

Operating Manual and Test Record for Service Lift

Machine Type	Article No.	Serial No.
K 3212 HLS	HLS3200-11	
K 3212 HLS	HLS3200-DUO-11	

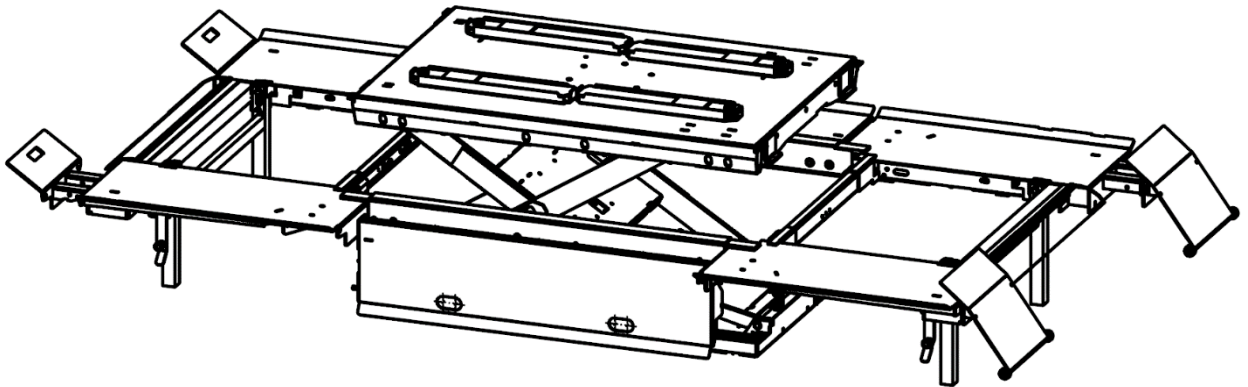


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1 Operation and Safety Inspection

Carried out by the manufacturer to check the following details:

Following plates present:

- Nameplate
- Operating instructions (abbreviated)
- Lifting capacity
- Bar mains pressure
- Raise "up",- lower "down"
- Company logo
- CE marking
- Correct way of supporting the vehicle (only HLS3200-DUO)

Operation and safety checked:

- Safety valve set to 3.5 bar operating pressure**

Inspected:

- Unladen function test
- Safety catch function
- Function folding ramp
- The control valve automatically goes into the 0 position
- No damage to the surface of the air bags
- Secure fit of all supporting screws
- Safeguard of the scissor pins
- Condition of the pneumatic lines (proper position and do not leak)
- Function loading ramps / roll-off protection
- Function slider
 - Function telescoping support (only HLS3200-DUO)
 - Function swivel arm (only HLS3200-DUO)

Serial No.: See cover sheet

Date: _____

Name: _____

Herkules Hebeteknik GmbH
Falderbaumstraße 34
D - 34123 Kassel
Tel.: +49 (0) 561/58907-0
Fax: +49 (0) 561/58907-34

2 General information

The operating instructions (and test log book) contain important information concerning the installation, and ensure safe, proper, and economical operation as well as preservation of operational safety.

Observance of these operating instructions will help you to avoid danger, reduce repair costs and downtime as well as to increase the life of your service lift.

As evidence of regular **safety checks** this test log book contains a form. This should be used to provide documented details of tests. (It is advisable to make a copy of the form before starting to fill it out.)

Installation and testing

Safety-related work and safety inspections may only be performed by suitably trained personnel. In this documentation, personnel are designated as expert and qualified persons.

2.1 Hazard warnings

To identify hazardous areas and important information, the following symbols with the described definitions are used. Please pay special attention to text sections marked with these symbols.



Signifies danger for life and limb, meaning improper execution of the process referred to by the symbol may be fatal!



Signifies a notification of a key function or an important notice!

2.2 Limitation of liability

All details and indications in this operating manual were compiled taking into account the applicable standards and regulations, and the latest technology as well as our many years of insight and experience. The manufacturer accepts no liability for any damage caused by:

- Failure to adhere to the operating manual
- Improper use
- The intervention of non-qualified staff
- Arbitrary alterations
- Neglecting maintenance

2.3 Copyright

These operating instructions are to be treated as confidential and are solely intended for personnel working with the machinery. Transfer of the operating manual to third parties without the written consent of the manufacturer is prohibited.



Text, drawings, images and other illustrations are copyrighted and intellectual property rights apply.

2.4 Terms of guarantee

The terms of guarantee are included as a separate document in the sales brochures.

2.5 Customer service

For technical information, please contact our customer service centre as follows:

**Customer
service:**

Herkules Hebetchnik GmbH
Falderbaumstraße 34
D - 34123 Kassel
Tel.: +49 (0)561 58907-0
Fax: +49 (0)561 58907-34
E-mail: info@herkules.de

3 Product description

3.1 Intended use

The lift is exclusively intended for lifting vehicles (passenger cars) with a maximum nominal load (**see chapter on Technical data**).

Lifting individuals and other objects is prohibited.

Working under a lifted vehicle and during the lifting and lowering movement is not permitted.

Operation may only be performed by persons who have read and understood the operations manual and who are more than 18 years of age.

Vehicles may only be lifted at the designed lifting points (at framework or on the wheels). It is only allowed to lift vehicles as stated in the operating instructions.

The scope of intended use also includes the reading of the current operating manual as well as compliance with all the indications included in the same – particularly safety instructions.

The scope also extends to ensuring that all inspection and maintenance operations are implemented within the prescribed time periods.

If the vehicle lift system is not used according to its intended use, safe operation of the system cannot be guaranteed.

In the event of any accident resulting in personal injury or damage to property resulting from improper use, the operator of the lifting system shall be responsible and not the manufacturer!

3.2 Product structure

The vehicle lift consists of a pneumatically operated platform main body on one hand and of a cantilever set on the other hand lifting the vehicle directly by the wheels. Alternatively the vehicle can also be lifted with the wheel-free function (only HLS3200-DUO).

The air bag performs an axial stroke movement that is carried out laterally by the scissors. The scissors also restrict the lift height of the service lift. A safety catch prevents the service lift from sinking in the case of deflation.

The operation of the service lift ensues with an operating unit that is connected to the lift via two pneumatic tubes (air bags / safety catch).

Technical data about the service lift is available in the “**Technical data**” chapter.

You will find reference to professional assembly in the “**Mounting**” chapter.

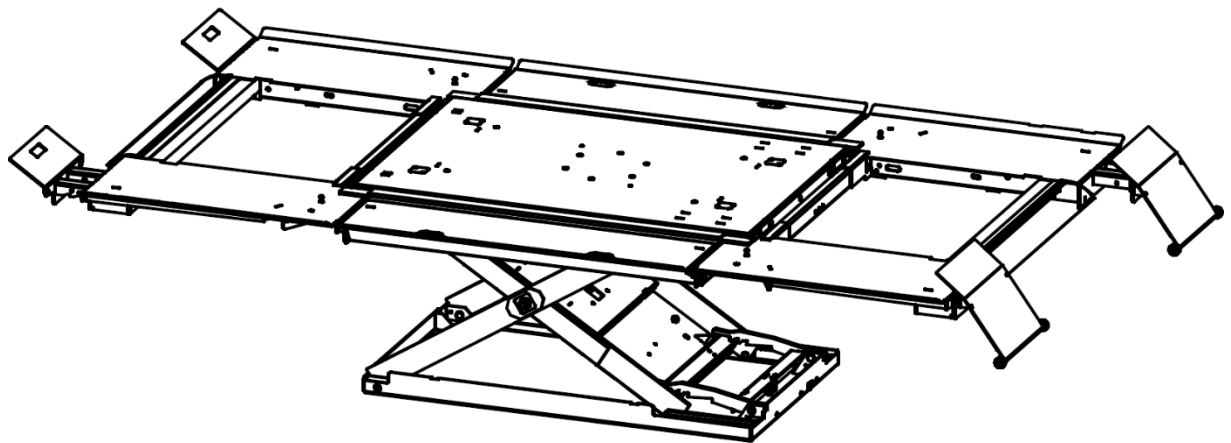


Diagram 1: Product HLS3200-11

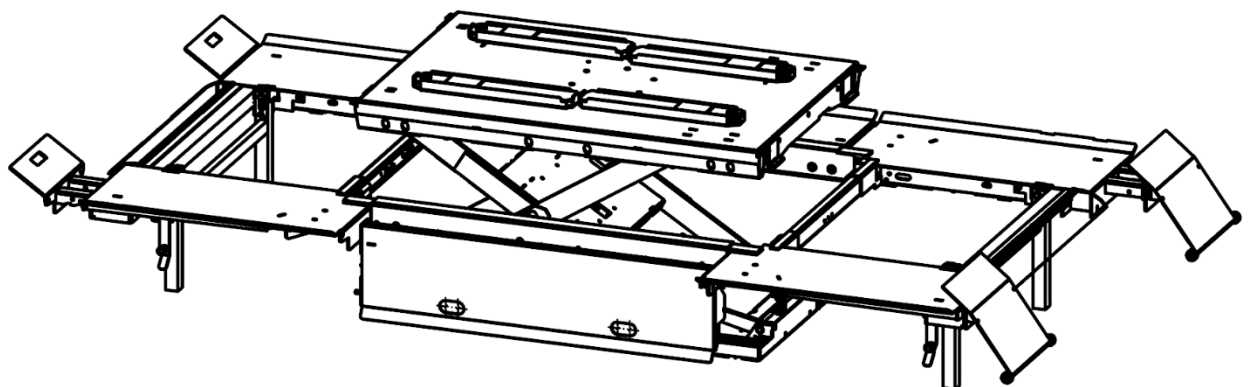


Diagram: Product HLS3200-DUO-11

3.3 Technical data

<i>Technical changes reserved.</i>	HLS3200-11	HLS3200-DUO-11
Lifting capacity of the service lift	3200 kg	
Empty weight of the service lift	850 kg	920 kg
Maximum load distribution	3:2 in or against the driving direction	
Lifting time of the service lift	25 sec.	
Lowering time of the service lift	30 sec.	
Effective stroke of the service lift	763 mm	
Height of the service lift with arms	884 mm	884 mm+50 mm
Insertion height minimum/ overhead height (with swivel arms)	120 mm	120 mm (170mm)
Length of the base body	1718 mm	1718 mm
Width of the base body	1100 mm	1100 mm
Total length	3601 mm	3601 mm
Total width	2050 mm	2050 mm
Distance support points arm max. in the width direction.	/	1735 mm
Distance supporting points supporting arm max. in the length direction.	/	2380 mm
Gear	pneumatic (2 air bellows)	
Operating pressure for the safety valve	3,5 bar	
Pneumatic connection to supply system P _{max}	8 bar (provided by the customer)	
Noise pollution under	< 70 dB(A)	
Dimension sheet	K3212-HLS-001-3	K3212-DUO-012-3
Pneumatic circuit diagram	K1208-008-4	K1208-008-4
Safety devices		
Anti-drop safety device	yes	yes
Safety valve	yes	yes
Roll-off safety device (vehicle)	yes	yes

3.4 Product designation

The details of the lifting platform are stated on the type shield on the machine frame as well as in the EC Declaration of conformity.

Details
Nameplate

Article No.		Year of construction	
Machine type		Operating pressure	
Serial No.		Vers.	
Lifting capacity		Empty weight	

4 EC Declaration of Conformity

set out in Annex II A of the EC Machinery Directive
(2006/42/EC)

The manufacturer	Herkules Hebetchnik GmbH Falderbaumstraße 34 D - 34123 Kassel			
	Herkules Hebetchnik GmbH			
is responsible for the documentation and declares that the following machine described,	the service lift	Machine Type K3212-HLS K3212-HLS	Art.- No. HLS3200-11 HLS3200-DUO-11	Serial No.: See cover sheet See cover sheet
complies with the Health and Safety requirements of the following EC directives:	Machinery Directive 2006/42/EG			

Applicable harmonised standards:

EN 1493	Vehicle lifting platform
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EC type examination	Test certificate no.
	44 205 12 021014
Testing laboratory	TÜV Nord Cert GmbH

Kassel, 26.10.2016

Ort, Datum



Dirk Meinzer, Managing Director

5 General safety instructions

5.1 Operator's duty of care

The lifting platform was designed and built taking a hazard assessment into account and following careful selection of the harmonised standards to be met, as well as additional technical specifications. It thus corresponds to the state of the art and guarantees the utmost level of safety.

However, this safety level can only be reached during practical operation, when all measures required have been implemented. The Due diligence is required on the part of the operator of the lifting platform, to plan these measures and ensure their implementation.

The operator must, in particular, ensure that

- The lifting platform is only used as intended (**see chapter on Product description**).
- The service lift only be used in a fully functional and fault-free state and will be checked regularly for operational functionality with special attention to safety equipment.
- The placement of the service lift is located and designed so that the operator is able to observe all movements of the load as well as have an overview of the area under the lift and its load. The operator is responsible for supplying adequate lighting.
- Access to the danger area (area under the lifting platform and under the load) by individuals is forbidden. Operations in the danger area are prohibited. Maintenance operations are excluded, (**see Chapter on Maintenance**).
- The operating instructions are to remain fully readable and available in the area in which the lifting platform is used.
- The lifting platform is only used by individuals having read and understood the operating instructions.
- Personnel are to be regularly instructed of all relevant information regarding work safety and environmental protection and familiar with the operating instructions and the safety notices therein.
- Only qualified individuals and experts may repair the lifting platform.
- None of the safety and warning notices linked to the lifting platform are to be removed and must remain readable.
- No interference with the service lift (for example, repairs) should take place without adhering adequately to protective measures (safeguard the base from sinking with a service support).

5.2 Operator's duties

The operating safety ordinances are intended for the operators of work equipment used in vulnerable areas.

The operator must take a risk assessment of the area where the work equipment (service lift) will be used. The dangers that arise during the use of the work equipment related to the substances and working environment should be detected and taken into account.

The operator shall take the measures necessary and choose operating equipment suitable for the conditions prevailing at the workplace and assure the safety and health of employees.

For the execution of risk assessment and decision on suitable equipment, the operator must apply country-specific guidelines and standards.

5.3 Basic safety measures



When operating the service lift, the statutory accident prevention regulations in accordance with BGV A1 (General requirements) apply. Regulations BGR 500 (operators of work equipment) can be used for information purposes.



Make sure that the front wheels are in the straight-ahead position. Before lifting, prevent the vehicle from rolling away. Pull the hand brake and shift the car into reverse or first gear. For vehicles with automatic transmission shift the car into the P position.



The operator is to monitor the vehicle during lowering and lifting.



Service lift parts such as air bellows must be protected while working with high temperatures (welding, grinding, etc.) and from mechanical and chemical damage.

Compliance with the following points is particularly emphasised:

- The service lift is only to be used for lifting passenger cars.
- The total weight of the lifted car may not exceed the stipulated lifting capacity, whereby a maximum load distribution of 3:2 in the driving direction or 2:3 against the driving direction is permitted.
- While operating the service lift, instructions in the operator's manual are to be complied with.
- Only persons who are 18 years old or older and instructed in the use of the service lift are permitted to use it.
- During lifting and lowering movements, no person other than the operator may stand in the way of the area of movement for loading and service lift.
- The transport of passengers on the service lift or in the car being lifted is prohibited.
- Climbing on the service lift or in the car being lifted is prohibited.
- In the event of modifications (i.e. repairs) appropriate safety measures must be met. (Safeguard the base from sinking with a service support.)
- Sufficient clearance between low lying vehicle parts and the service lift should be ensured before lifting begins.
- The rubber blocks have to be placed onto the biggest plain space. Stacking is not allowed



Not complying with the safety regulations can cause serious injuries as well as damage to the lifted vehicle.

5.4 Requirements of operating personnel

The lifting platform must only be used by individuals who have been suitably trained, instructed and authorised. These persons must be familiar with the operating manual and proceed in accordance with the same. The respective authorisations of the operating personnel are to be clarified.

Moreover, for the following activities, specific qualifications are required:

Operation	Execution
Installation	Herkules service assemblyman / qualified person
Starting up	Herkules service assemblyman / qualified person
Briefing	Herkules service assemblyman / qualified person
Fault clearance	Herkules service assemblyman / qualified person
Servicing	Herkules service assemblyman / qualified person
Maintenance	Herkules service assemblyman / qualified person
Repairs	Herkules service assemblyman
Disassembly	Herkules service assemblyman / qualified person

Operating individuals in training should only operate the lifting platform when supervised by an experienced person. Evidence of completed and successful training should be confirmed in writing.

All control and safety installations must, generally speaking, only be operated by suitably trained persons.

All individuals engaging in activities involving the lifting platform must read the operating instructions and sign to confirm that they have understood them.

6 Transport and preparation

6.1 Transport inspection

Check the order upon receipt of delivery for damages caused during transport.
If there is identifiable damage, proceed as follows:

- Leave the goods and packaging in an unchanged state. Do not attempt to use the product.
- Immediately contact Herkules customer service.

Customer service: Herkules Hebetchnik GmbH
Falderbaumstraße 34
D - 34123 Kassel
Tel.: +49 (0)561 58907-0
Fax: +49 (0)561 58907-34
E-mail: info@herkules.de



Do not send back damaged goods before receiving confirmation from the customer service centre!

6.2 Disposal of the packaging materials

The packaging material must be disposed of in accordance with the current environmental - and disposal guidelines.

7 Installation and Assembly

The following important safety instructions must be observed during the assembly of the service lift. Adhering to safety instructions helps to avoid life-threatening injuries, personal damages, as well as damage to machinery.

- The installation work must only be performed by suitably-trained persons and with compliance of the safety instructions during the process.
- Before commencing the installation work, the lifting platform must be investigated for damage in transit.
- Always ensure that only authorised persons enter the working space and that no other persons are exposed to any risk from the installation work.
- All machine connections (tubes) are laid out so that there is no risk of stumbling.
- Also read the chapter "**General Safety Instructions**".

7.1 Environmental conditions for assembly

The service lift is only suitable for use in dry, closed, indoor rooms.

The ground where the car lift is to be assembled should be horizontal and flat (according to DIN 18202), and the load capacity of the floor must be able to support the total weight of the service lift. The operator is solely responsible for the selection of the installation location.

The service lift must only be used within a temperature range of 5°C to 65°C. During the selection of the assembly location bear in mind the measurements of the service lift that are outlined in the chapter on "**Technical data**" as well as the chapter on "**Additional information**" (take note of the measurements with a lifted vehicle as well).

Adequate ceiling height must be present (at least the total height of the service lift plus the vehicle height). Care must be taken that the minimum distances specified are adhered to (according to country-specific regulations and workplace ordinances) with regard to distance between walls and equipment respectively. It should be noted that the service lift must not block any emergency escape routes. Adequate lighting must be present at the assembly site (according to country-specific regulations and workplace ordinances).

A compressed air supply R1/2" of 8 bar mains pressure must be available at the service lift assembly location.

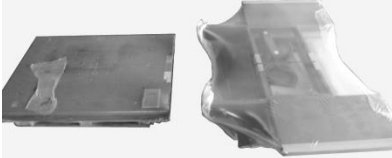
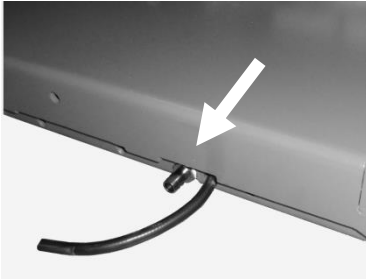


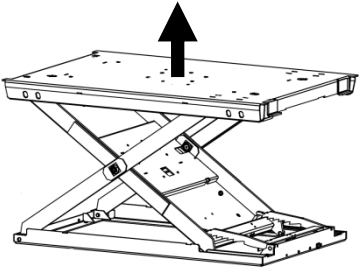


Care must be taken in selecting the assembly location so that the operator has an unobstructed view of the service lift and the car being lifted.

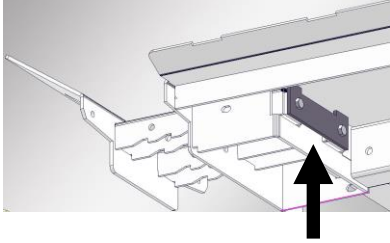
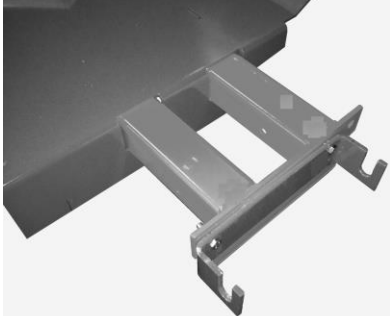
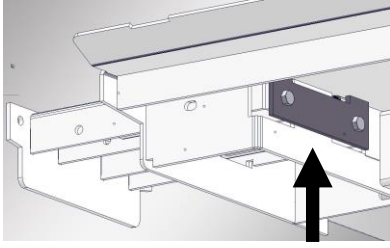
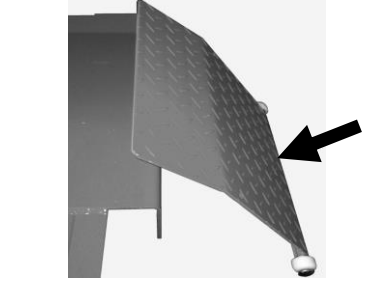
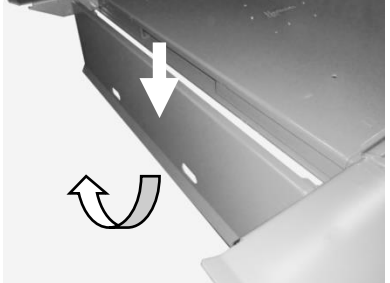


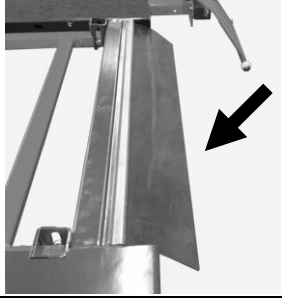
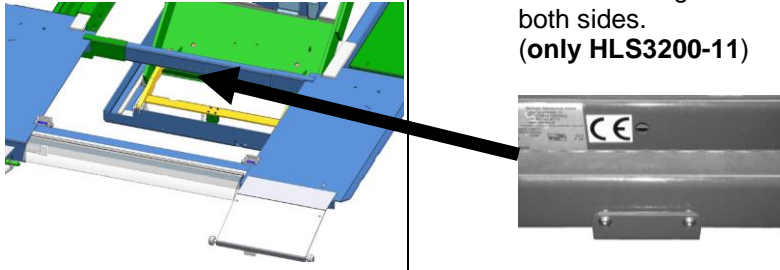
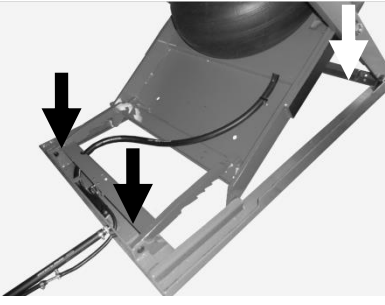
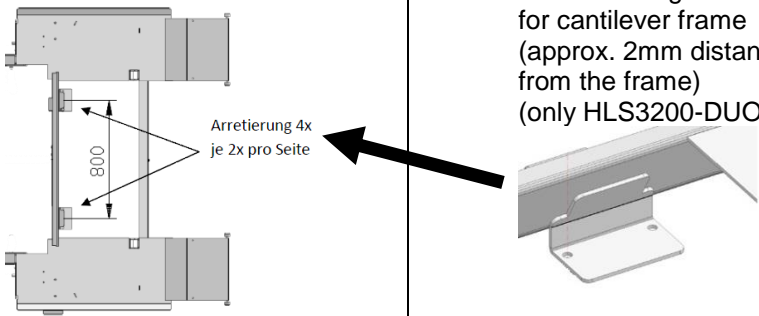
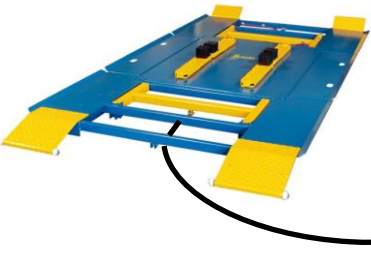
Only use dehumidified, non lubricated compressed air! A filter regulator must only be installed in the mains connection (air filter and water separator)!

8.2 Assembly instruction

No		Description	Material Requirements
1		<ul style="list-style-type: none"> Inspect the packaging units and contents 	1x Platform main body 1x Cantilever set For detailed assembly see “Additional Information” chapter
2		<ul style="list-style-type: none"> Screw in hose fitting (platform main body) 	1x hose fitting 1/2"
3		<ul style="list-style-type: none"> Connect hose line (platform main body) 	1x 16 mm rubber hose 1x 8mm rubber hose 1x 6mm hose connector 2x hose clamp 10-16 1x Hose Clamp 16-25
4		<ul style="list-style-type: none"> Join the operator control module to the hose line. Connect pneumatic line (provided by the customer) 	1x operator control module 1x hose clamp 10-16 1x Hose Clamp 16-25 For detailed information see “Operation” chapter.
5		<ul style="list-style-type: none"> Put lifting platform main body in uppermost position (Operator control module: Open stopcock / hand-operated lever in the switch position “UP”). 	

No		Description	Material Requirements
6		<ul style="list-style-type: none"> • Position connector • Position cantilever 1 • Push cantilever and connector into one another. 	2x Connector 1x Cantilever
7		<ul style="list-style-type: none"> • Position cantilever 2 • Push cantilever and connector into one another. 	1x Cantilever
8		<ul style="list-style-type: none"> • Screw together cantilever and connector on both sides 	12x hexagon screw M12x90 12x nut M12 24x ring washer 13 Important: Insert screws from outside (direction of arrows)
9		<ul style="list-style-type: none"> • Put lifting platform in lower-most position (Operator control module: Open stopcock / hand-operated lever in the switch position "DOWN"). • Insert locking lever (on both sides) 	Important: For function description see "Operation" chapter.
10		<ul style="list-style-type: none"> • Install roll-off protection / side-stop (Note driving direction). 	2x Roll-off protection

No		Description	Material Requirements
11		<ul style="list-style-type: none"> Mount the limit stop of the roll off protection. 	2x limit stop 4x hexagon screw M10x30 4x nut M10 8x ring washer 10.5mm
12		<ul style="list-style-type: none"> Mount ramp holders / running side (Note driving direction). 	2x plate ramp holders 2x telescopic adapter 4x hexagon screw M10x30 4x nut M10 8x ring washer 10.5mm
13		<ul style="list-style-type: none"> Mount the limit stop of the drive on ramps. 	2x limit stop 4x hexagon screw M10x30 4x nut M10 8x ring washer 10.5mm
14		<ul style="list-style-type: none"> Mount loading ramps 	2x Loading Ramp
15		<ul style="list-style-type: none"> Mount interim carriageways. Tilt up interim carriageway. 	2x folding ramp 4x carrying arm

No		Description	Material Requirements
16		<ul style="list-style-type: none"> Mount protective flap 	2x PVC-protective flap
17		<ul style="list-style-type: none"> Fix the locking lever on both sides. (only HLS3200-11) 	2x locking plate 4x screw
18		<ul style="list-style-type: none"> Align lifting platform Attach lifting platform (16mm Boreholes) 	4x hexagon screw 12x100 4x ring washer 13mm 4x dowel S16
14		<ul style="list-style-type: none"> Mount locking mechanism for cantilever frame (approx. 2mm distance from the frame) (only HLS3200-DUO) 	4x locking mechanism 8x screw 8x50 8x dowel S10 8x ring washer 8.4
15		<ul style="list-style-type: none"> Lay hose line (Shorten if necessary) Mount operator control module (Mounting material: Provided by the customer) Mount Swivel arms (only HLS3200-DUO-11) 	4x Swivel arms 4x Rubber block

8 Operation

It is essential that the following safety instructions be followed while operating the service lift and the guidelines in the Chapter on “**General safety instructions**” be observed. Adhering to safety instructions helps to avoid life-threatening injuries, personal damages, as well as damage to machinery.

The lifting platform may only be used / deployed in accordance with its intended use. Please ensure that you are aware of what to do in the case of an accident or emergency before using the lifting platform.



Individuals working with the lifting platform must wear safety shoes and be familiar with the operating instructions.

8.1 Description of Control Elements

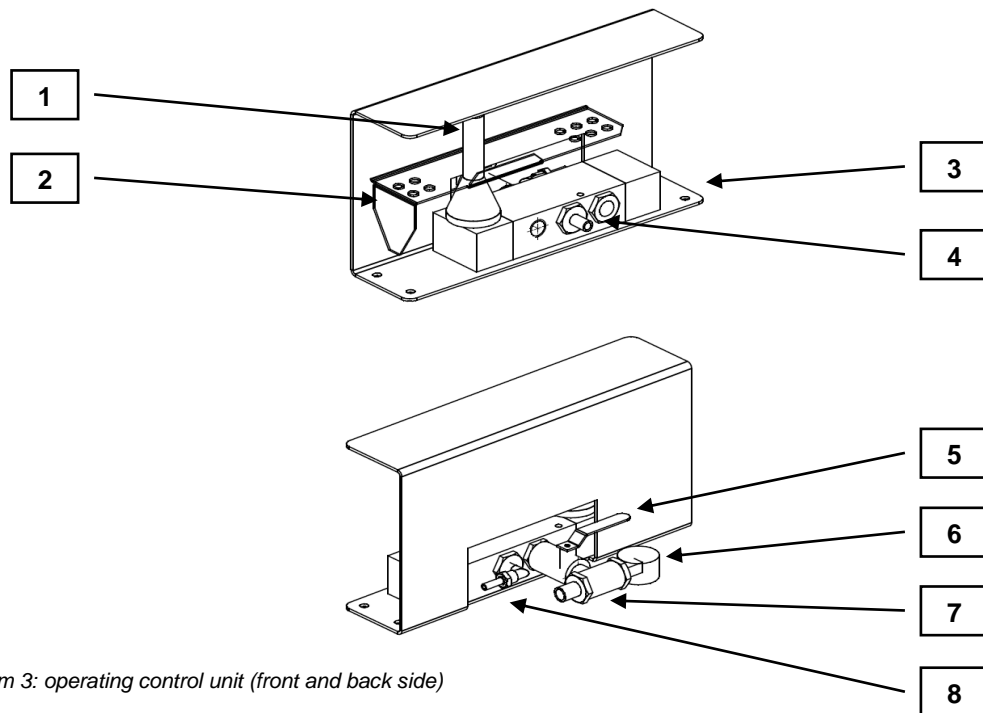


Diagram 3: operating control unit (front and back side)

No.	Description	Additional information
1	hand lever	
2	foot pedal	optional accessory / special accessory
3	mounting points (4 parts)	mounting material not enclosed in the delivery contents
4	connector for compressed air supply	NW 7.2
5	main tap	
6	pressure gauge	air bags pressure display (max. 3.5 bar)
7	connector for hose line	16 mm (air bags)
8	connector for hose line	6 mm (safety catch)

The service lift is actuated with either the hand lever valve or the foot pedal. The control valve has three settings (with relevant markings): lift, 0-position, and lower. A stable framework protects the control valve. The pressure gauge shows the amount of pressure in the air bags.

8.2 Commissioning

Read the following functional checklist before using the service lift:

- Make sure that no persons or objects are present in the area of operation of the service lift.
- Secure the compressed air supply.
- Open the main tap on the operating control unit.
- Confirm that the operating control unit switch is in the lifting position - 'lift' until the service lift reaches the upper end limit.
- Confirm that the operating control unit switch is in the lowering position - 'lower' until the service lift reaches the lower end limit.
- Repeat lifting and lowering movements several times without load.
- The safety catch should lock into place at the end of each lift movement or in the intermediate position on both sides in the gear teeth.

Observe the operating instructions for the respective work places on the service lift. Only the operating personnel may stand in the vicinity of the service lift while in use.

Also read the chapter "**General Safety Instructions**".

8.3 Description of safety catch

- During lifting the safety catch is swivelled down. The catches of the safety catch slide on both sides of the detents of the inner scissoring. After the lifting motion the safety catch should be fully engaged on both sides to ensure safety.

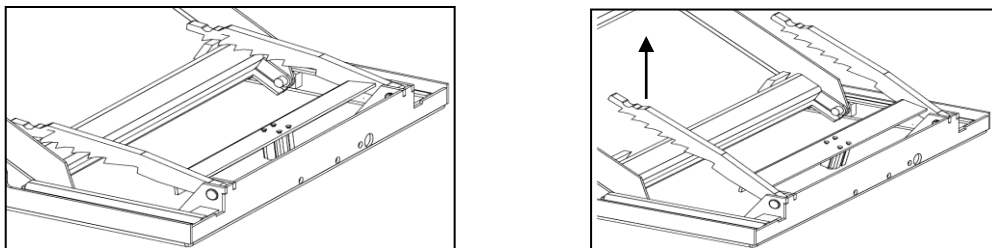


Diagram 4 / 5: safety catch engaged / safety catch lifted during lowering operation

- The safety catch is lifted up by means of the cylinder during lowering movement. At the end of the lowering movement or by interruption of the movement, the safety catch automatically drops and thereby grips into the detents of the service lift.

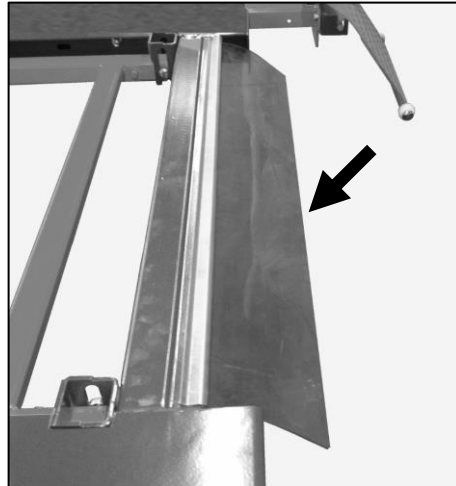


Should the service lift not lower:

In this case briefly lift the service lift until the drop is free. Afterwards repeat the lowering movement.

8.4 Function protective flaps

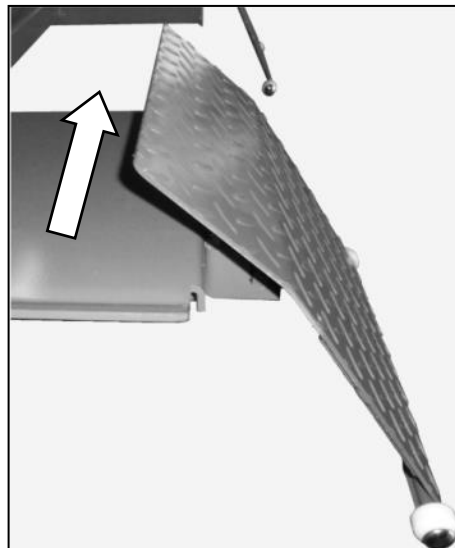
The protective flaps on the cantilever of the lifting platform satisfy an important safety feature. You prevent the retraction of lifting platform of accidental clamping / crimping of such Body parts.



Picture: protective flaps

8.5 Loading ramps

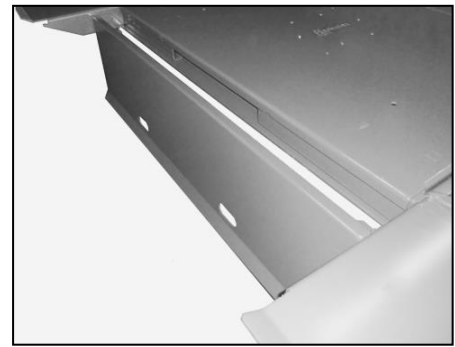
When the elevated lifting platform serves the loading ramps as a roll-off protection. You may not be away, during the use of the lifting platform. It is important to check before starting work, whether the loading ramps are set up properly.



Picture: Elevated lifting platform with mounted loading ramp

8.6 Function interim drive over ramp

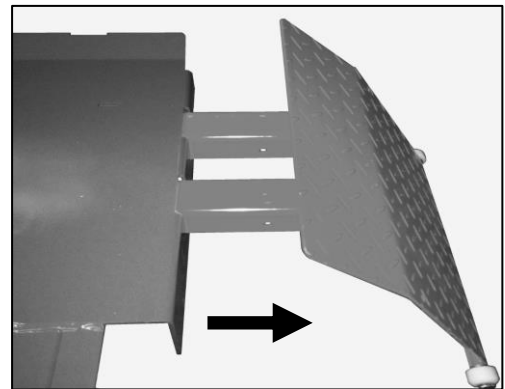
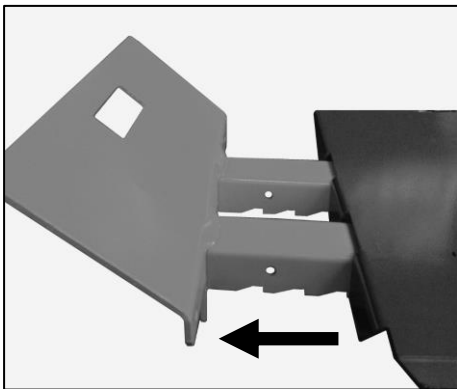
The interim drive over ramps may be folded down if needed, for even better access to the raised vehicle. Before lowering the lifting platform in the basic setting the interim drive over ramps must be raised (see picture **interim drive over ramp in normal position**).



Picture 7 / 8: Interim drive over ramp in the basic position / interim drive over ramp is folded down.

8.7 Description of the telescope function (widening of carriage way)

The length of the folding ramps of the lift can be extended for the lifting of cars with long wheel base. Pulling out easily the drive-on ramps and the roll off protection the length of folding ramps can be extended.



Picture: telescoping function.

8.8 Operating

The safety guidelines in the chapter "**General safety instructions**" should be carefully read before operating and must be strictly adhered to during operation.

8.8.1 Use of the lifting platform:

- Be sure that the lifting platform is completely retracted. .
- Load the service lift with a vehicle over the ramps.



Cars with long wheel base:

The length of the lifting platform can be extended thanks the telescopic function of the drive on ramps and the roll off ramps.

- Make sure that the vehicle is centred in both length- and width-wise on the platform.
- Secure the vehicle from rolling away by engaging the hand brake and shifting into gear.

8.8.2 Lifting the platform:

- Ensure that the vehicle is securely on the lift platform.
- Make certain that the lift platform can be safely raised.
- Proceed with lifting until the desired height is achieved. After the desired height is achieved, put the gear lever into the 0 position (neutral). The lift platform remains at this height. After releasing the gear lever, the lever automatically returns to the 0 position (neutral) and lifting ceases. Lifting automatically stops once the maximal lift height is achieved.



Care must be taken during lifting, that the safety catch is securely engaged in the gear teeth on each side after each lifting movement (especially between movements smaller than the lift max.) This is noticeable through a clearly audible "clicking" sound.

8.8.3 Lowering the lift platform:

- Areas subject to danger must be monitored before lowering and no persons or objects may be in the operation area of the service lift before lowering takes place.
- The interim drive over ramps must be raised.
- Switch the gear lever of the operating unit to "Lower".
- Lowering ends when the service lift has returned to its initial position. Stopping the lowering movement is possible at all times by switching the gear lever to the '0' position (neutral). Releasing the gear lever automatically causes the lever to switch back to the '0' position and thus interrupts the lowering movement.

8.8.4 Exiting the service platform

- Make sure that the service platform is completely retracted.
- Carefully remove the vehicle from the service platform.

8.9 Correct way of supporting the vehicle (HLS3200-DUO)

Vehicle placement can be performed either by directly placing it over the main body of the lifting platform or over the four hinged brackets (using the rubber pads). The safety measures presented in the “**General safety information**” chapter must be strictly observed.



To support the vehicle, the lifting points specified from the respective vehicle manufacturer should be exclusively used. Not observing these rules can lead to serious injuries and damage to the lifted vehicle.



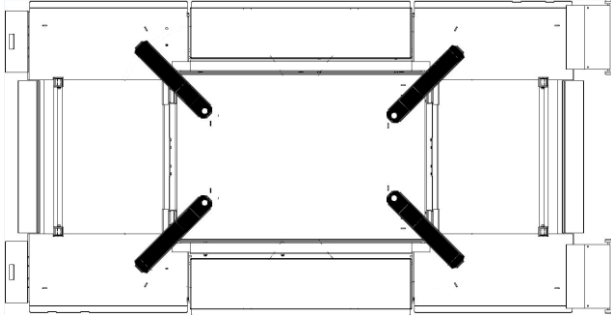

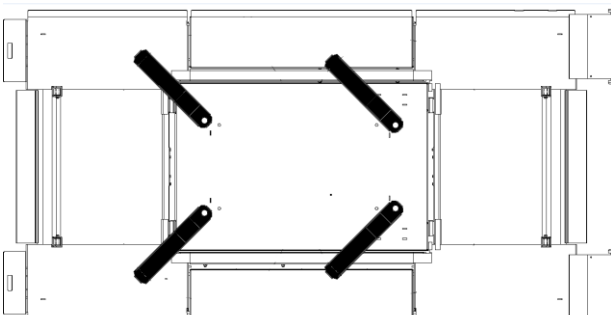

It is compulsory to ensure that the support of the vehicle is secured either on the main body of the platform or, alternatively, on all four hinged brackets. So-called “mixed vehicle support” is prohibited.



The total weight of the supported vehicle must not exceed the prescribed loading capacity, under which a maximum load distribution of 3:2 towards the driving direction or of 2:3 opposite the driving direction is allowed.



When positioning the swivel arms care must be taken in order that the lifted load is distributed uniformly across the main body of the platform (see picture “Positioning of hinged brackets”).

Description	Illustration	
<p>CORRECT</p> <p>The positions of the swivel arms are optimally selected. The load is distributed uniformly across the main body of the platform.</p>		
<p>WRONG</p> <p>The positions of the swivel arms are wrongly selected. The load is unevenly distributed across the main body of the platform. The safety of the lifting platform is no longer guaranteed.</p>		



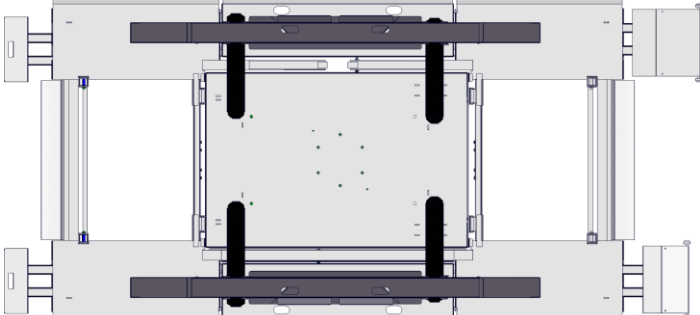
The rubber pads must be positioned at the largest bearing surface. It is prohibited to place them on top of each other.

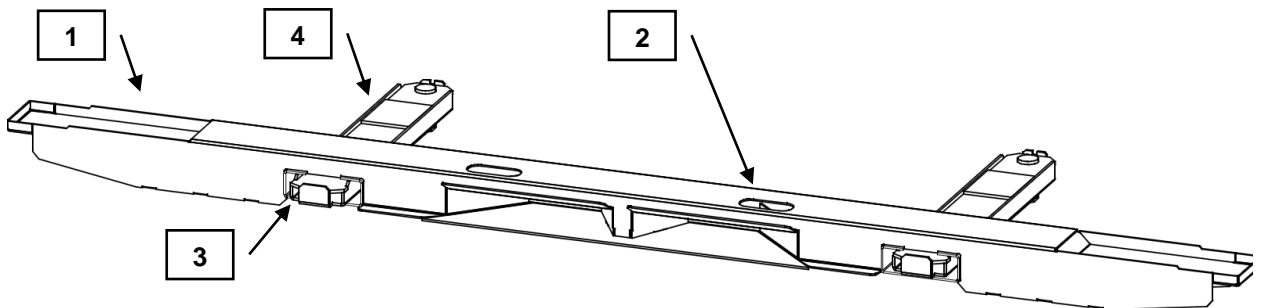
8.9.1 Accessories cross beam (HLS3200-DUO)

For vehicles with a long wheel base it is possible that the supported area of the swivel arms is not sufficient to reach the original lifting points specified by the vehicle manufacturer. To ensure also for these vehicles that the specified lifting points are reached when using the wheel-free function, a cross beam is available as accessory for this lift. This cross beam serves as adapter that has to be attached on the respectively two swivel arms.



The measure of safety mentioned in the chapter “general safety instructions” and the information of the chapters “proper vehicle lifting” and “operation of the wheel-free function” have to be observed additionally when using the cross beam.

Description	Illustration	
Attach the cross beam correctly on the swivel arms.		The safety fixation of the cross beam on the swivel arms has to be checked before the operation.



Picture: cross beam

No.	Description	Additional information
1	Area of support of the rubber blocks	
2	Grab handle	
3	Plug-in guidance for the swivel arm	
4	Swivel arm	



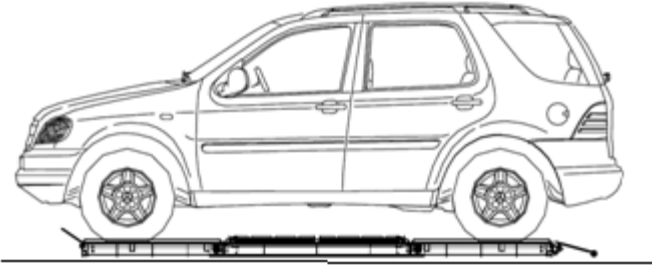



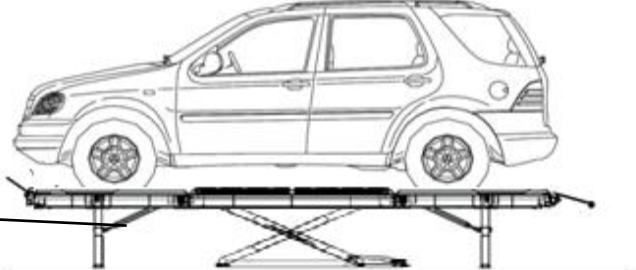

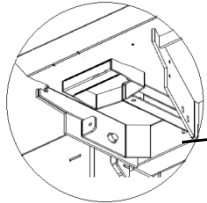
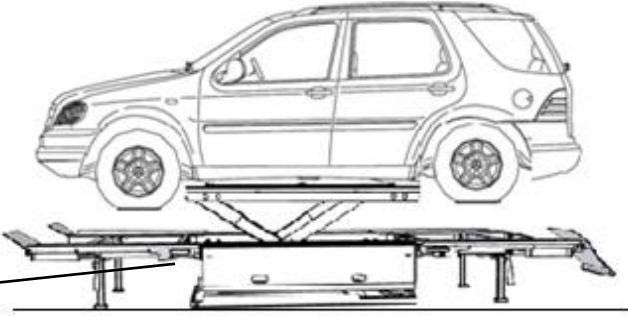
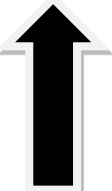
Set of accessories of the cross beam (Art. No.: 300-375)

8.10 Operator of the wheel-free lift function (HLS3200-DUO)

The raising of the vehicle can either be on the wheels, or over the wheel-free lift function.



When lifting the vehicle using the wheel-free lift function, the lifting points exclusively specified by each vehicle manufacturer must be used. Failure to do so could result in serious personal injury and damage to the raised vehicle

Description	Illustration	
<ul style="list-style-type: none"> Drive onto lifting platform 		
<ul style="list-style-type: none"> Raise lifting platform (approx. 500mm) 		
<ul style="list-style-type: none"> Fold down supports on both sides 		
<ul style="list-style-type: none"> Lower lifting platform Position fulcrum arms with rubber pads under the car lifting points Unlock the locking lever on both sides 		

8.11 Working on the lifted vehicle

- Follow the legal regulations for the prevention of industrial accidents.
- Make sure that no one is in the space under the lifted vehicle.
- It is not allowed to put spare parts or tools on the lifted vehicle or lifting platform.
- Pay attention to the shift of the center of gravity when installing or dismantling heavy parts to or from the vehicle.
- Respect the weight shifting when install or dismantle heavy parts. Thereby the vehicle can tilt over the lifting platform.

8.12 End of work

After completing work with the service lift the following points should be adhered to:

- The service platform must be in the lower end limit.
- Close the main tap of the operating control unit.
- Guard the main tap from unauthorized use with a padlock (not included in delivery).

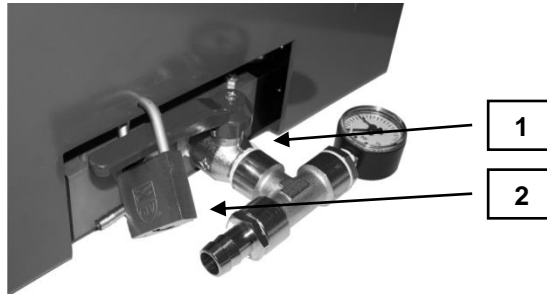


Diagram 9: Operating unit is safeguarded from unauthorized use

No.	Description
1	Main tap locked
2	Padlock (not included in delivery)

Requirements of padlocks:

- padlock width: 38-43 mm
- closed shackle height: 28-35 mm
- shackle diameter: max. 6 mm

9 Troubleshooting

To avoid machine damage or life-threatening injuries while resolving faults with the lifting platform, the following points must be observed at all times:

- Only attempt to repair a malfunction if you are suitably qualified to perform such work.
- Protect the service lift from unintentional restart by disabling the compressed air supply.
- Secure the upper frame in the lifted position with a stand or a proper support.
- Also read the **chapter "General Safety Instructions"**.

9.1 Possible problems and their resolutions

Malfunction	Source of fault	Rectification of errors
Malfunction while lifting	Pressure gauge of the maintenance unit without bar mains pressure. Hose lines squashed, bent, or damaged. Gauge pressure 1 bar above allowable pressure of the safety valve	Make sure there is a mains pressure of $P_{max} = 8$ bar. Open the shut-off valve. Check the hose lines and if necessary replace them with new ones. Check the safety valve for contamination and replace if necessary.
Malfunction while lowering	Lift platform is resting on top of an obstacle Safety catch engaged	Raise the lift platform, remove the obstacle, and then continue lowering. For bar mains pressure $P_{max} = 8$ bar make sure the gear lever is switched to "Lift" until the safety catch is free. Afterwards repeat the lowering movement.



If, despite the above measures, the lifting platform cannot be lifted or lowered, the customer service department must be notified.

Customer service:

Herkules Hebetchnik GmbH
 Falderbaumstraße 34
 D - 34123 Kassel
 Tel.: +49 (0)561 58907-0
 Fax: +49 (0)561 58907-34
 E-mail: info@herkules.de



When replacing defective parts, always only use original spare parts from the manufacturer.

10 Maintenance

Maintenance work should be carried out at the specified maintenance intervals and only by qualified persons. Neither water nor flammable liquids may be used during the cleaning process.

To ensure durability and continuous operation of the service lift, the following points should be observed:



- Only spare parts from the original manufacturer and suitable tools may be used.
- Regular maintenance intervals must be observed.
- For all maintenance work not outlined or explained in this instruction manual, please contact your supplier or customer service of the manufacturer.

Only perform maintenance when the lift achieves a max. (unloaded), the lift platform is braced with service supports, and the compressed air supply is disabled!

Maintenance intervals	Points to follow	Comments
Monthly	<p>All moveable parts such as pivot bolts, sliding pads, and sliding surfaces should be check for wear and tear, cleaned, and lubricated.</p> <p>Check air bags and air tubes for any damages. Visually inspect and check for leaks. Examine the surface of the air bags for impurities, then clean, and maintain.</p> <p>Inspect valves for functionality and check for leaks.</p> <p>Check that the dowels are properly fixed. If necessary re-install or renew the support.</p> <p>Inspect the maintenance unit (filter regulator, provided by the customer), and consult the product manufacturer's instructions.</p>	Only use lubricants that contain no adhesive-repelling substances in the area to be lubricated.
Yearly	Regular safety check (In accordance with §10 (2) German Plant Health and Safety regulations)	For test protocol see chapter "Regular safety check" .
Replace the safety valve	After every 2 years of operation.	
Every 6 years of operation	Replace the complete air hoses.	

10.1 Air bags characteristics and durability

The air bags are a flexible element developed and designed specifically for use in lift platforms. The rubber covering reduces the aging process and should be especially carefully checked.

Tips for a long operating life:

- Use dry as well as non-lubricated compressed air.
- Protect from UV radiation (i.e. through welding or the use of a UV dryer).
- Avoid the use of chemical agents.
- Protect the unit from damage (grooving, etc.).
- Adhere to maintenance and care instructions (see chapter “**Maintenance**”).

Damaged air bags must be replaced. Only original parts from the manufacturer are permitted to be used.

10.2 Notice about filter regulator and air line

The filter regulator is not included in the scope of delivery of the lift platform. A filter regulator must be installed in the mains connection (provided by the customer). Only dehumidified, non-lubricated compressed air should be used. Follow maintenance and cleaning of the filter regulator, consult the information and instructions of the filter regulator manufacturer.

10.3 Notice about the sliding area of the scissors

Due to the design principles of the sliding surfaces of the scissors, great force is exerted. This force can lead to scoring on the sliding surfaces. However, the function of the service lift will not be compromised. The maintenance intervals and instructions outlined in the chapter “**Maintenance**” are to be observed.

10.4 Lubrication and test points

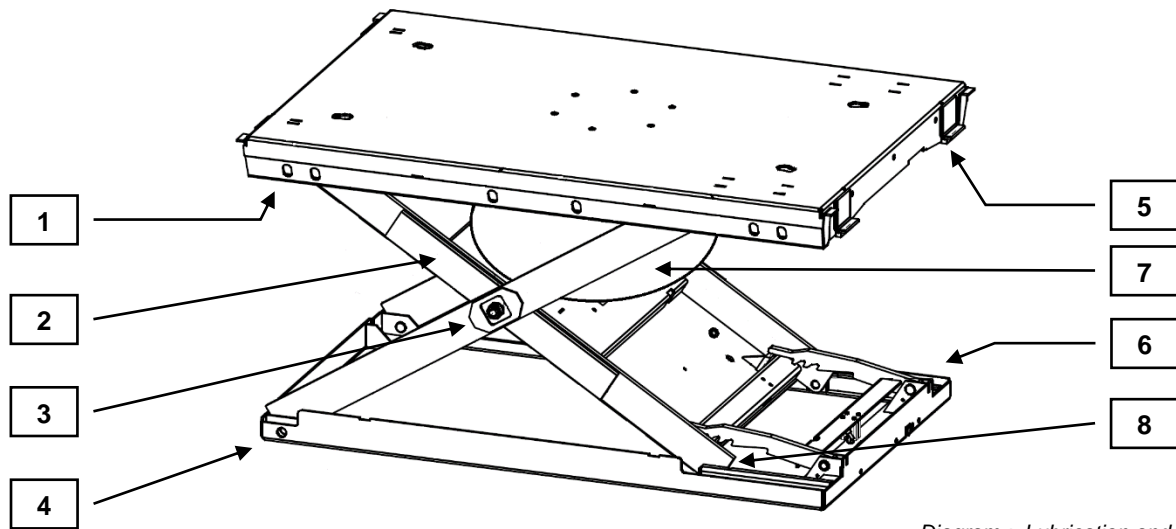


Diagram : Lubrication and test points

No.	Description	Lubrication and test points
1	bearing pin overhead (right and left)	<ul style="list-style-type: none"> - Check the safety washers from both of the bearing pins for proper fit. - lubricate bearing pin
2	sliding surfaces of the scissors (right and left)	<ul style="list-style-type: none"> - Check the sliding surfaces of the scissors for wear. - lubricate sliding surfaces
3	scissor pins (right and left)	<ul style="list-style-type: none"> - Check that the scissor pins are properly fixed. - Check the safety nuts.
4	bearing pins below (right and left)	<ul style="list-style-type: none"> - Check the safety washers from both of the bearing pins for proper fit. - lubricate bearing pin
5	sliding pads and guide rails above (right and left)	<ul style="list-style-type: none"> - Check sliding pads for damage and wear. - Lubricate sliding pads and guide rails.
6	bearing pin safety catch (right and left)	<ul style="list-style-type: none"> - Check the safety washers from both of the bearing pins for proper fit. - lubricate bearing pin
7	air bags	<ul style="list-style-type: none"> - Check air bags for damage. - Check the screws on the air bags reinforcement both above and below for proper fit. - Treat the surface of the air bags with the appropriate rubber care product.
8	sliding pads and guide rails below (right and left)	<ul style="list-style-type: none"> - Check sliding pads for damage and wear. - Lubricate sliding pads and guide rails.

11 Safety Inspection

Safety inspection is required to guarantee the operational safety of the service lift.

It should be performed:

Before starting up the lifting platform for the first time by the manufacturer.

The use of which can be found under the section "operation and safety inspection" (chapter "**Operation and safety inspection**").

After the first commissioning, check at regular intervals in accordance to §10 (2) BetrSichV (German Plant Health and Safety Regulations)!

The use of which can be found under the section "regular safety check" (chapter "**Regular safety check**").

Document the condition of the service lift in a separate copy and attach it to the operating instructions and inspection log.



Regular safety checks must be performed by a suitably-trained person. It is advisable to also implement maintenance at the same time.

11.1 Regular safety check

(In accordance with §10 (2) German Health and Safety regulations !)

Device type	
Serial number	

Inspection step	OK	Not OK	re-examination	Remark
Nameplate				
Sign with lifting capacity				
Sign with bar mains pressure				
Operating instructions (abbreviated)				
Designation lift - lower				
Secure fit of all supporting screws				
Safeguard of the scissor pins				
condition of the pneumatic lines				
safety valve set to 3.5 bar operating pressure				
Pressure gauge bar mains pressure $P_{max} = 8$ bar				
Control lever returns automatically to the '0' position when released				
Safety catch function				
Loading ramps function (with telescopic function)				
Interim drive over ramp function				
Roll-off protection function (with telescopic function)				
Protective flaps function				
Swivel arms function (only HLS3200-DUO)				
Condition of the air bags				
Condition of the supporting structure				
Functionality of the service lift with vehicle				

Inspection result	
	Start-up not permitted, verification required
	Start-up possible, faults to be rectified by:
	No fault, start-up possible immediately

Safety inspection performed on:

Name and address of qualified personnel

.....
Signature of competent person

.....
Signature of operator

With the required rectification of faults

.....
Signature of competent person

.....
Signature of operator

12 Disassembly and Disposal

12.1 Disassembly

To correctly disassemble the system, perform the steps in the assembly instructions found in chapter “**Assembly instructions**” in the reverse order.

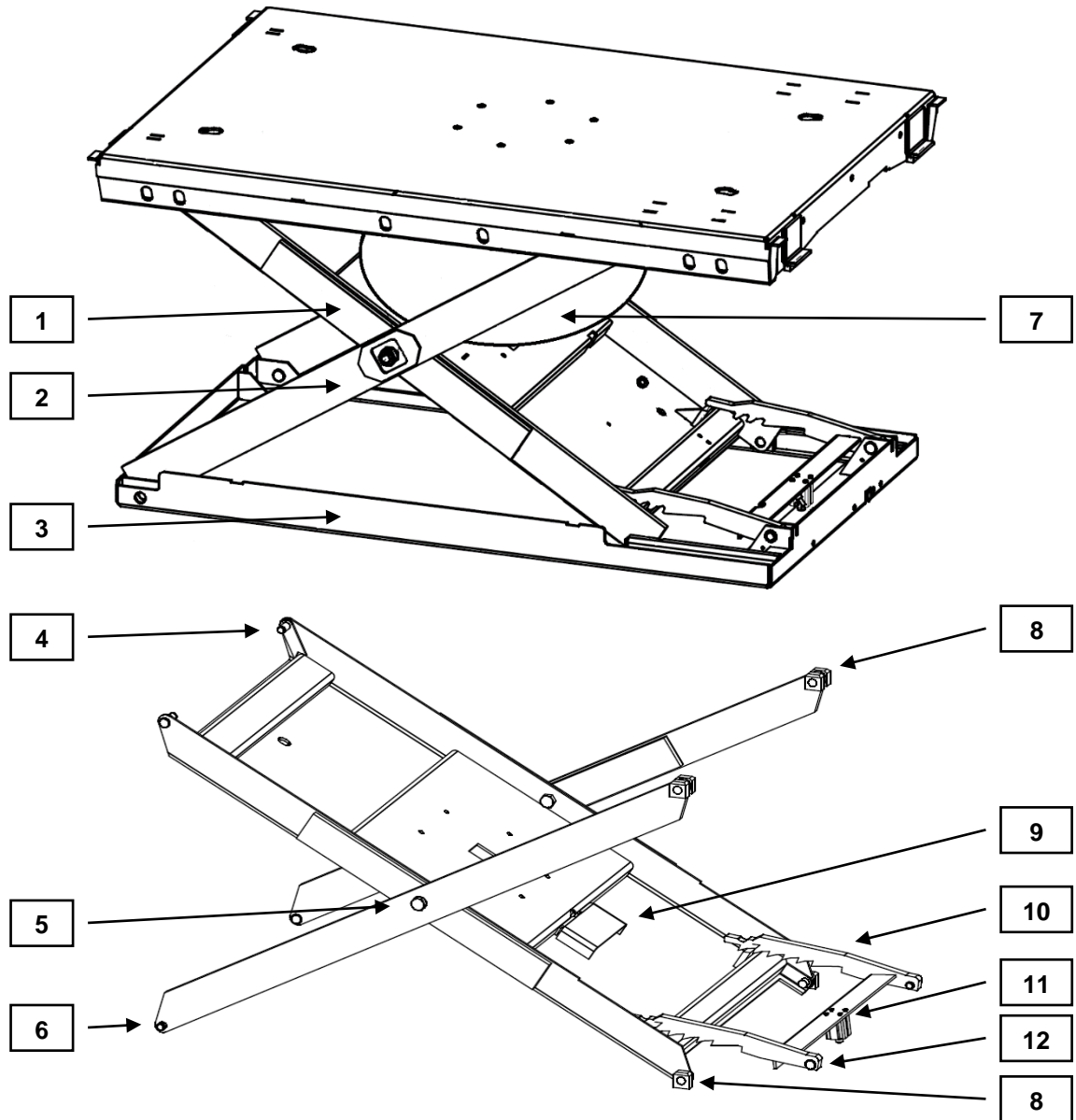
The safety regulations in chapter “**General Safety Instructions**” must be observed when disassembling the system.

12.2 Disposal

The service lift must be disposed of in accordance with the current environmental and disposal guidelines.

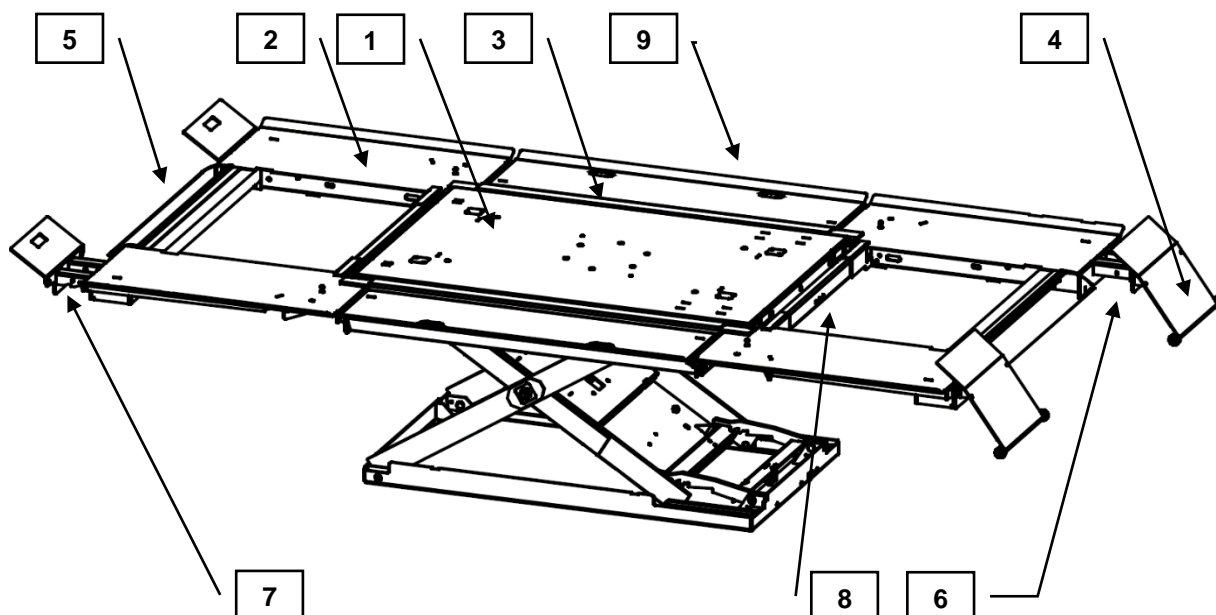
14 Additional information

Spare parts platform-main body K 3200



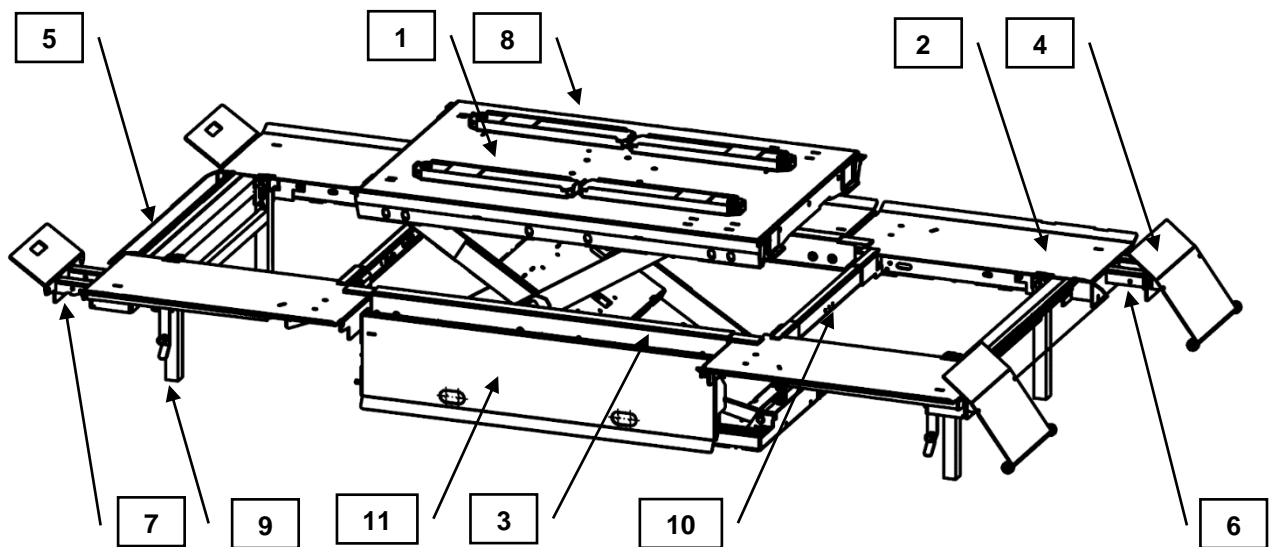
No.	Description	Item number
1	Internal scissor K 3212	200-155
2	Set external scissor K 3212	16509 and 16511
3	Lower frame K3212	16444
4	Thrust bearing bolt	690-156
5	Middle bolt K1208	500-661-1
6	Thrust bearing bolt	690-156
7	Double air bag	15733
8	Sliding piece	695-008
9	Safety valve (set up on 3.5 bar)	700-171
10	Anti-drop safety device	16459
11	Pneumatic cylinder drop safety	710-124
12	Anti-drop safety bolt	690-140
/	Hose package	3000-0003

Scope of delivery HLS3200-11



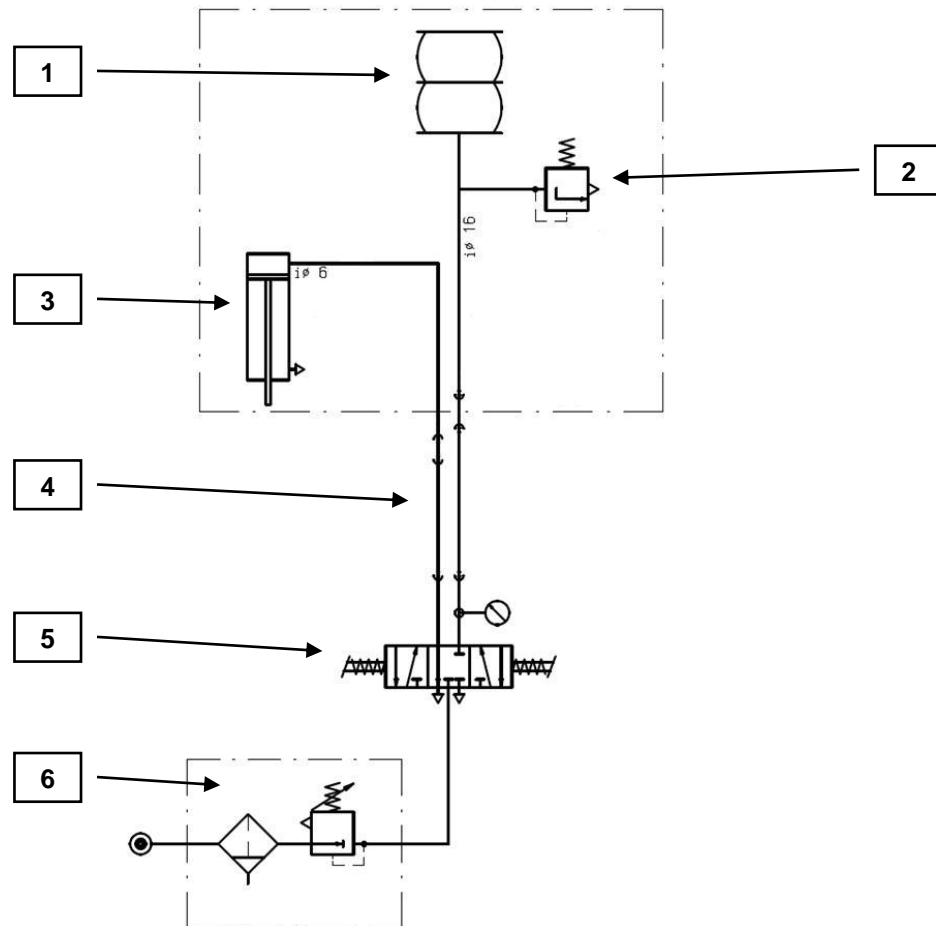
No.	Description	Item number	Quantity
1	Platform-main body	K3212	1
2	Cantilever HLS3200	16449	2
3	Connector	16140	2
4	Drive on ramp	200-005	2
5	Protective flaps	810-248	2
6	Ramp holder (with telescopic function)	16712 / 16713 / 15602	2
7	Roll-off protection (with telescopic function)	16708 / 16713	2
8	Slider with locking plate	15504 / 15591 / ?	2
9	Folding ramp	16425	2
	Operator control module	300-249	1
/	Ring washer 13 DIN125	650-113	
/	Hexagon protection nut M12 DIN985	600-114	
/	Hexagon screw M12x90 DIN931	500-162	
/	Dowel S16	810-155	
/	Hexagon screw 12x100 DIN571	505-125	
/	Ring washer 13	660-113	
/	Hexagon screw M10x30 DIN933	500-099	
/	Hexagon protection nut M10 DIN985	600-110	
/	Ring washer 10.5	670-112	
/	Hose barb 1/2" a x 16mm	730-048	
/	Hose connector for rubber hose 6mm	730-318	
/	Hose clamp 10-16x9	720-361	
/	Hose clamp 16-25x9	720-121	
/	Rubber hose i 16mm	720-113	5m
/	Rubber hose i 6mm	720-106	5m
/	Instruction manual	761-010	1

Scope of delivery HLS3200-DUO-11



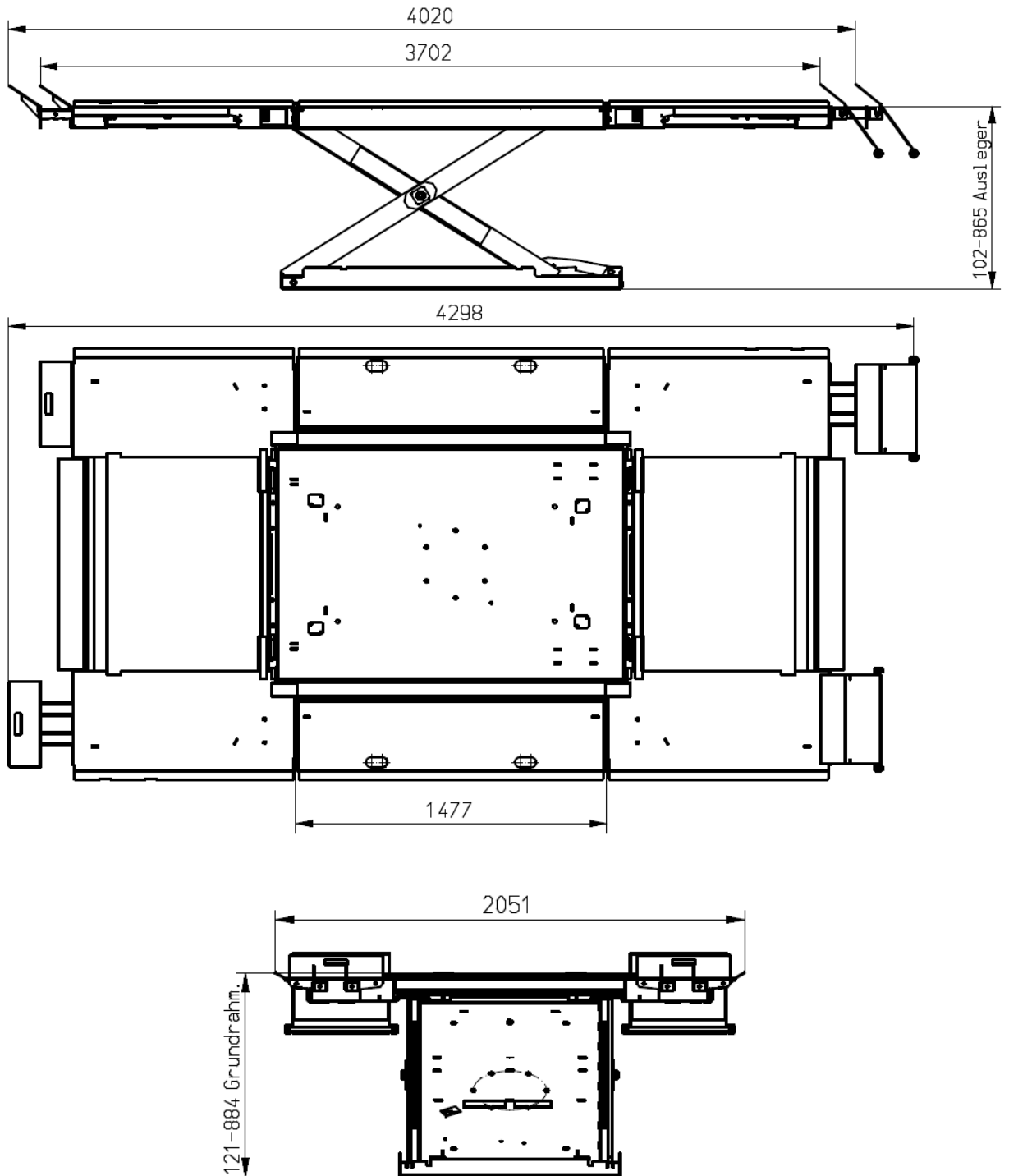
No.	Description	Item number	Quantity
1	Platform-main body	K3212	1
2	Cantilever HLS3200	16449	2
3	Connector K 1232-Duo	16140	2
4	Drive on ramp	200-005	2
5	Protective flaps	810-248	2
6	Ramp holder (with telescopic function)	16712 / 16713 / 15602	2
7	Roll-off protection (with telescopic function)	16708 / 16713	2
8	Swivel arm	15509	4
9	Telescoping support swivelling	16097 und 15643	1
10	Slider complete	15504 / 15591 / 15505	2
11	Folding ramp	16425	2
/	Rubber block	800-105	4
/	Operator control module	300-249	1
/	Ring washer 13 DIN125	650-113	
/	Hexagon protection nut M12 DIN985	600-114	
/	Hexagon screw M12x90 DIN931	500-162	
/	Dowel S16	810-155	
/	Hexagon screw 12x100 DIN571	505-125	
/	Ring washer 13	660-113	
/	Hexagon screw M10x30 DIN933	500-099	
/	Hexagon protection nut M10 DIN985	600-110	
/	Ring washer 10.5	670-112	
/	Hose barb 1/2" a x 16mm	730-048	
/	Hose connector for rubber hose 6mm	730-318	
/	Hose clamp 10-16x9	720-361	
/	Hose clamp 16-25x9	720-121	
/	Rubber hose i 16mm	720-113	5m
/	Rubber hose i 6mm	720-106	5m
/	Instruction manual	761-010	1

Pneumatic plan

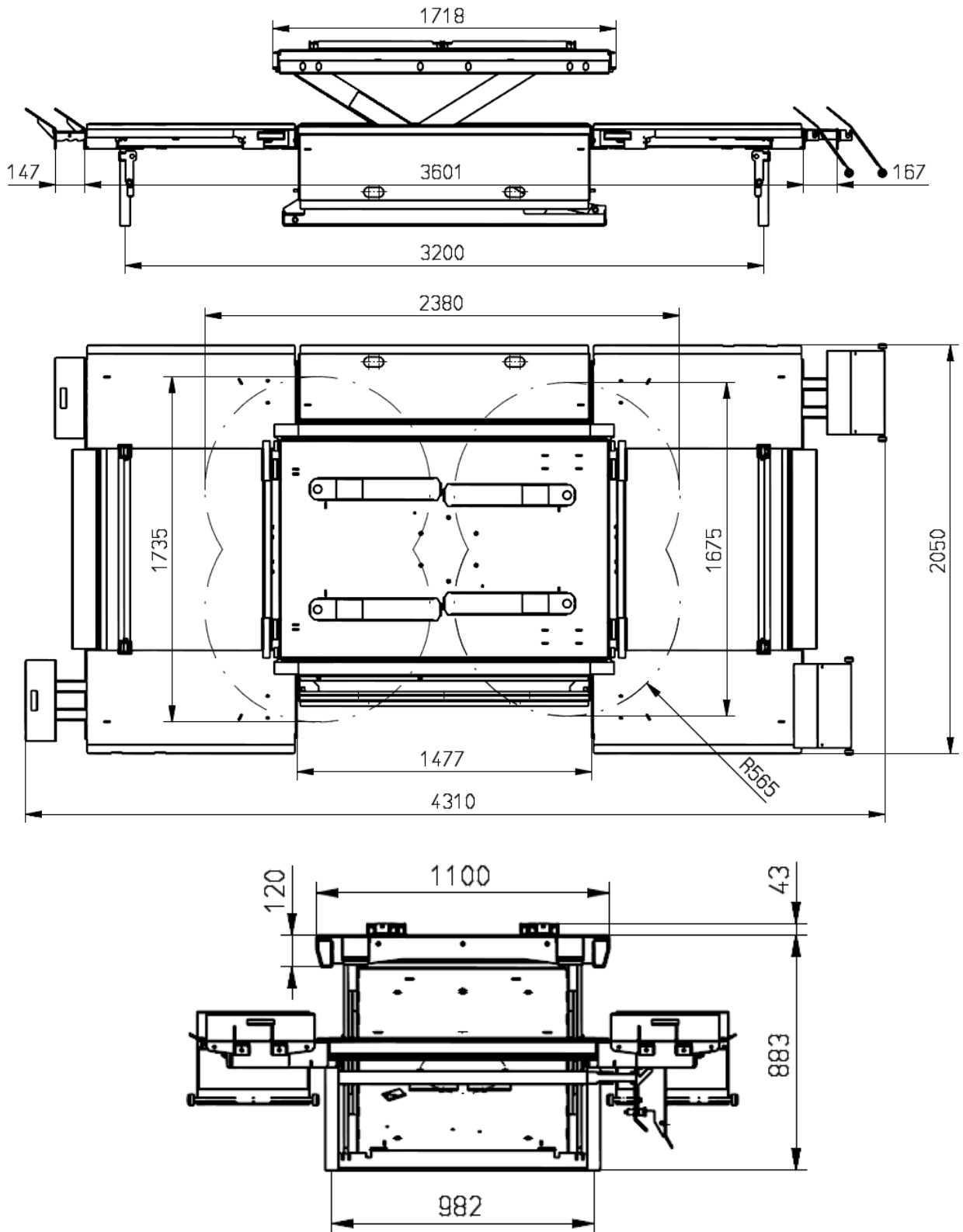


Nr.	Description	Item number	Quantity
1	Air sleeve double lift	15773	1
2	Safety valve (set up on 3.5 bar)	700-171	1
3	Pneumatic cylinder drop safety	710-124	1
4	Hose package (incl. Mounting materials)	3000-0003	1
5	Operator control module manual operation (Optional foot operation)	300-249	1
6	Maintenance unit (provided by the customer)	/	

Dimension sheet HLS3200-11



Dimension sheet HLS3200-DUO-11



Notice: