Operating instructions
for
AirgoMatic Pro 3513
Vehicle lifting platforms

Machine type	Article no.	Serial number
K3513	HM3513-01 HM3513-61 HM3513-04 HM3513-64	

HM3513-01

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Translation of the original version

Table of contents

1 General information

These operating instructions contain important information on the installation, for safe, correct and economical operation and for maintaining the functional safety of your lifting platform.
Observing the operating manual helps to avoid hazards, reduces repair costs and down times, and extends the service life of the lifting platform. It is an integral part of the lifting platform and must therefore be handled and stored with care.

1.1 Warnings

The following symbols are used with the explanatory text in order to highlight hazard points and important information. Pay particular attention to sections of text identified with these symbols.

Indicates a risk to life and limb. There is a risk to life in the event of improper implementation of the procedure highlighted with this warning!

Indicates a key function or an important note!

1.2 Limitation of liability

All information and instructions in these operating instructions have been provided under due consideration of applicable guidelines, the current state of technology, as well as our many years of experience.
The manufacturer accepts no liability for damage caused by:

- Disregard of the operating instructions
- Improper use
- Use of untrained personnel
- Unauthorised conversions
- Negligent maintenance

1.3 Copyright

The operating instructions must be treated as confidential. They are only intended for persons involved with the machine. It is prohibited to make the operating instructions available to third-parties without the written permission of the manufacturer.

The texts, drawings, figures and other representations contained within them are copyright protected and subject to industrial property rights.

1.4 Guarantee conditions

The statutory warranty conditions apply.

In the event of claims, please contact our customer service.

1.5 **Customer service**

You can reach our customer service department for technical queries as follows:

Customer service:
Herkules Hebetechnik GmbH
Miramstraße 68b
D-34123 Kassel, Germany
Tel: +49 (0)561 58907-70
Fax: +49 (0)561 58907-34
E-mail: service.de@hedson.com

2 Product description

2.1 Product structure

The pneumatic lifting platforms consist of a lifting element, the what is referred to as air bellows enclosed in a scissor-type hoist that lifts the load via a flange-mounted load handling device. In general usage, the scissor lift is referred to as the base body, which mounts the air bellows as a lifting element and has an appropriately designed catching device in the event of air bellows failure. This is referred to as a fall safeguard.
The flange-mounted load handling device is a patented design consisting of support elements that securely mount the support arms, which in turn lift the vehicle free from the wheels.

2.2 Proper use

The vehicle lifting platform is designed exclusively for lifting motor vehicles (cars, includes SUVs, vans, trucks, vans) with a permitted nominal load as per the technical data with the appropriate load handling devices on suitable chassis pick-up points.

The lifting platform may only be operated by persons who have read the operating instructions and have reached the age of 18.

Observing the inspection and maintenance work at prescribed time intervals is part of the proper use.

Expressly prohibited are:

- Lifting persons or other objects.
- Working under the raised vehicle.

2.3 Product identification

The characteristic data for the lifting platform can be found on the type plate. This is located in the base body next to the pneumatic circuit and contains the following data:

Article no.	HM3513-XX	Year of construction	
Machine type	K3513	Operating pressure	6-8 bar
Serial No.		Safety pressure	4.5 bar
Load-bearing capacity	3500 kg	Unladen weight	

3 EC Declaration of Conformity

According to Annex II A of the EC Machinery Directive 2006/42/EC

The manufacturer	**Herkules Hebetechnik GmbH** **Miramstraße 68b** **D-34123 Kassel, Germany**			
Documentation controller	**Herkules Hebetechnik GmbH**			
hereby declares that the machine described hereafter	**Vehicle lifting platform**	**Machine type** **K3513**	**Article no.** **HM3513-01** **HM3513-61**	 **HM3513-04** **HM3513-64**
fulfils the following EC directives :	**Machinery Directive 2006/42/EC**			

Applied harmonised standards:

EN 1493:2010	Vehicle lifting platforms

EC type examination	Examination certificate no. 44 205 12021023
Test centre	TÜV Nord Cert GmbH

4 Installation and commissioning

4.1 Requirements for personnel

Activity	Implementation
Installation/assembly	Herkules customer service installation technician / competent person
Commissioning	Herkules customer service installation technician / competent person
Instruction	Herkules customer service installation technician / competent person
Operation	Instructed person
Fault rectification	Herkules customer service installation technician / instructed person
Servicing	Herkules customer service installation technician / competent person
Maintenance	Herkules customer service installation technician / instructed person
Repair	Herkules customer service installation technician
Dismantling	Herkules customer service installation technician / competent person

Explanation of terms:

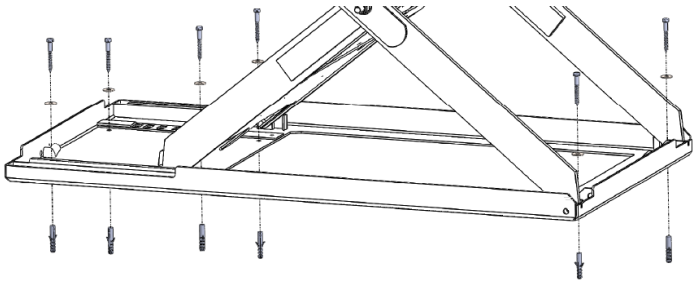
Competent person: The group of persons who have been trained by Herkules Hebetechnik GmbH on the devices and are qualified to carry out work on them.

Instructed person: The group of persons who have been instructed on the devices by competent persons or by reading the operating instructions. Instruction on the telephone by Herkules Hebetechnik GmbH customer service for e.g. fault rectification is also possible.

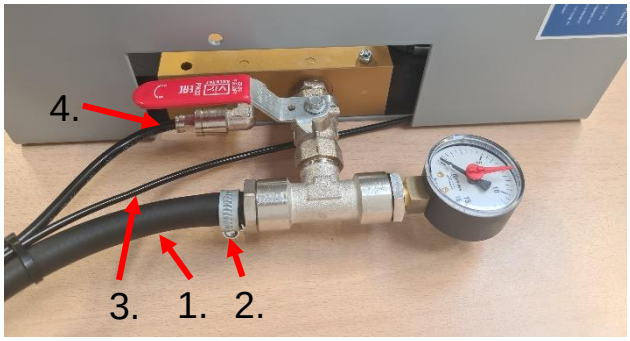
4.2 Installation instructions

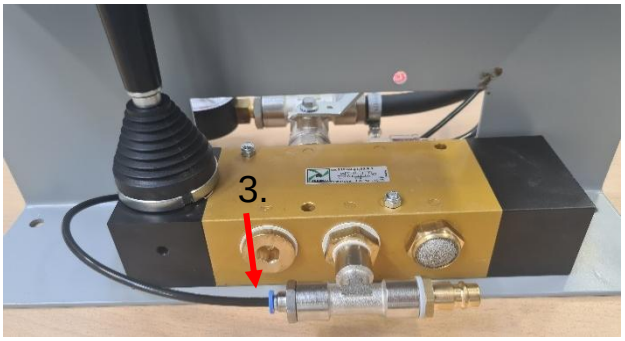
4.2.1 Fixation the lift to the ground (recommended)

It is generally recommended to secure the lift to the floor to prevent it from slipping. The drilling pattern can be found on the dimension sheet (see also Chapter 13).



4.2.2 Connection of the hand lever valve





1. 9 rubber hose 2. hose clamp 3. Ø4 PA-hose 4. Ø6 PA-hose

4.3 **Installation of the lifting platform**

In principle, the lifting platform can be driven on from both sides. In this sense, there is no prescribed drive-up direction. The operating company is therefore free to choose how they set up the lifting platform, but it is recommended to choose the drive-up direction on the opposite side to the compressed air supply in order to prevent the hose from being run over.

Environmental requirements:

- The lifting platform is only suitable for use in enclosed or covered and dry areas.
- The floor at the installation location of the lifting platform must be horizontal and level (per DIN 18202). In addition, the load-bearing capacity of the floor must be designed to bear the permissible total weight of the lifting platform incl. unladen weight. The lifting platform operating company is solely responsible for the selection of a suitable installation location.
- When changing the location of the lifting platform, the new installation location must be checked for the same criteria mentioned above.
- The lifting platform shall be used only in a temperature range of 5°C to 65°C.
- The dimensions of the lifting platform incl. vehicle must be observed, especially with regard to the hall height, in order to avoid a collision of this with the vehicle.

  - Escape routes must be maintained.
  - Ensure there is enough space between the lifting platform and the wall or other workplaces.
  - A compressed air supply of 6-8 bar mains pressure must be available.
  - When selecting the location of the control unit, make sure that the operator always has a clear view of the lifting platform and the vehicle as well as its surroundings.
- The control unit must be placed in such a way that it is easy to reach. It must not be mounted more than 1.8m above the floor.

  - Only dry and oil-free compressed air may be used. If necessary, a water separator or air filter as well as pressure controller must be connected upstream (not included in the scope of delivery). Water and oil in the compressed air system can cause the air bellows to wear out very quickly from the inside. The manufacturer does not accept any warranty for damage caused in this manner.

4.4 **Commissioning**

After installation of the lifting platform and connection of the compressed air, the lifting platform can be put into operation. To test the correct function, the platform can first be raised without load. The following points should be checked at sight, if available:

  - Function of the fall safeguard: When driving up and at a standstill, this must lie on the underbody or be pulled along. When driving down, this must be pressed up by the piston cylinder. When the hand control is released, the fall safeguard must immediately drop to the floor.
  - Tight fit of the attachments.
- Function of the CE stop, if present. This is released during shutdown as soon as a certain lift height is not reached. The lifting platform stops automatically and can only be lowered again by operating the hand control again. An audible warning signal must be heard.

5 Operation of the lifting platform

5.1 Driving on and aligning the vehicle

When driving on the lifting platform, make sure to drive slowly and carefully over the lifting platform. Attention must be paid to the required ground clearance. Depending on the version of the lifting platform, this can vary, but the maximum is 150mm. The exact overrun heights can be found in the technical data.

It must be ensured that the lifting platform is loaded with a maximum load distribution of 3:2 or 60:40% in the longitudinal direction. The centre of gravity of the vehicle must not be outside the base body. Unladen cars always fulfil this condition. With loaded vehicles, it must be ensured that the centre of gravity is above the base body despite the load. In terms of width, the vehicle's centre of gravity should be positioned on the centre line of the lifting platform if possible. The possible load must be taken into account in this instance as well.

After positioning the vehicle as centrally as possible above the lifting platform, the support arms must be swivelled under the vehicle mounting points provided for this purpose and fitted with a rubber block.

5.2 Operation

Once the vehicle is correctly positioned, it can be raised to the desired position by operating the control lever upwards.

Conversely, the vehicle can be lowered again when the control lever is operated downwards. When the control lever is released, the pressure is held and the lifting platform is at rest.

The control panel also has a manometer on which the pressure in the air bellows can be checked. If the indicated pressure exceeds 4.9 bar without the safety valve tripping, the work must be stopped immediately, the pressure released and the safety valve replaced (see Maintenance).

The vehicle must be observed during the entire lifting and lowering process. If there are persons or objects in the danger zone, the lifting or lowering process must be stopped immediately by releasing the control panel.

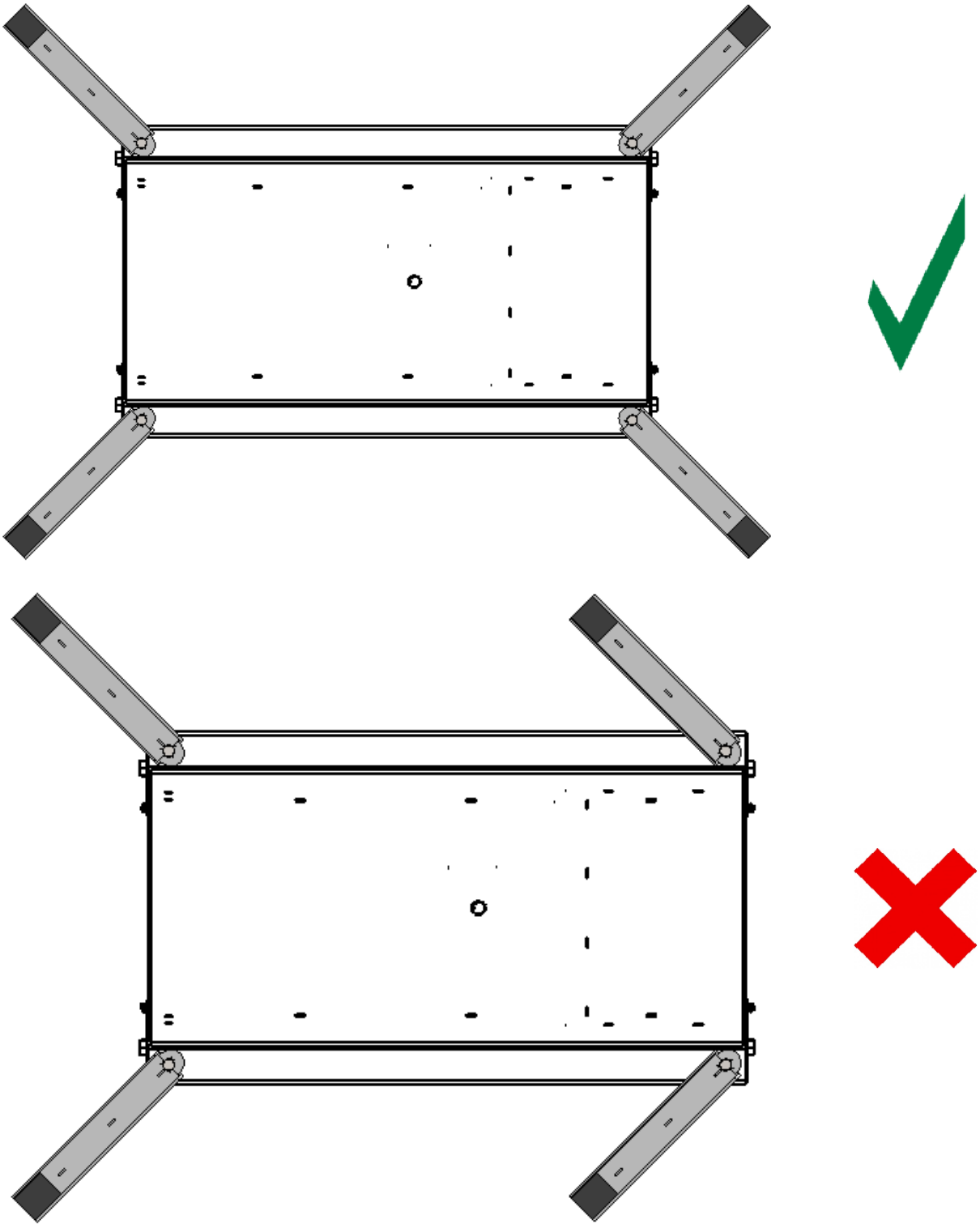
The air bellows installed in the base body always serves as the supporting means. The lifting platform should not be lowered onto the fall safeguard under load for longer periods of time to prevent increased wear and to ensure the safety function in any case. For maintenance purposes, the drop guard can be used as a safety support when the lift is not under load.

5.3 Correct support arm use

The support arms are flanged to the base body and serve for mounting the vehicle by the chassis. It is thus possible to lift the vehicle wheel-free. To use the support arms, the vehicle must be driven onto the lifting platform as described above. Now the support arms must be folded out and positioned under the vehicle mounting points provided for this purpose. Rubber blocks are positioned. The vehicle can now be lifted carefully.

Correct use of the rubber blocks: These must always be placed on the largest support surface and must not be stacked. They must rest with the full surface.

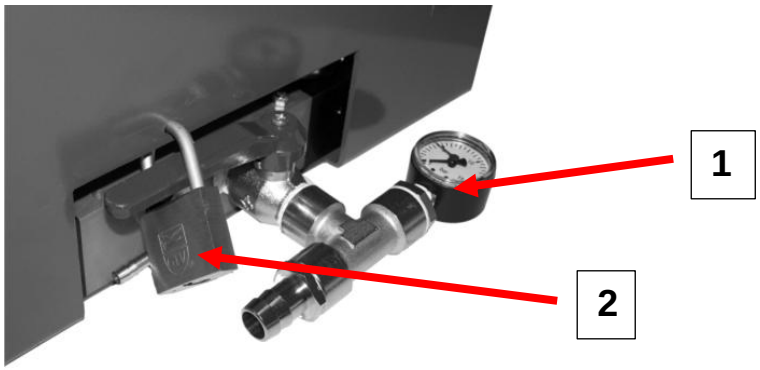
Correct support arm positioning: The support arms must always be folded out so that the vehicle is lifted with its centre of gravity as central as possible above the lift base body. It is also important to ensure that the fold-out direction is as symmetrical as possible, see screens below:



5.4 End of working day

Always leave the lifting platform in the retracted state. A lifting platform that has been raised over a longer time frame can automatically move into the fall safeguard due to the smallest leaks in the pneumatics, which is thus subject to increased wear and must be serviced more often and replaced if necessary.

The lifting platform must be secured against unauthorised use. A padlock, which is not included in the scope of delivery, can be used for this purpose.



No.	Description
1	Main shut-off valve locked
2	Padlock (not included)

6 Risks and safety devices

The following is a presentation of the risks that may arise from a reasonably expected misuse of the lifting platform and an explanation of the safety devices that is intended to prevent damage.

6.1 Risks/hazards

The operating company must ensure that the lifting platform is only used as per its intended purpose, namely as a vehicle lifting platform. In particular, no persons may be lifted. Furthermore, working or standing under the raised vehicle is strictly prohibited.

The following additional risks can occur even with improper use:

- Hitting an obstacle when lowering the lifting platform. The operator must keep an eye on the load and the area under the lifting platform at all times. If this cannot be guaranteed, a second person should be called in to observe the danger zone.
- Pressure can escape abruptly from the load-bearing equipment due to a defective pneumatic system. The lifting platform can drop unintentionally. The fall safeguard as a mechanical protective device prevents unintentional, critical sagging.
- The lifting platform has pinch and shear points. The scissor system is covered by the vehicle so that unintentional interference with the scissor system is not possible. Safety shoes should be worn to avoid injuries from falling parts.
- Incorrect loading of the lifting platform can cause it to tip over. It is essential to pay attention to the specified load distribution. For additional safety, it is recommended to anchor the lifting platform to the base.
- Defective installation or wear can cause parts of the lifting platform to break. The installation must be carried out by trained and experienced personnel and in accordance with the installation instructions. Regular maintenance must not be foregone. Wearing parts must be replaced as per the maintenance schedule.
- Too much pressure on the air bellows can cause it to crack and lose air. The air bellows are safeguarded with a safety valve and designed for triple safety. The air pressure should always be kept in mind. The safety valve must be checked and replaced regularly as per the maintenance schedule.
- Incorrect positioning or use of the support arms can cause the vehicle to tip over. Ensure that the support arms are used correctly.

6.2 Pneumatics and air bellows

The lifting platform works purely pneumatically, i.e. exclusively with compressed air. A sufficient supply of compressed air must be ensured. 6-8 bar mains pressure is required. The lifting function is performed by the air bellows, which inflates via the air pressure and thus raises the lifting platform together with the nominal load.

It is essential to protect the air bellows from external influences. No welding or other spark-producing work may be carried out in its immediate vicinity without further protecting the air bellows against this.

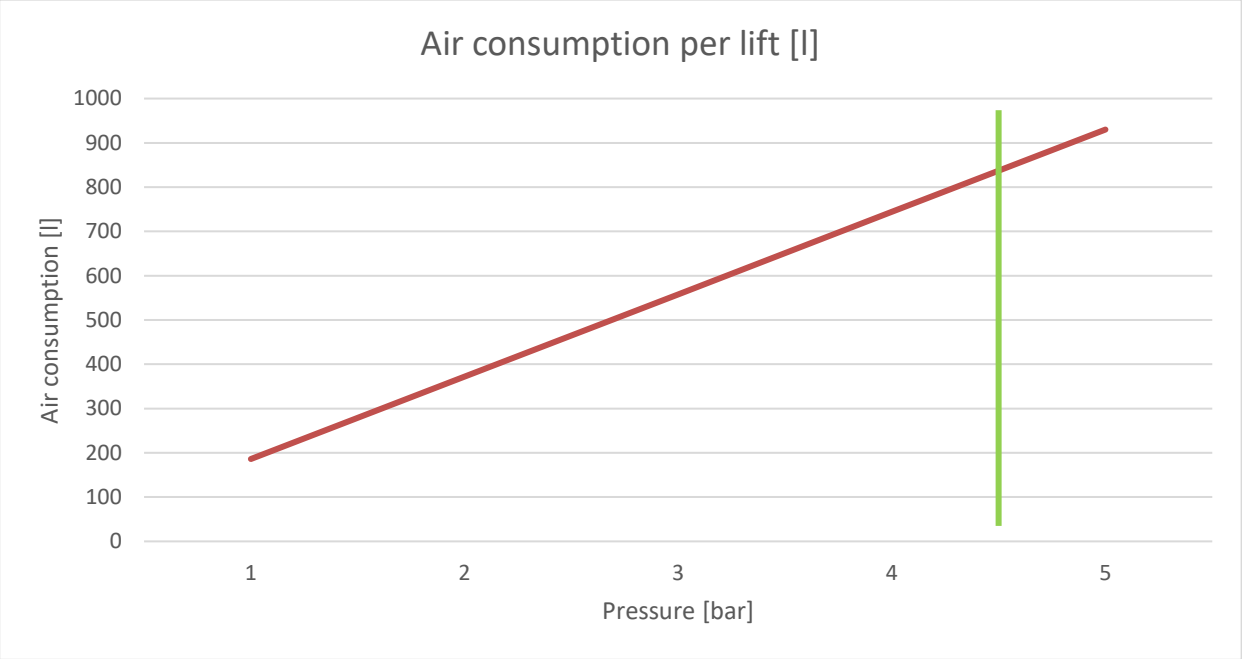
The compressed air supply is monitored via the manometer located on the control panel. The system is also protected against overpressure by a safety valve on the air bellows.
In addition, the pneumatic system can be equipped with what is referred to as a CE stop, which serves as a foot or crush protection. This has the function that from a certain lifting height, an audible warning signal sounds when the platform is lowered, which warns people in the danger zone. Before the warning signal starts, the platform stops automatically. Only after releasing and operating the control lever again does the platform continue to descend and generate the warning signal.
The CE stop is only available as an option.
Likewise, the control unit can be equipped with so called forced ventilation. This automatically ventilates the air bellows completely as soon as the platform is completely lowered, without having to operate the control panel any further. This means that a possible residual pressure in the air bellows when the platform is unloaded does not cause the platform to move up again a bit and damage the vehicle. In addition, work cycles are shortened.

Forced ventilation is only available as an option.

Modifications to the pneumatics may only be carried out by competent persons. The pneumatic system is a modular system, it can be expanded with different functions. Examples of this are, for example, an automatic limit limiter. For more information, consult your dealer.

6.3 Compressed air

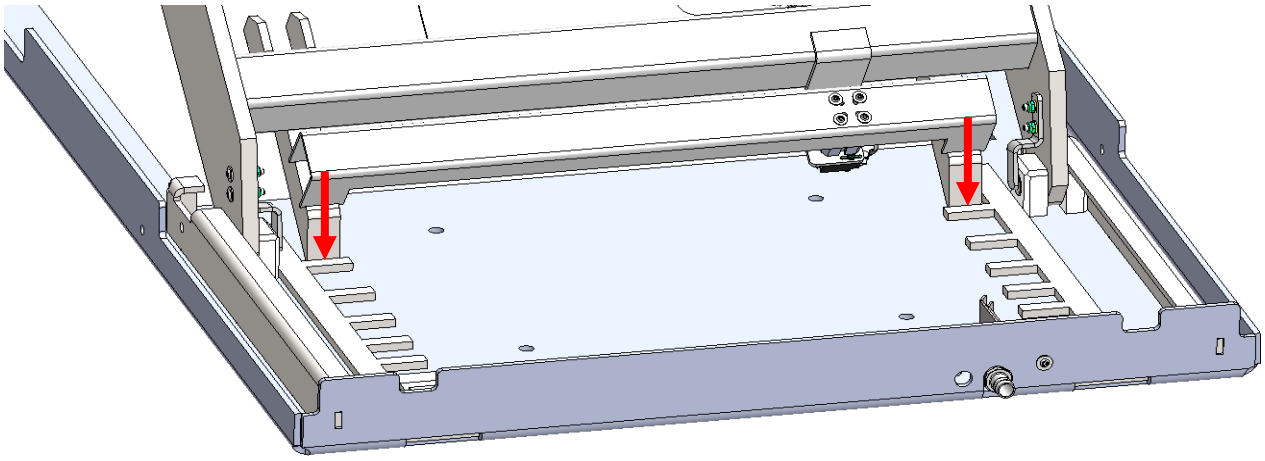
Only **dry** and **unoiled** compressed air may be used. Moisture from the inside can damage the air bellows in the long term, significantly reducing the service life of the air bellows.



Legend:
Red characteristic curve: Air consumption depends on the pressure in the air bellows.
Green characteristic curve: Safety valve 4.5 bar.

6.4 Fall safeguard

The fall safeguard is a mechanical protective device for the event that the air bellows experiences a sudden drop in pressure, e.g. due to tearing or bursting. It is connected to the pneumatic system. The fall safeguard does not serve as a replacement support. When raising or lowering, ensure that the fall safeguard can latch into place on both sides in parallel.



	**If the lifting platform does not lower, the lifting platform has entered the fall safeguard due to a possible leak in the air line. In this case, the lifting platform must be raised a little so that the fall safeguard frees itself again. Afterwards, the lowering process can be repeated.**
	**The air bellows is the supporting element of the platform, the fall safeguard is a safety device and does not serve as an additional support.**
	**If the fall safeguard does not fall back onto the lower frame at the end of the lowering operation, work on the lifting platform must be interrupted immediately. The load must be removed from the platform and the fall safeguard must be checked for faults in accordance with additional safety requirements (see maintenance section). The lifting platform may only be put back into operation if the fall safeguard is in working order.**

6.5 **Foot protection**

As the vehicle contour projects far beyond the complete platform at all times, no foot protection is necessary on the lifting platform. The danger zone arises outside the sphere of influence of the lifting platform.

7 Maintenance

Maintenance work must be performed at the specified maintenance intervals by instructed personnel.
Do not use flammable or aggressive fluids or media for cleaning, as this may damage the paintwork and the air bellows.

For the lifting platform to have a long service life and continuous availability for use, the following points must be observed:

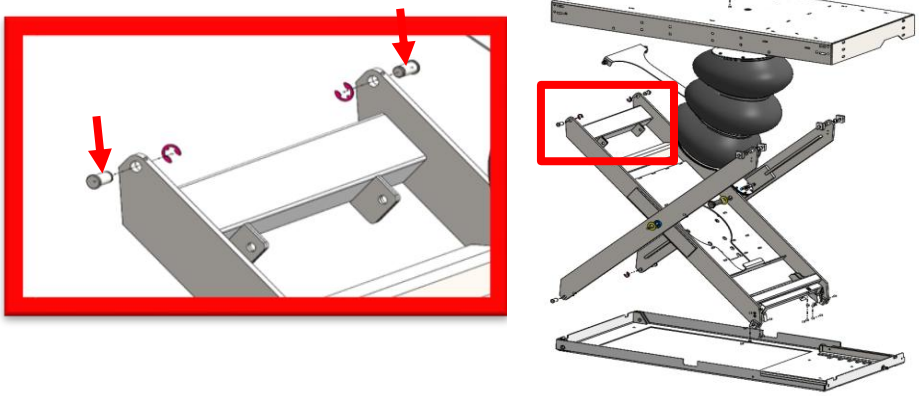
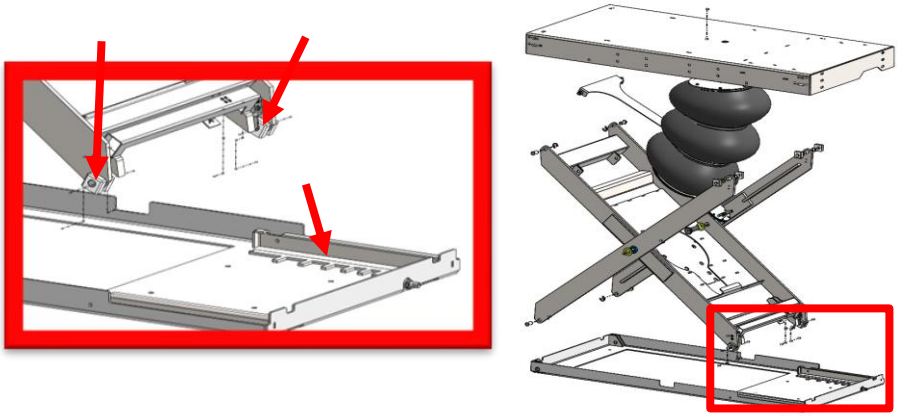
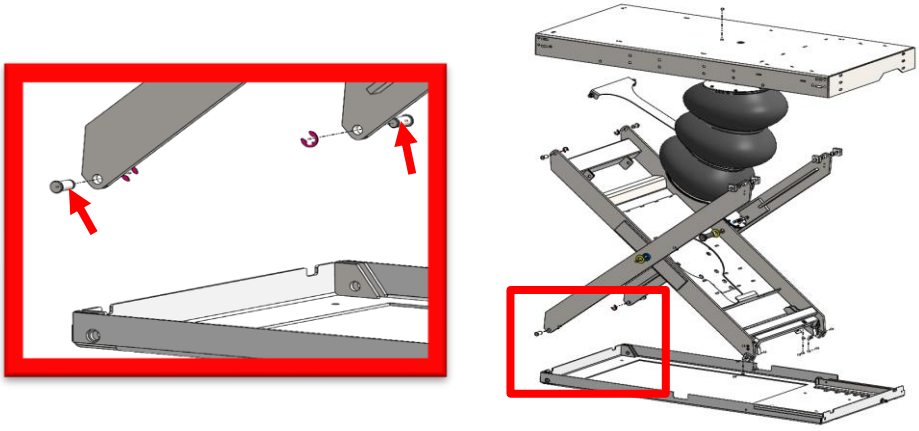
- Only original spare parts and suitable tools may be used.
- Comply with the maintenance intervals.
- Contact your dealer or the customer service department of the manufacturer for all maintenance work that is not specified or shown in these instructions.

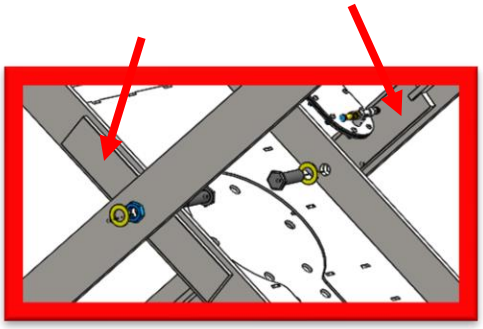
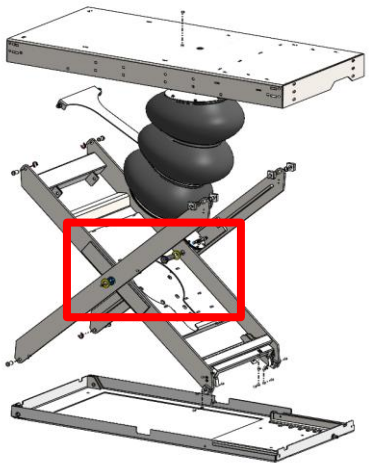
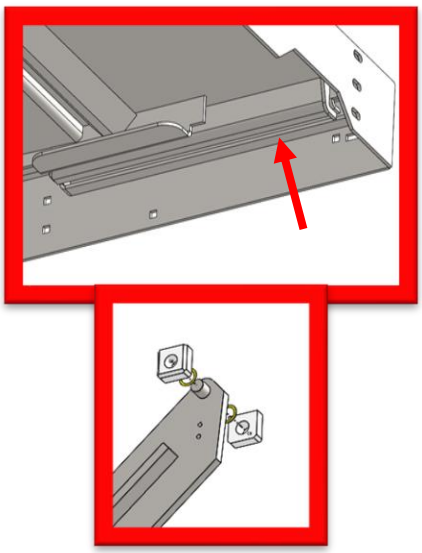
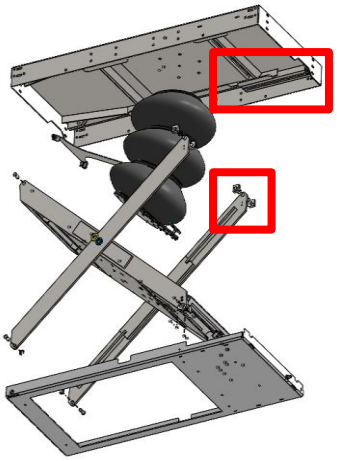
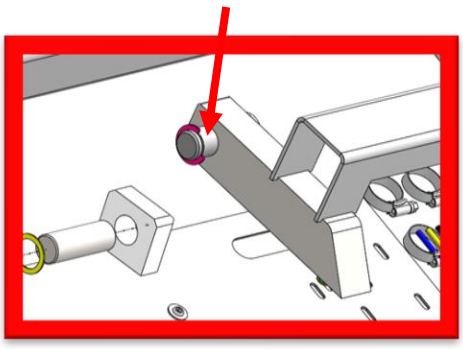
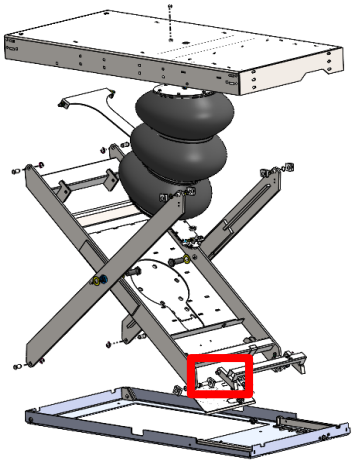
First move the lifting platform to the highest position and safeguard this position with suitable means. Make sure that the compressed air supply is shut off!

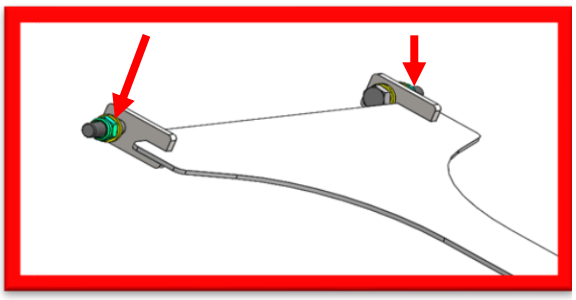
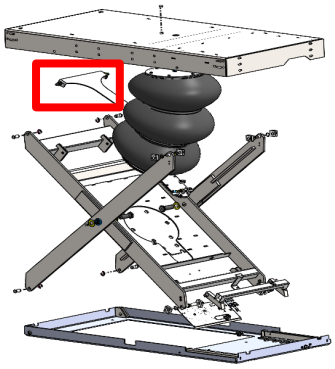
Maintenance interval	Working process	Remark
Monthly Or after approx. 300 lifts	Check all moving parts for wear, clean and grease.	Use silicone-free grease.
	Check air bellows and air hoses for damage.	Air bellows may have hairline cracks. Critical damage is when the inner fabric becomes visible.
	Check valves and pneumatic connections for leaks.	Leak detection spray can be used.
	If necessary, check foundation plugs for secure seating.	
	Check middle pin for secure seating.	Tightening torque: 100 Nm
At least annually Or after approx. 3600 lifts	Regular safety inspection	For inspection protocol and instructions, see chapter “**Regular safety inspection**”
Every 2 years Or after approx. 7200 lifts	Replace safety valve	To be carried out by “competent person” only. Using an incorrect or damaged safety valve is a major safety risk.
Every 6 years or after approx. 22000 lifts	Replacing the air hoses	To be carried out by “competent person” only.
After 10 years	General assessment of the remaining service life.	To be carried out by a service technician from Herkules Hebetechnik GmbH or a suitably authorised person.

7.1 **Checking and lubrication points**

The following points must be fulfilled during each maintenance:

Check bolts for wear and fit, clean and lubricate.	
Check sliding blocks for wear and secure fit, replace if necessary. Clean and lubricate the slide surfaces.	
Check bolts for wear and fit, clean and lubricate.	

Clean and lubricate the slide surfaces of the inner and outer shears.	 
Check the sliding blocks for wear, replace if necessary. Clean and lubricate the slide surfaces.	 
Check fall safeguard bolts for wear, clean and lubricate.	 

Check screwed connection for tightness, clean and lubricate.	 

8 Inspection

8.1 Regular safety inspection

The safety inspection is required to guarantee the operational safety of the lifting platform. It shall be carried out at intervals of no more than one year after initial commissioning.

The following notes must be observed for regular maintenance and safety inspections in accordance with §10 of the Ordinance on Industrial Safety and Health.

The regular safety inspection must be carried out by a competent person. It is recommended that this be done at the same time as any maintenance.

Use the inspection report on the following page for documentation.

Notes on various points:

Sticker present: The following stickers should be legible and visible:

1. Type plate
2. Nominal load
3. Information sign for support arms (only for DUO platforms)
4. Quick reference guide
5. CE mark

Function of the safety valve (4.5 bar): To be checked by inflating the air bellows while observing the manometer. After reaching the maximum pressure of 4.5 bar, the safety valve must trip and release the excess pressure.

Fall safeguard function: The fall safeguard must always slide over the teeth as parallel as possible. Only when lowering the platform must the fall safeguard be raised by the cylinder so that the platform can be lowered. As soon as the control lever is released and the exhaust air is interrupted, the fall safeguard must drop down again.

CE stop function: When lowering the platform, the platform must stop automatically at a lifting height of approx. 250mm. The platform can only be lowered further by releasing the control lever and operating it again, accompanied by an audible warning signal.

Function of the support arms: Tight fit and good rotational mobility must be checked. The support arms should always be inserted into the bushing with the support bolt at its maximum.

Tightness of the pneumatic system: To check the tightness of the pneumatics, the lifting platform should be lifted under load. If the lifting platform does not change its position within a period of 5 minutes (DGUV §3.2.4.4 point 6), the pneumatic system can be considered as sufficiently tight.

Safety inspections report

Machine type	
Serial number	

Test step	OK	Not OK	Follow-up Inspectio	Remark
Operating instructions present				
Type plate legible				
Load capacity sticker readable				
Mains pressure sticker readable				
Quick reference guide sticker				
“Lift/Lower” sticker legible				
All screws tight				
Scissor bolt safeguarding (torque 100 Nm)				
Condition of all hoses				
Function of the safety valve (4.5 bar)				
Manometer function				
Dead man's switch of the control lever				
Fall safeguard function				
General condition of the bearing structure				
CE stop function (if present) (status, perceptibility of the audible warning signal)				
Function of the support arms (DUO)				
Condition of air bellows				
Tightness of the pneumatic system				

Result	
	Commissioning not permitted
	Commissioning permitted, defects to be rectified before:
	Commissioning permitted

Safety inspection carried out on: _____

Name and signature of the tester: _____

Name and signature of the operating company/test taker: _____

9 Conduct in the event of a fault

9.1 Possible faults and remedial measures

Fault	Possible source of error	Fault rectification
Lifting platform does not lift off the floor.	Supply of compressed air interrupted.	Open the ball valve. Resolve hose pinch. Check mains compressed air.
Lifting platform does not continue to lift.	Maximum nominal load exceeded.	Reduce load.
	Maximum lifting height reached.	
	Safety valve blows off.	Check the manometer for pressure. Check the safety valve.
	Compressed air supply disturbed (see above).	See above
Platform does not lower any further.	Platform is in fall safeguard.	Raise the platform a little so that the fall safeguard is lifted out of the notch, then lower it again.
	The platform has hit an obstacle.	Raise the platform again, remove the obstacle, lower the platform.

If faults persist that cannot be eliminated by the above measures, the customer service must be notified. For this purpose, the following information shall be provided:

- Article description
- Serial number
- Year of construction
- Precise description of the fault
- Image or video material a benefit

Customer service:

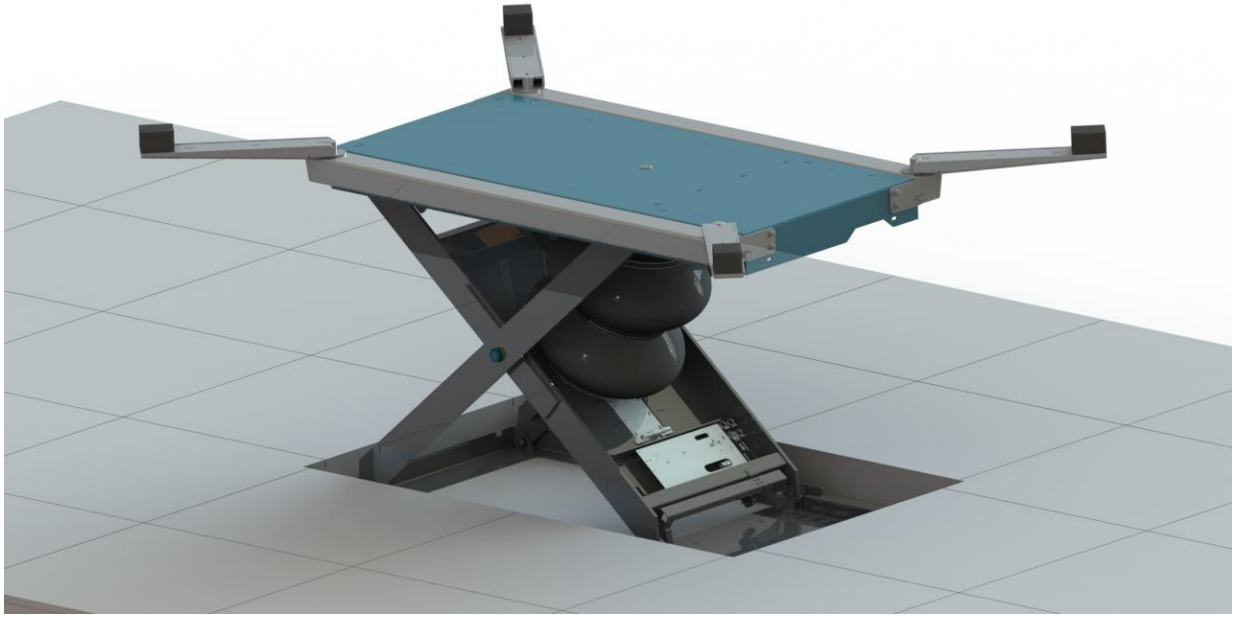
Herkules Hebetechnik GmbH
Miramstraße 68b
D-34123 Kassel, Germany
Tel: +49 (0)561 58907-70
Fax: +49 (0)561 58907-34
E-mail: service.de@hedson.com

When replacing defective parts, only use original spare parts from the manufacturer, otherwise the warranty claim may be lost.

10 Technical data

	HM3513-01/61	HM3513-04/64
Load-bearing capacity [kg]	3500	
Load distribution max.	3:2 (against or in direction of travel)	
Unladen weight [kg]	670	
Lift time [s]	Max 30	
Lowering time [s]	Max 30	
Useful lift [mm]	1150	
Total height with support arm	1300	1150
Base body dimensions [mm]	1988 x 921	
Mains pressure	6-8 bar	
Pressure limitation by safety valve	4.5 bar	
Safety devices		
Fall safeguard	X	X
Safety valve	X	X
CE stop	Optional	Optional
Forced ventilation (pneu.)	Optional	Optional
Stroke limiter (pneu.)	Optional	Optional

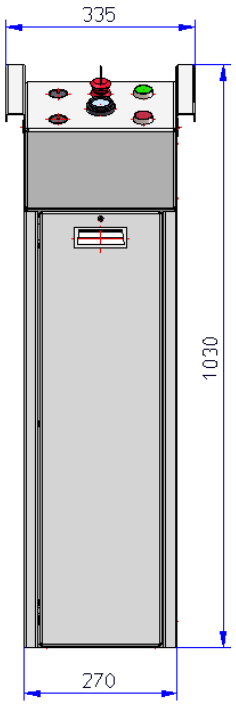
Platform dimensions can be taken from the dimension sheets, see below.

Versions	
HM3513-01 (floor-mounted)	
	
-61	Additionally booked version for industrial use
HM3513-04 (floor installation)	
	
-64	Additionally booked version for industrial use

11 Accessories

11.1 Control column

The control column is an alternative control unit that replaces the hand control unit. It consists of a control housing about 1 metre in diameter, which is firmly anchored to the base. It has easy-to-operate push buttons as operating elements. A manometer is mounted on the control module, with which the air pressure in the air bellows can be easily checked at any time.



Control column

11.2 ATEX certification

It is also possible to purchase the lifting platform with ATEX certification. This must be specified in the order. This triggers an additional assembly process, where the lifting platform is equipped with the necessary additional material. Furthermore, the platform is subjected to an additional inspection according to the ATEX directive and thus certified in order to be able to fulfil the specified protection during installation.

11.3 Forced ventilation

The explanation of the function can be found in the chapter “**Pneumatics and air bellows**”.

11.4 CE stop

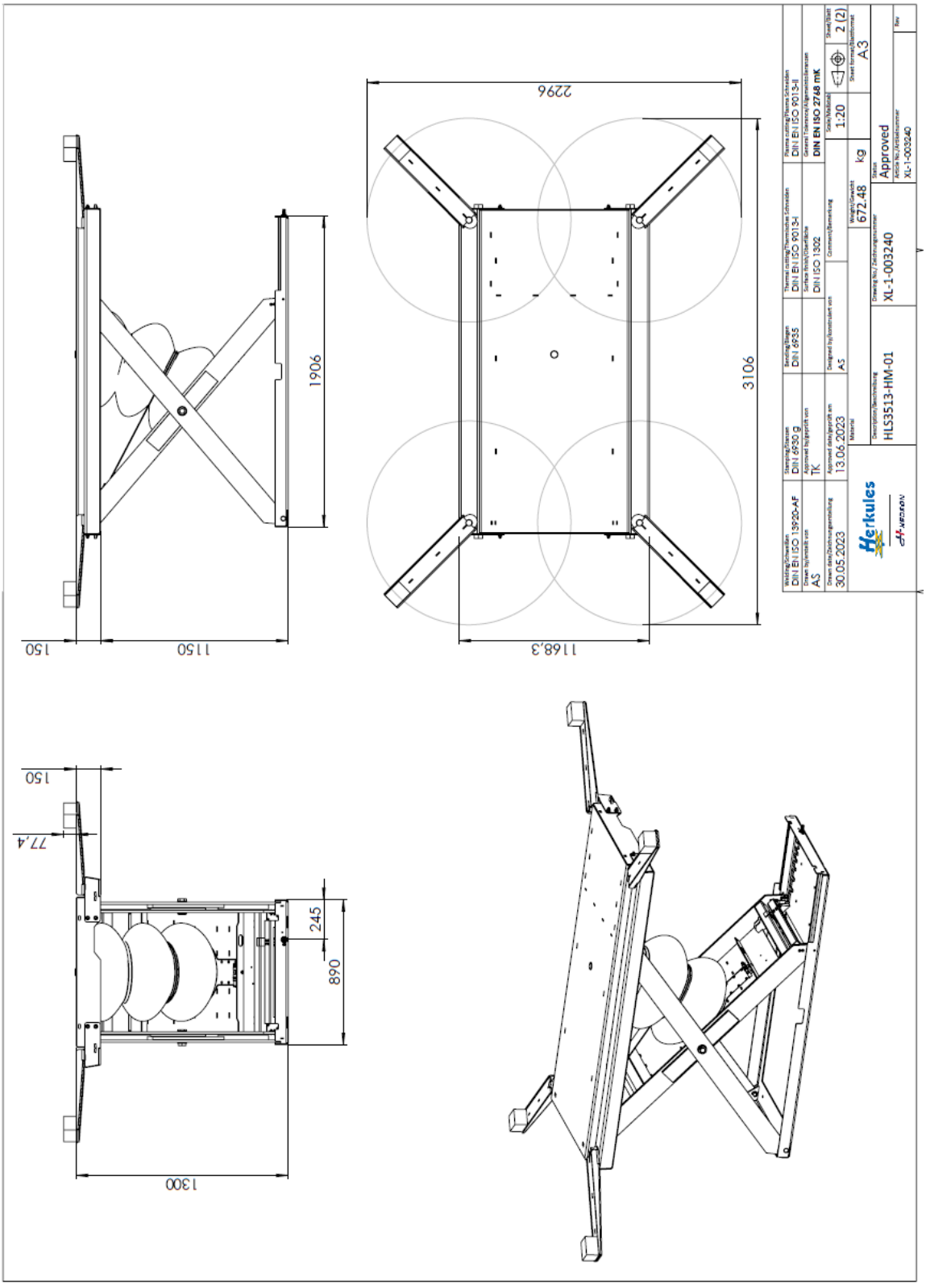
The explanation of the function can be found in the chapter “**Pneumatics and air bellows**”.

12 Spare parts

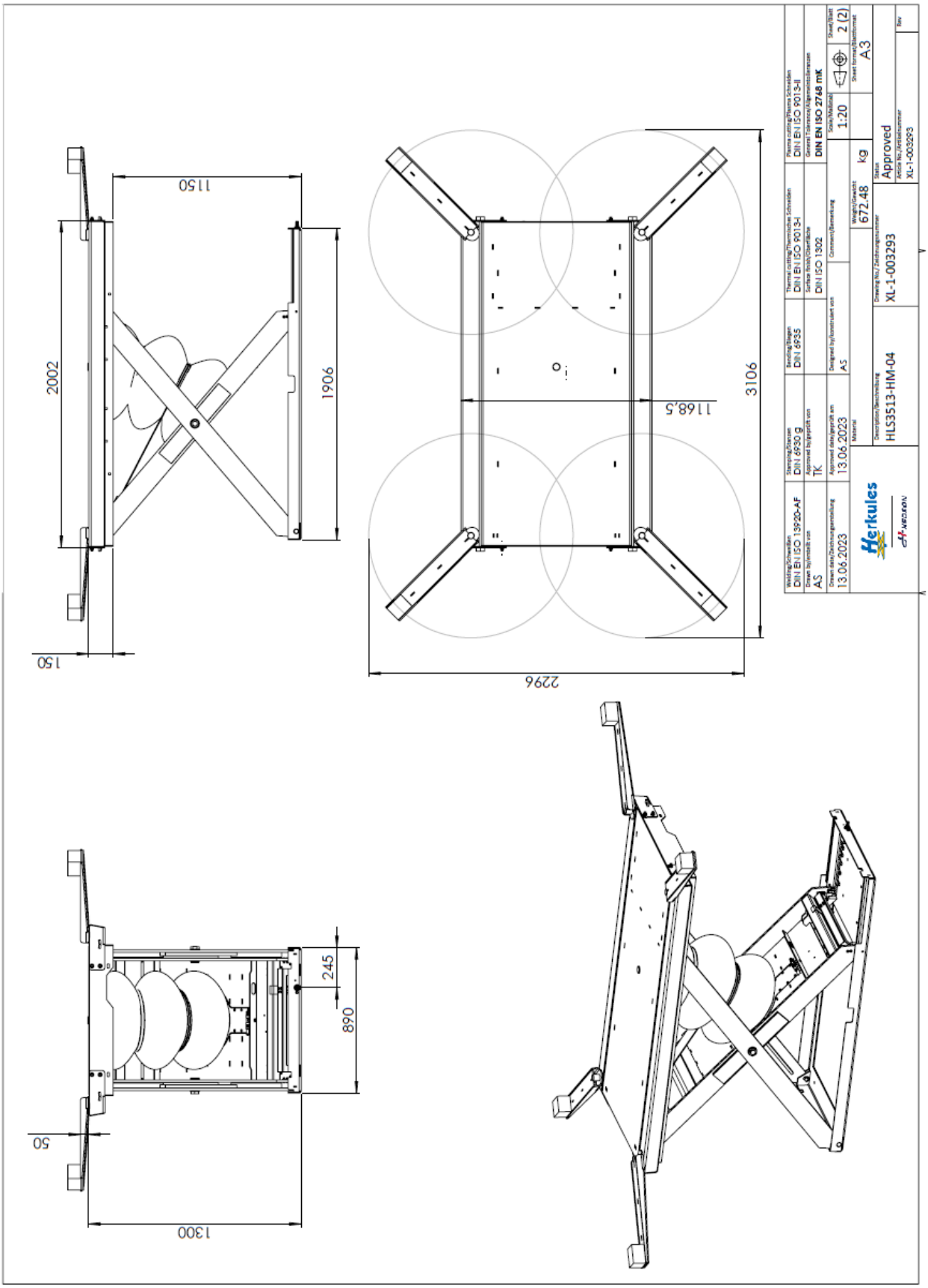
See spare parts list.

13 Dimension sheets

13.1 **HM3513-01/61**



13.2 **HM3513-04/64**



14 Additional information

Also visit our website: http://www.hedson.com

15 Notes