has to be greased separately. At least once a month you should check that the oil provision is sufficient.

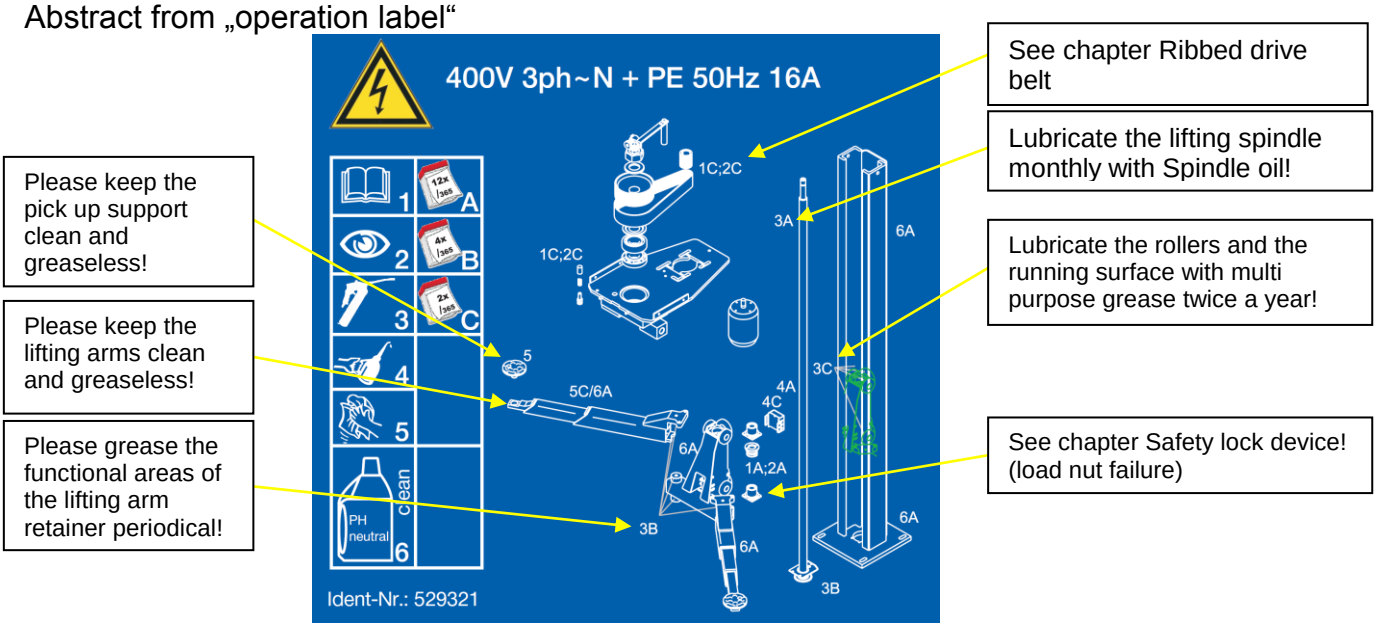
After installation and commissioning there may be some stretching of the power transmission elements, depending on the type of lift. For example, stretching of the drive belt, chainds or calbes, consequential adjustments, adjustments to the safety systems, etc. These changes do not constitue wear and tear of the parts. They are routine aspects of running in and must form part of the customer's maintenance and care. With lack of care break downs can occur which are not occur which are not covered by the guarantee. In this case, any costs airsing may have to be borne by the customer.

The swing arm joints must be greased when necessary and at least quarter yearly (oil underneath the safety screws). Where lifts are exposed to the weather, the lubrication programm should be doubled (see the lubrication instructions on the main column).

The load bearing apparatus must always be kept in working condition. The buffer points must be kept clean and greased-free. The spindles of the turntables must be greased. They must not be able to unscrew themselves completely.

Maintenance Schedule

Abstract from „operation label"



When the lift is used heavy-duty, please shorten the maintenance period!

Icon	Meaning	Icon	Meaning
1	Please read the manual and the inspection logbook.	5	Keep clean and greaseless!
2	Visual check	C	Maintenance period half-yearly!
3	Grease with multi purpose grease	A	Maintenance period monthly!
4	Lubricate with Oil	B	Maintenance period quarterly!

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. Immediatley 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

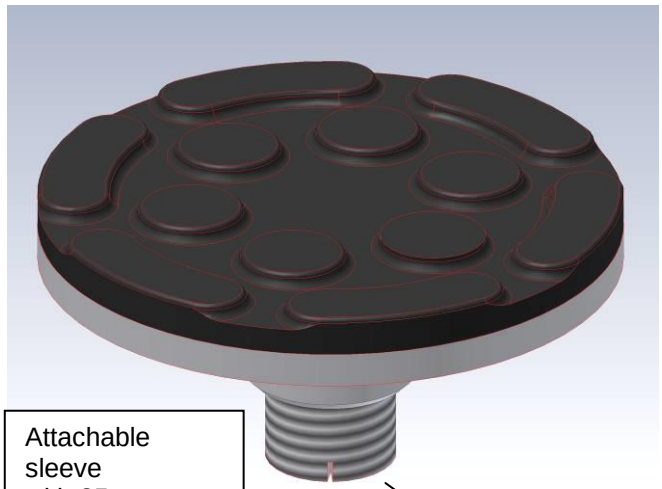
Paint damages are to be wheted with sandpaper and mended with the appropriate RAL – colour during the maintenance intervals.

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

Ribbed drive belt

When the motor cover is removed and the lift is without load then the big belt pulley should be rotatable by hand (rough-running). Die properly tension of the belt is 220 – 240 Hz. During operation: 195 - 220 Hz.

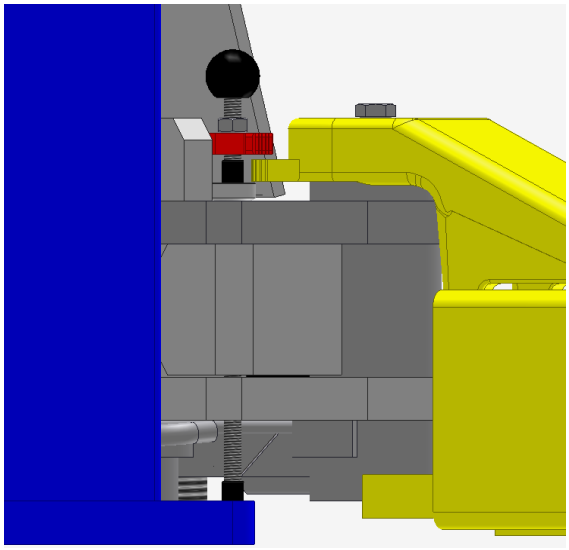
Pick up supports with attachable sleeve

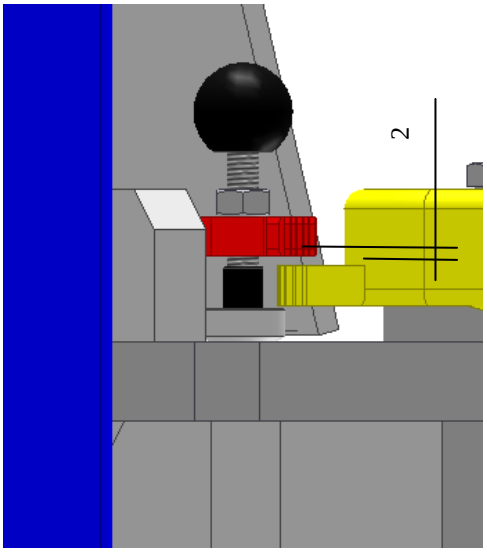


Subject to change without prior notice!

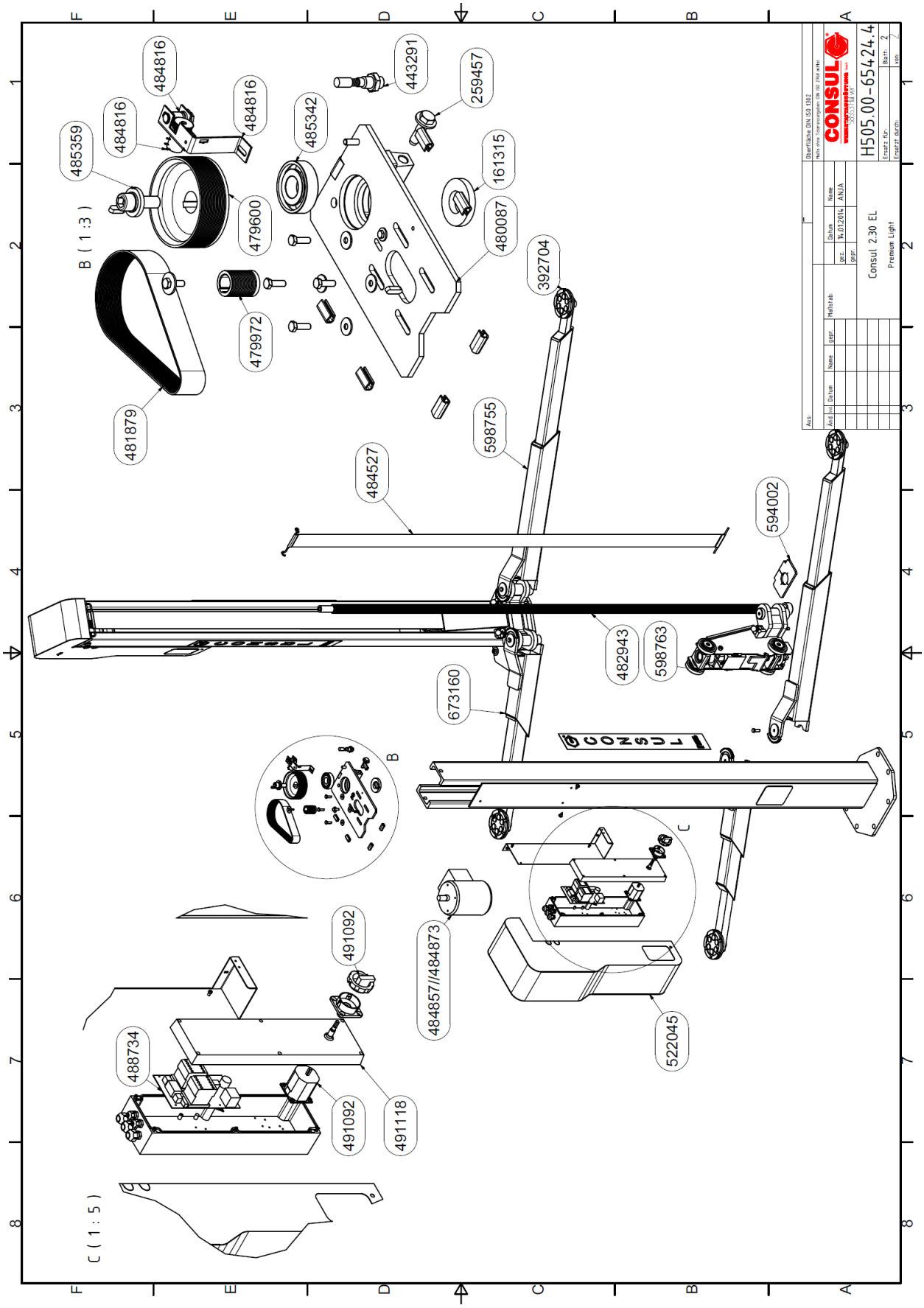
Assembly of the Lifting Arms and the Arm Locking Device

After fitting the lifting arms it is important that the tooth system of the catch latches and unlatches easily. The threaded bolt at the catch has to be adjusted in such a way that the catch is at least 2mm above the tooth system if the carriage is completely lowered.





Spare parts drawing

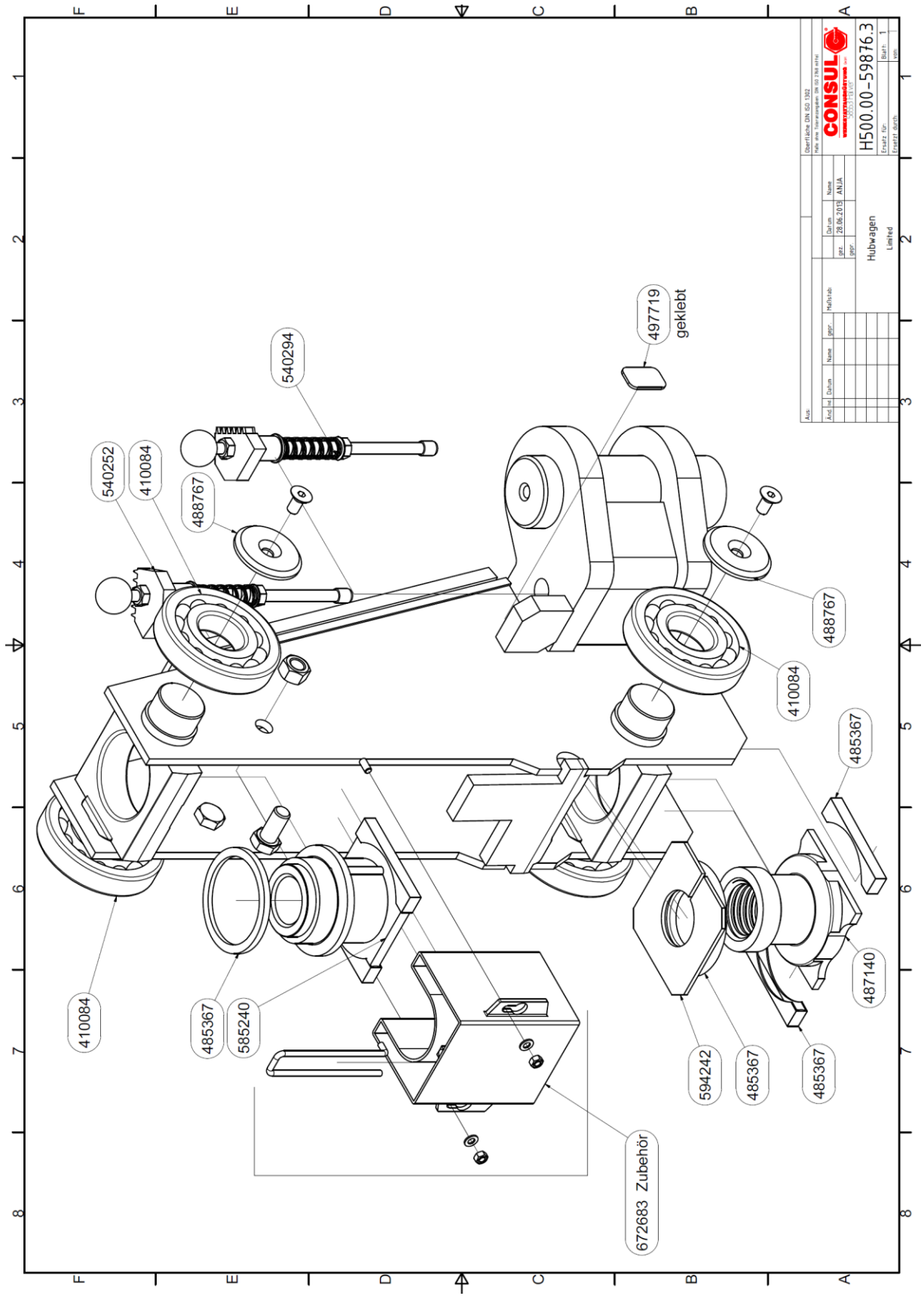


Spare Parts List

Pos.	Menge	BESCHREIBUNG	Description
68148	1	Geräteschild,Edelstahl	Data plate
161315	1	Anlaufscheibe	Sealing washer (top of spindle)
259457	1	Paßschraube kpl.	Adapter screw cpl.
358218	1	Schild,Bedienungshinweis,Intern.	Operating instructions sticker
358333	1	Schrauben-Satz,Schwenkarmbefest.	Screw Set,Fixing of arms
362798	1	Potikabel-Zuschn.,10m lg,H300	Potikabel-Zuschn.,10m lg,H300
392704	1	Aufnahmeteller (1 Satz)	lifting plate complete vertical adjustable
418269	1	Potikabel-Zuschn.; Bedienseite	Potenciometer cable; main column
443291	1	Mechanische Gleichlaufregelung	synchronisation device
479600	1	Rippenriemenscheibe groß	Ripped belt pulley big
479972	1	Rippenriemenscheibe klein	Ripped belt pulley small
480087	1	Motorhalterung 3-4to lackiert	Motorhalterung 3-4to lackiert
481879	1	Keilrippenriemen	Ripped belt
482943	1	Hubspindel	Lifting spindle
483727	1	Steuerung	Control box
484527	1	Spannband kpl.	Cover tape
522045	1	Abdeckhaube	cover
484816	1	Potentiometer,Ritzel,Befest.-Mat	Potenciometer with gear wheel and fixing material
484816	1	Poti + Halterung kpl.	Potenciometer Holder
598763	1	Hubwagen kpl.	carriage
484857	1	Motor kpl. Bedienseite	Motor Main column
484873	1	Motor kpl. Nebenseite	Motor Slave column
485342	1	Spindellagerung unten u. oben	Spindle bearing (bottom and top)
485359	1	Spindelbefestigung oben	Spindle fixing - top
488684	1	Türanschlag	Door stop
488734	1	Steuerplatine	Printed circuit board
489195	1	Kartusche Schmiernippel	Cartridge with special grease
491092	1	Wendeschalter kpl. mit Drehgriff	reversing switch with rotary handle
594002	1	Ölaufsaugtuch	Oil sunction cloth
673160	1	Teleskopschwenkarm kpl. kurz	Telescopic arm short
598755	1	Teleskopschwenkarm kpl. lang	Telescopic arm long

Technische Änderungen vorbehalten! Stand: 04/2019
Subject to change without prior notice! Date: 04/2019

Carriage-Series

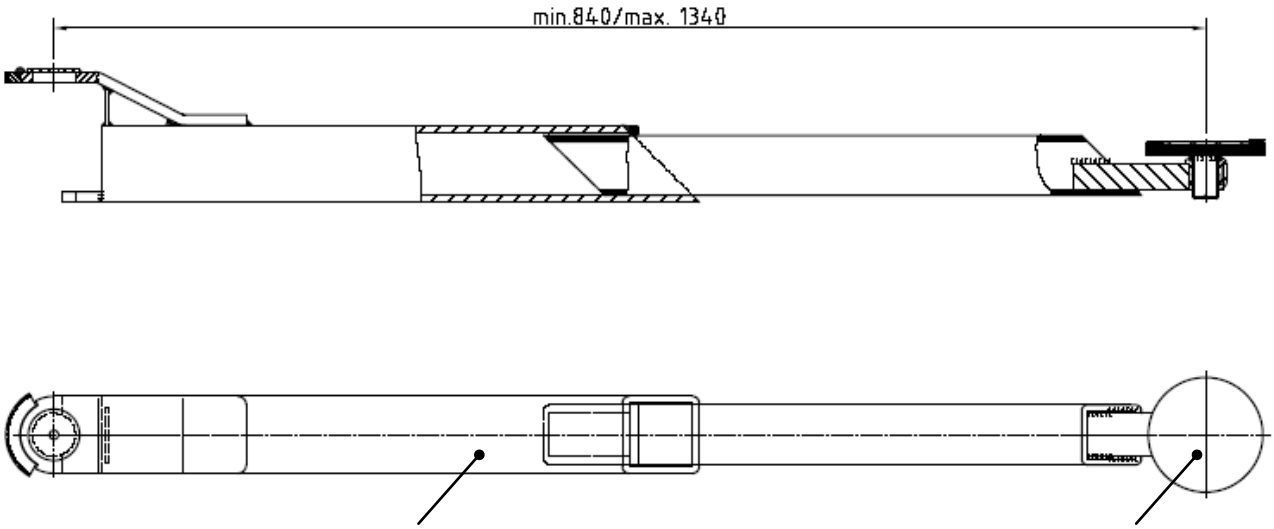


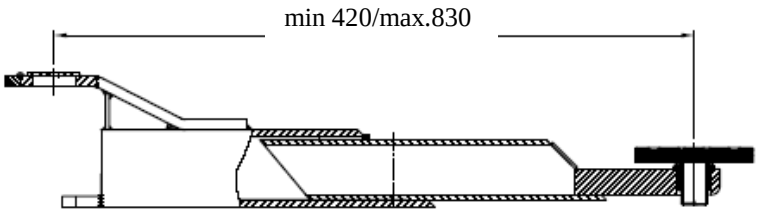
Spare Parts carriage

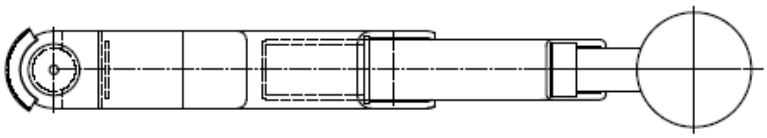
Pos.	Menge	BESCHREIBUNG	Description
410084	1	Satz Laufrollen	Set of rollers (4 pcs)
485367	1	Hubmuttern-Zubehör H500	lifting nuts acessories (set for 1 column)
487140	1	Sicherheitsmutter	Safety nut
497719	1	Blechstreifen 30lg.	washer 30mm lg.
540252	1	Arretierung kpl.I	Arm locking assembly I
540294	1	Arretierung kpl. II	Arm locking assembly II
585240	1	Tragmutter kpl.	Loading nut
594242	1	Ölaufsaugtuch	Oil sunction cloth
672683	1	Öler (Sonderzubehör)	Oilcontainer special accessories

Technische Änderungen vorbehalten! Stand: 04/2019
Subject to change without prior notice! Date: 04/2019

Swing arms Standard-Serie







Technische Änderungen vorbehalten! Stand: 04/2019
Subject to change without prior notice! Date: 04/2019

Supply of Spare Parts

Indication of reparation services and purchase of spare parts

Customer service of the manufacturer:

Consul Werkstattausrüstung GmbH
Daimlerstr. 1
D-58553 Halver
Telefon: +49 (0) 23 53 / 7009 - 0
Telefax: +49 (0) 23 53 / 1 25 15
E-Mail: info@consul-gmbh.de

Customer service of the supplier:
(Please insert stamp or address)

Company: _____

Street: _____

City: _____

Telephone: _____

Information for practising the visual and functional check

Within the scope of the regular inspection according to chapter 5.4,3 part 2 of the BG-principle

Within the scope of the regular inspection the following has to be checked particularly:

1. details of the lifts	test object
name plate inscription installation and operation instructions	attachment readability completeness
2. extensive operating instructions	status readability
3. warning designation	status visibility
4. protection against unauthorized usage	status function mobility safety key
5. emergency cutout emergency lowering	status function mobility
6. signalling devices, facilities for communication	status function visibility reliability
7. facilities for stable assembly	
supports	status function wear deformation corrosion cleft
8. supporting structure	clefts deformation corrosion well-running of leads, roller bearing, pivots, telescope, wear between leads, roller bearing, pivots, bearing attachment and safety of removable connections functionality of the closing
9. load pick-up device	
slip off securing roll off securing holding facilities pivot arm securing	status function
10. steel wire cable cable connections	wear corrosion wire fracture concentrated wire fracture squeezed points loosening of the outside layer distortion
pulley	clefts wear burr formation at the pulley correct alignment of the pulleys

cable winding tensioning device safety device against cable slip-off	status function
11. spindle	arrangement deformation dirt thread wear notches scoring groove, material application functionality of the cover
load nut	thread wear (play)
compensating ring	storage status notches scoring
12. hydraulics	leak points leak tightness test deaeration
oil supplies	status and readability of the advertisement, control of the oil quantity functionality of the cut-off facility if oil need
conduits connections	arrangement damage deformation corrosion
tube tube connections	arrangement damage age brittleness porousness
cylinder	arrangement cleft pipe - and flexible tube connection closeness of the collar
piston	surface of the piston rod scoring dirt accumulation
filter	outside status
pressure control valve	outside status leaden seal undamaged
13. pneumatic	
conduits connections	leakage arrangement damage deformation corrosion
tube tube connections	arrangement damage age brittleness, porousness
cylinder	arrangement, cleft, pipe - and tube connections closeness of the collar
piston	surface of the piston rod, scoring, dirt accumulation
emergency valve	outside status, leaden seal undamaged
manometer, pressure reducer	outside status, effectiveness
14. driving gear (no- traversing)	connections between driving gear starting without jerk
brakes, self-locking gear, coupling	wear functionality
15. chassis suspension, no- traversing	

service brakes, fixing brakes	wear, functionality
Drawbar safety device	status, functionality
16. electrical installation	
wires	damage, arrangement, mains lead cleat outside wire
protective conductor	damage, arrangement
Isolation lift /lifting arrangement lifting arrangement / running gear	dirt, damage, isulating resistance
17. special safety devices	
emergency stop, slack rope switch, slack chain switch, rope breakage switch chain breakage switch, switch-off safety rail, restart safety lock device, tilting safety device, safety catch, completeness	functionality, arrangement, status deformation, well running of the control element dirt accumulation, status of the pressure spring

These references do not claim for completeness and have to be adjusted to the respective lift to be checked.

DGUV G308-003
test book for post lifts
(up to BGG945)
association of industrial employer's liability insurance association
technical board " conveyor and load suspension means" of BGZ Juli 2001

Garantiekarte

Warranty Card / carte de garantie

Dear Customer,

your decision in favour of a CONSUL GmbH vehicle lift is wellfounded. Being one of the biggest manufacturer specialized in vehicle GmbH we have the necessary know-how. Many progressive developments -particularly in view of safety requirements - can be traced back to CONSUL GmbH. As result of our advanced technology we render

a full-year guarantee

after take-over of the lift, **at the following conditions:**
During the guarantee-period. we remove all defects due to proved machining or material deficiencies We alternatively repair or replace defective parts. Replaced parts become our property. Guarantee-claims can be approved onlv in case of immediate notification of the defect.
Interventions on the lift of persons non-authorized by CONSUL GmbH effect the nullity of the guarantee.
Damages due to improper operation or servicing of the lift, use of unsuitable operation-agents, as well as non-observance of the operation instructions are not covered by the guarantee. Are furthermore excluded all damages due to normal wear and tear, wear and tear ilself and breakable plastic accessories. All service charges originated in other means than guarantee are to be beared by the customer.

Sehr geehrter Kunde,

aus gutem Grund haben Sie sich für eine CONSUL GmbH-Hebebühne entschieden Als einen der größten Hersteller und Spezialist von Hebebühnen verfügen wir über jahrelange technische Erfahrung Viele richtungsweisende Entwicklungen - insbesondere für die Sicherheit - sind auf CONSUL GmbH zurückzuführen Das Ergebnis unserer ausgereiften Technik ist die Gewährung einer

Garantiezeit von einem ganzen Jahr

ab Übernahmedatum zu nachstehenden **Garantie. und Gewährleistungsbedingungen:**
innerhalb der Garantiezeit beseitigen wir kostenlos alle Mängel. die nachweislich auf Fabrikations- oder Materialfehler zurückzuführen sind. wobei es unserer Wahl überlassen bleibt. ob wir die defekten Teile ausbessern oder durch andere ersetzen. Ausgetauschte Teile gehen in unser Eigentum über, Garantieansprüche können von uns nur dann anerkannt werden. wenn uns der Mangel unverzüglich nach Feststellung gemeldet wird.
Eingriffe nicht von uns bevollmächtigter Personen in das Gerät lassen jeden Garantieanspruch erlöschen.
Schäden, die durch unsachgemäße Behandlung und Wartung, Verwendung ungeeigneter Betriebsmittel, sowie durch Nichtbeachtung der Bedienungsanleitung entstehen, werden von der Garantie nicht umfasst. Ausgeschlossen sind auch Schäden. die infolge betriebsbedingter Abnutzung auftreten. Verschleißteile, elektrische Sicherungen, sowie zerbrechliche Zubehörteile aus Kunststoff oder Glas sind nicht im Garantieumfang enthalten.

Cher Client,

de bonnes raisons vous ont amené a porter votre choix sur un pont élévateur CONSUL GmbH.
En tant qu'un des plus grands fabriquants de ponts élévateurs nous possédons une longue expérience technique dans ce domaine. CONSUL GmbH GmbH - est à l'origine de nombreuses constructions qui ont marqué l'évolution des ponts élévateurs. principalement en ce qui concerne la sécurité. Le resultat de notre technique éprouvé est l'octroi de

une année de garantie

à partir de la prise en possession, **aux conditions suivantes:**
Pendant la période de garantie. nous éliminons tout defaut provoqué par un vice de fabrication ou une defectuosité de pièces prouvés. Nous nous reservons le choix entre la réparation ou le remplacement des pièces défectueuses. Les pièces remplacées deviennent notre proprieté.
La garantie ne peut être accordée que si le défaut nous est signalé dès sa constatation
Toute intervention sur l'appareil par des personnes non-autorisées par CONSUL GmbH - entraine la cessation des droits de garantie.
La garantie ne couvre pas des dommages dus à l'utilisation non.approgriée de l'appareil ou de produits nécessaires à son fonctionnement, à l'entretien non.approprié ou à la non - observation de la notice de montage et de fonctionnement.
Sont exclus également des dommages apparus par suite à l'usure due au fonctionnement normal de l'appareil, pièces d'usure et accéssoires fragiles en matière plastique. Les frais de deplacement et le temps passé sont à la charge du client. si la visite après-vente n'est pas justifiée par la garantie.