Heavydrive®.com

YOUR TRANSPORT AND LIFTING SPECIALIST

VSG Konter 6000-6 DT

Operating Instructions

Heavydrive® LLC • 3414 Peachtree Road NE, Suite 1500 • Atlanta, GA 30326 • Phone: + 1 (470) 407 4352 • www.heavydrive.com

Contents

Preface

These operating instructions are intended to help you become familiar with the VSG Konter 6000-6 DT and to use it as intended.

These operating instructions contain important instructions about operating the VSG Konter 6000-6 DT safely, effectively, and economically. Observing them helps to avoid repair costs and down time and to increase the reliability and working life of the VSG Konter 6000-6 DT.

These operating instructions must be supplemented by additional instructions due to existing national accident prevention regulations.

These operating instructions must always be available at the site of use of the VSG Konter 6000-6 DT

These operating instructions must be read and observed by every person responsible for doing work on the VSG Konter 6000-6 DT, for example:

- operation, including equipping, troubleshooting during operation, removal of production waste, care
- maintenance (servicing, inspection, repair) and/or
- transport.

In addition to the operating instructions and binding accident prevention regulations applicable for the country of use and the application case, the recognised technical rules for safe and professional work must also be observed.

If you discover errors when reading these operating instructions, or if you have further comments or suggestions, please contact:

Heavydrive LLC
3414 Peachtree Road NE Suite 1500
Atlanta, GA 30326

The management appreciates your cooperation.

Technical Description

The VSG Konter 6000-6 DT is a combination of supporting tubes and movable counterweights with an energy supply (battery and mains incl. charging device). An adapter plate which makes it possible to attach various vacuum lifters is attached to the front of the supporting tubes. This cross arm is intended for flexible use on construction sites, on various crane systems, etc., anywhere where no 220 to 240 volt connection is available.
The movable counterweights are operated by a radio remote control.
In detail, the VSG Konter 6000-6 DT consists of a 2-strand hoisting chain to which the supporting tubes are attached. An adapter plate is attached to the supporting tubes as well as the movable counterweights and geared motor, the battery charger and batteries.
A voltage display indicates the battery charge level.
The charging circuit voltage for the charger is 220-240 volt AC (50/60 Hz).
The batteries are maintenance-free and enclosed; they are totally discharge-safe.

Mode of operation

Attach the 2-strand hoisting chain to a crane.
Then remove the shelf base from the cross arm.
When this has been done, the vacuum suction system required is secured above the adapter plate with three positioning bolts and attached to (load plus vacuum suction system = total weight) the appropriate amount of counterweights
Switch the device to On on the main switch and use the radio remote control to position the counterweights so that the VSG Konter 6000-6 DT is in a horizontal position.

Mark this position of the counterweights with the adjustable position indicator.

When this has been done, the goods to be transported can be picked up by the vacuum suction system. During this process, the counterweights have to be moved in order to keep the VSG Konter 6000-6 DT in a horizontal position.
After the load has been set down, the counterweights are moved back to the position which was previously marked.

The load can now be released from the vacuum suction system.

Basic safety information

Warning instructions and symbols

The following terms and symbols are used in the operator's manual for especially important information:

Note Special information regarding the economical use of the device

Caution Special information regarding requirements and prohibitions for preventing damage.

Danger Information or requirements or prohibitions for protecting people or preventing extensive damage.

Authorised use

The VSG Konter 6000-6 DT has been constructed in accordance with the state of the art and recognised safety regulations. Nevertheless, its use may result in danger to life and limb of the operator or third parties and impairment of the machine or other property may occur.

The machine may only be used when in technically perfect condition, as authorised. The user must be conscious of safety and risks and act in accordance with the instructions. Failures which can interfere with safety must be eliminated immediately.

The VSG Konter 6000-6 DT is exclusively for transporting gas-tight, dry materials with firm, flat surfaces. Other use or use going beyond this, for example transporting gas-permeable materials, film-covered materials, wet materials, or rotating or swivelling large or heavy transported goods is not authorised. The manufacturer/ supplier is not liable for the damages resulting from this. The risk is carried by the user.

Use as authorised use also includes complying with the operating instructions and the inspection and maintenance conditions.

Organisational measures

Always keep the operating instructions within reach at the site of use.

In addition to the operating instructions please observe and teach any other generally applicable statutory regulations concerning accident prevention.

Such obligations can also include providing and wearing personal protective equipment.

Please supplement the operating instructions with instructions including supervision and reporting obligations taking into consideration operational corporate circumstances, e.g. relating to work organisation, work processes, personnel used.

The personnel authorised to operate the device must read the operating instructions, particularly the chapter about safety instructions before starting work. It is too late to read the instructions if work has already been started. This applies in particular to personnel who only work on the machine occasionally, e.g. for equipping it and carrying out maintenance work.

Occasional checks should be carried out to ensure that the members of personnel follow the instructions and work in a safety-conscious manner and are aware of risks.

If necessary or if required by regulations, personal protective equipment should be used. Glass should only be transported with the appropriate protective equipment (safety shoes, protective gloves, wrist protectors, helmet etc.) A helmet should be worn at all times when transporting goods above head height.

All safety and danger instructions on the device should be complied with.

All safety and danger instructions on the device should be kept complete and in legible condition.

If there are any safety-related changes to the device or its operation, the device should be stopped immediately and the malfunction should be reported to the relevant office or person.

No changes, attachments or upgrading work that could possibly impair safety should be carried out on the machine without the consent of the suppplier. This also applies to the installation and setting of safety equipment and valves as well as to welding on load-bearing parts.

Spare parts must fulfill the technical requirements specified by the manufacturer. This is always guaranteed with original replacement parts.

Vacuum hose lines should be replaced at the specified intervals or at appropriate intervals, even if there are no recognisable safety defects.

Compulsory deadlines or those specified in the instructions for recurring tests / inspections should be complied with

Appropriate workshop equipment is absolutely necessary for performing the maintenance measures.

Personnel selection and qualification

Work on/with the machine may only be performed by reliable personnel. The legal minimum working age should be observed.

Use only trained or instructed personnel; responsibilities among personnel should be clearly established for operation, equipping, maintenance, and repair.

Ensure that only authorised personnel works on the machine.

Specify a person who is responsible for operating the machine and give him/her the opportunity to refuse to comply with the safety instructions of third parties.

Personnel being trained or instructed, or who are taking part in a general training programme, may only work on the machine when under the constant supervision of an experienced person who is familiar with this situation.

Work on the electrical equipment of the machine may only be performed by an electrician or by trained personnel under the direction and supervision of an electrician in accordance with the rules of electrical engineering.

Safety instructions on particular operating phases

Normal operation

Avoid all unsafe work practices.

Before starting work, become familiar with the working environment at the site of use. The working environment includes impediments in the work and traffic area, the load bearing capacity of the floor, and cordoning off the worksite from public traffic areas.

Take measures to ensure that the machine is only operated when safe and functional.

Check the machine for externally recognisable damages and flaws at least once per shift. Report any changes that occur (including those to the operating behaviour) immediately to the responsible office/person. If necessary, stop the machine immediately and secure it!

During malfunctions, the machine should be stopped immediately and secured. Malfunctions should be corrected immediately.

The switching on and off procedures should be complied with, and the inspection displays should correspond to the operating instructions.

Always stop work if it becomes dark or if visibility is poor!

Special work

The setting, maintenance, inspection activities and deadlines, including information on replacement of parts and modules stipulated in these operating instructions must be observed. These activities may only be performed by authorised specialists.

Only perform maintenance and repair work when the machine is positioned on flat ground with sufficient bearing capacity and is secured so that it cannot roll away or collapse.

Clean machines, particularly connections and screw connections at the beginning of maintenance/repair work. Do not use aggressive cleaning agents! Use lint-free cloths for cleaning.

Never clean the machine with water or steam jet (high-pressure cleaner).

After cleaning, inspect all vacuum lines for leaks, loosened connections, abrasion and damage. Repair any flaws immediately!

Always tighten screw connections loosened during maintenance and repair work.

Safety instructions for special types of danger

Electrical power

Use only original fuses with the specified current strengths. Switch off the machine immediately during malfunctions to the electrical energy supply.

Work on electrical equipment or operating materials may only be performed by an electrician or by trained personnel under the direction and supervision of an electrician in accordance with the rules and regulations of electrical engineering.

Machine and system parts on which inspection, maintenance, or repair work must be performed, must be switched free of current if required. First check the switched off parts to ensure that they are free of voltage, then ground and short-circuit them, and insulate neighbouring live parts.

The electrical equipment of the machine must be checked regularly. Flaws such as loose connections and melted cables must be repaired immediately.

Oils, greases, and other chemical substances

Observe the safety regulations applicable for the product when using oils, greases, and other chemical substances!

Commissioning

Note

- Do not store the VSG Konter 6000-6 DT in a damp or very cold (frost) environment. Otherwise there is no guarantee that the pumps installed in the vacuum lifters will function properly.

Caution

- Always ensure that the suckers of the vacuum lifters are not placed on sharp edges because this could damage the sucker lips. This would lead to leaks in the suction circuit, impairing the functioning of the device.
- Never place the machine with mounted suckers with the rubber surfaces of the suckers on sandy or similar ground. This could damage the sealing lips of the suckers. This would lead to leaks in the suction circuit, impairing the functioning of the device. Or the grains of sand or similar substances could be pressed into the rubber surfaces, leading to damage to the upper surface of the transported goods.

Danger

- Do not allow heavy rain to fall on the VSG Konter 6000-6 DT.
- Do not place the VSG Konter 6000-6 DT in water.
- Do not convey loads over persons or machines. Cordon off the area under hanging transported goods with wide clearance.

Charging the battery

Compare the connection on the power supply network and check the voltage, current and mechanical connection (plug connection) with the necessary data for the vacuum pumps. If they do not correspond, the machine may not be operated.

Connect the plug to the supply network using an extension cable.

The charging procedure can be checked in voltage display after pressing the test button.

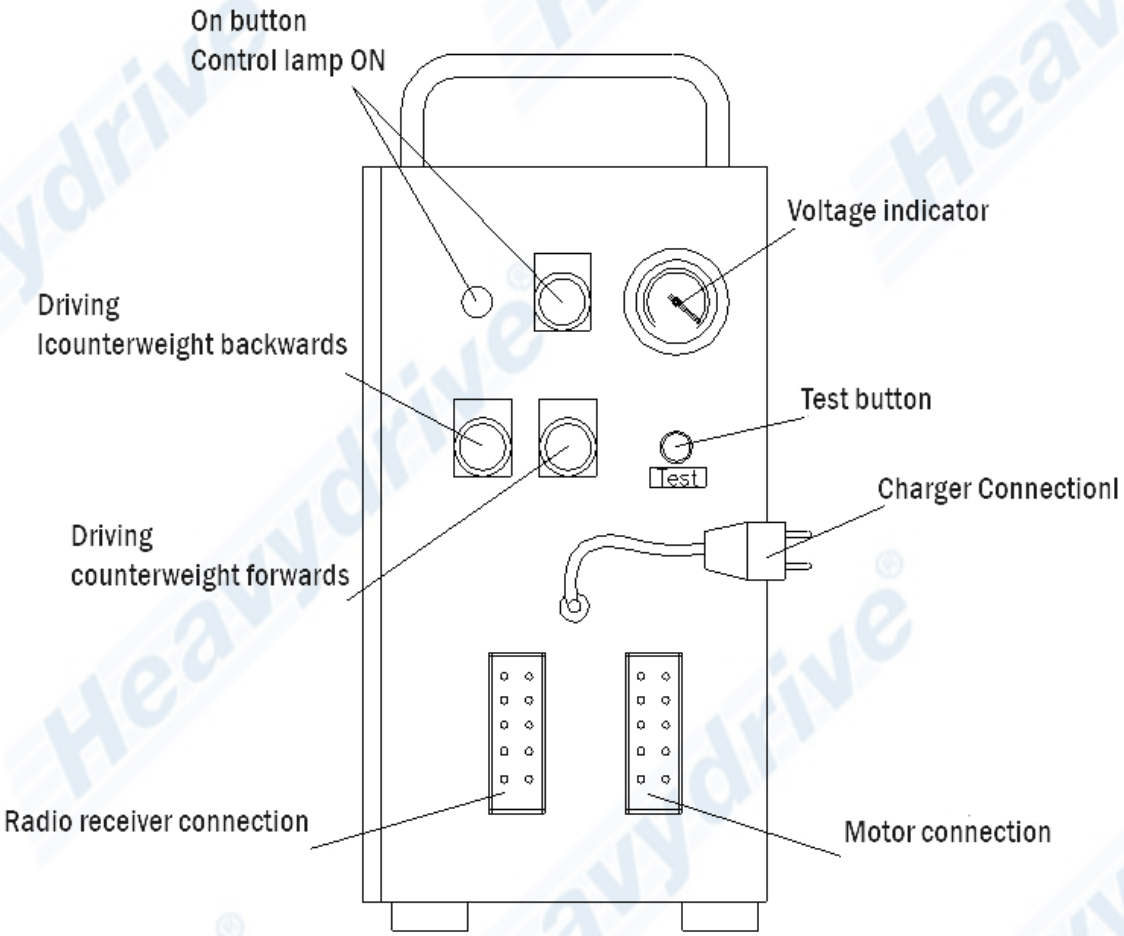
After the charging procedure is completed, a value of 100% must be visible in the voltage display when Test button is pushed.

The batteries are charged after a maximum of 12 hours.

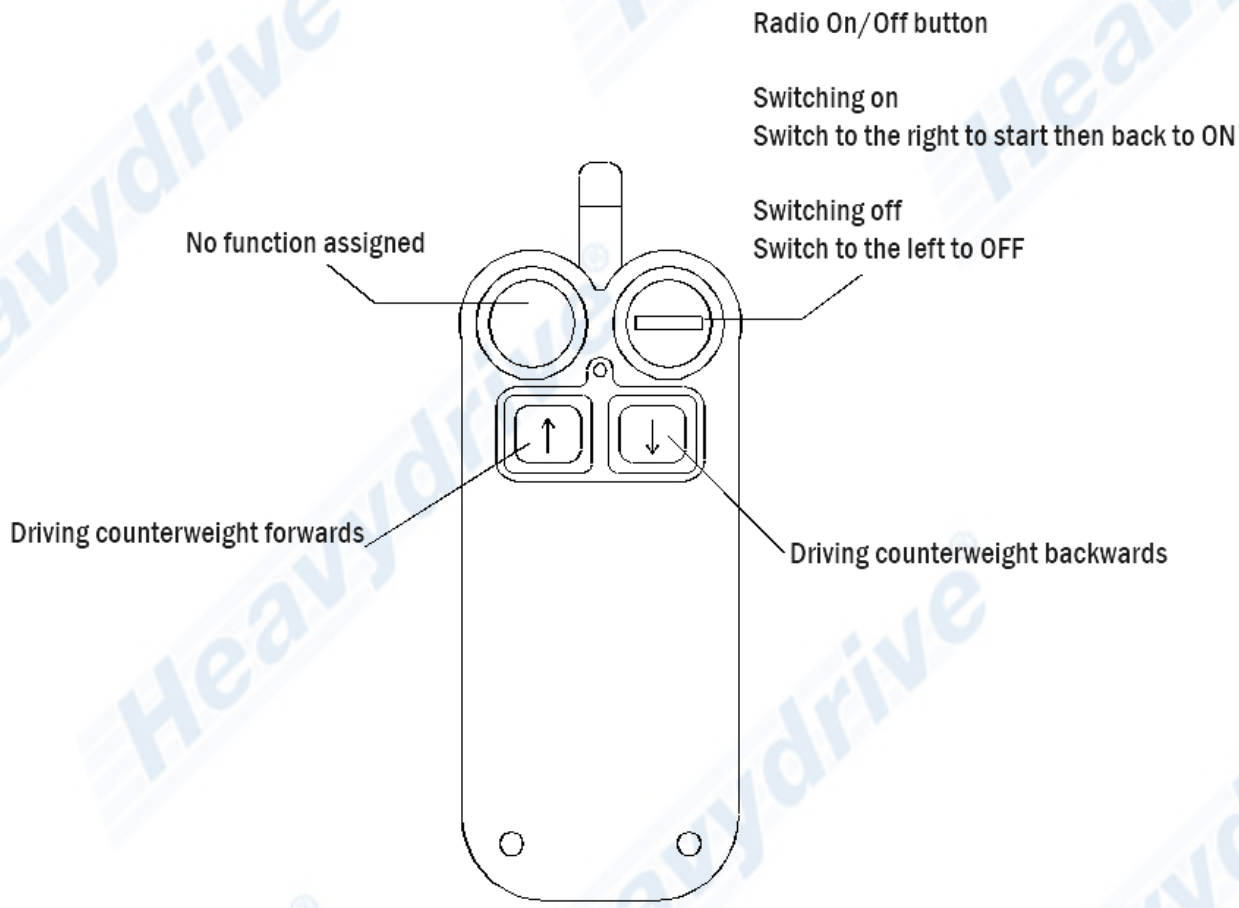
Remove the extension cable from the supply network.

This completes the charging procedure.

The control elements



The radio remote control

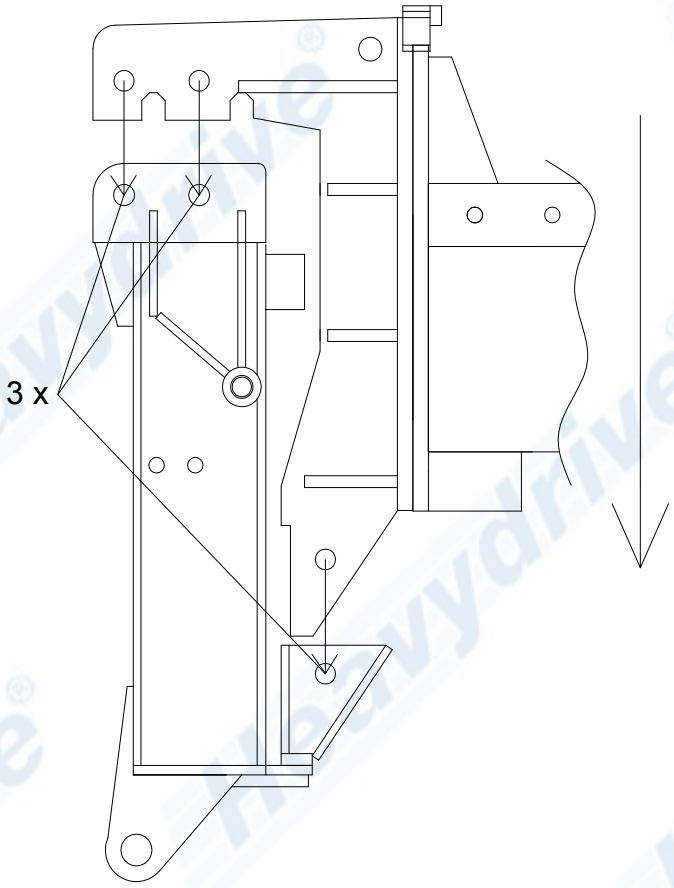


Attaching the vacuum lifters

When attaching the vacuum lifters, make sure that the control elements on the device are not damaged.

All three mounting bolts must be used.

After the mounting bolts have been fixed, the safety pins must be attached to the bolts.



The 2-strand hoisting chain

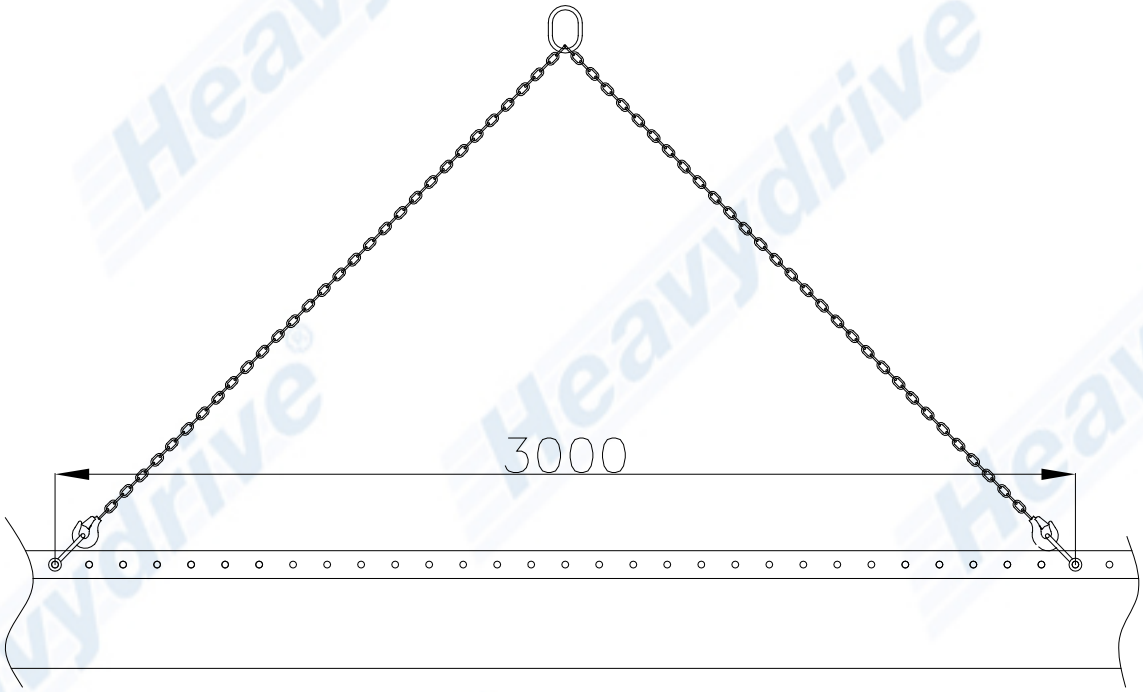
Load capacity 2-leg hoisting chain = 9500kg

When securing the 2-leg hoisting chain, make sure that the length of the chains in the individual chain legs are the same length.
The top suspension point should be approximately in the middle of the cross arm.

Attention
If multi-strand chains are used in which the individual strands have differing angles of inclination and spread and/or the burden of the load is distributed unevenly, the load capacity must be reduced by 50%.

Depending on the load capacity of the vacuum suction system attached and the counterweights attached, it will be necessary to alter the suspensions points on the cross arm in order to keep them in a horizontal position.

Attention
The suspension points of the hoisting chain should be 3 meters apart on the individual cross arms in order to prevent the cross arm from tilting.



Mounting of the weights

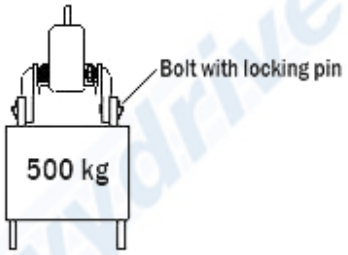
The number of counterweights is determined by the weight of the vacuum suction system and the goods to be transported.

Attention : Bear in mind the permissible load capacity of the vacuum lifters.

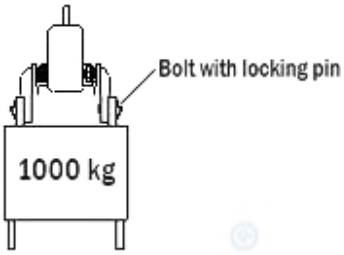
cap. 650 kg at 3530 mm overhang to front chain leg

First of all, the support for the weights is attached to the carriages, then the weights are attached as per the calculation and the installation diagram. Secure the weight supports and the weights with positioning bolts and safety pins.

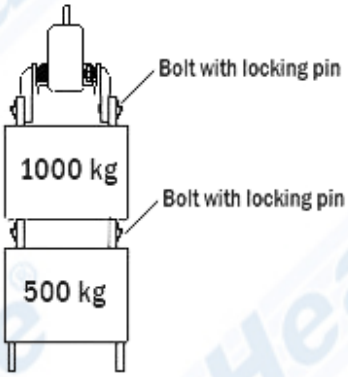
Counterweight 500 kg



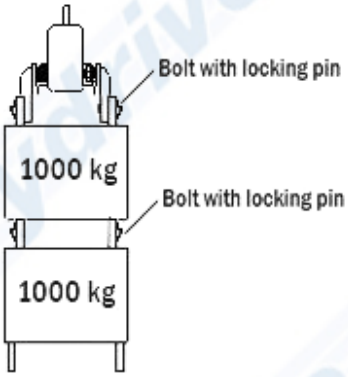
Counterweight 1000 kg



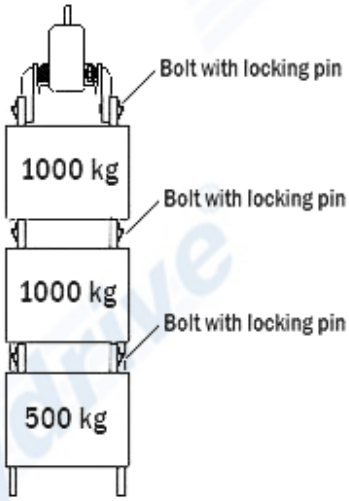
Counterweight 1500 kg



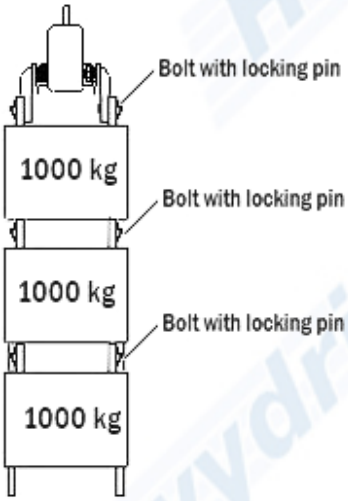
Counterweight 2000 kg



Counterweight 2500 kg



Counterweight 3000 kg



Before transporting

Before transporting, check the whether the crane has enough lifting capacity to lift the VSG Konter 6000-6 DT.

All single weights, i.e. goods to be transported, vacuum suction system, cross arm, counterweights must be added up and compared with the lifting capacity of the crane.

If the total weight of the VSG Konter 6000-6 DT is higher than the maximum capacity load of the crane, no transporting should be carried out.

Operation

Note

- Do not store the VSG Konter 6000-6 DT unit in a damp or very cold (frost) environment. Otherwise there is no guarantee that the pumps installed in the vacuum suction system will function properly.

Caution

- Always ensure that the suckers are not placed on sharp edges because this could damage the sucker lips. This would lead to leaks in the suction circuit, impairing the functioning of the device.
- Never place the machine with mounted suckers with the rubber surfaces of the suckers on sandy or similar ground. This could damage the sealing lips of the suckers. This would lead to leaks in the suction circuit, impairing the functioning of the device. Or the grains of sand or similar substances could be pressed into the rubber surfaces, leading to damage to the upper surface of the transported goods.

Danger

- Do not allow heavy rain to fall on the VSG Konter 6000-6 DT
- Do not place the VSG Konter 6000-6 DT in water.
- Do not convey loads over persons or machines. Cordon off the area under hanging transported goods with wide clearance.

Working Cycle

Attach the 2-strand hoisting chain to a crane.
Then remove the shelf base from the cross arm.
When this has been done, the vacuum suction system required is secured above the adapter plate with three positioning bolts and attached to (load plus vacuum suction system = total weight) the appropriate amount of counterweights.

Switch the device to On on the main switch and use the radio remote control to position the counterweights so that the VSG Konter 6000-6 DT is in a horizontal position; the attachment point of the chain hanger may have to be altered.

Mark this position of the counterweights with the adjustable position indicator.

Attention

Please check the lifting capacity and transport details of the vacuum suction system in the operating instructions.

When this has been done, the goods to be transported can be picked up by the vacuum suction system. During this process, the counterweights have to be moved in order to keep the VSG Konter 6000-6 DT in a horizontal position.

Danger

- Do not convey load over persons or machines.

- If the vacuum in both or only one of the vacuum circuits drops to below -0.65 bar during the transport work, the signal tone sounds. You should then try to put down the load as quickly as possible so that it does not fall down.

The transported goods are guided from the side, which means that the operator stands as far as possible from the transported goods in order to guide them.

In order to rotate or swivel the goods to be transported, please refer to the operating instructions of the vacuum suction system attached. Furthermore, make sure that the rotation and swivelling can be carried out safely and the goods to be transported cannot be damaged.

The goods to be transported are rotated and swivelled from the side. This means that the operator stands outside the area in which the goods to be transported are rotated and/or swivelled.

Attention

After the load has been put down, the counterweights must be moved back to the position which was marked previously by the position indicator.

It is only now that the load can be released from the vacuum suction system.

Switching off

After completing transport work, switch the machine off using the switch

Troubleshooting

Electrical malfunction

Counterweight can no longer be moved

Batteries flat – charge

Fuse defective – replace

Radio control does not work – batteries flat

Limit switch defective - replace

Maintenance

Note

Please note that the trades association requires an annual inspection of vacuum lifting devices by a specialist, in accordance with the accident prevent regulations (VbG 9a-prEN 13155:1998). If you do not have a suitable staff member, we offer a maintenance contract for our vacuum lifting devices which includes annual maintenance including testing and certification. Please contact us for details.

Heavydrive LLC
3414 Peachtree Road NE Suite 1500
Atlanta, GA 30326
Phone: +1 (470) 407 4352

The geared motor

- maintenance free

The chain of the counterweights

- Clean and oil once a week.

The 4-strand hoisting chain

- A safety check corresponding to the operating conditions should be carried out regularly by a qualified person.

Technical data

Manufacturer:	Heavydrive LLC
	VSG Konter 6000-6 DT (battery operated)
Type:	VSG Konter 6000-6 DT
Serial number:	5676 / 5677
Year of manufacture:	2021
Operating instructions:	Art. no: VSG Konter 6000-6 DT
manufacturer/authorised representative After-sales service:	Heavydrive LLC 3414 Peachtree Road NE Suite 1500 Atlanta, GA 30326 Phone: +1 (470) 407 4352

Performance data for VSG Konter 6000-6 DT

Maximum size of the plate material to be transported
See operating instructions, vacuum suction system attached

Size

Height with 2 counterweights: (1000+500 kg)	1300 mm
Width: with counterweights:	650 mm
Length:	7000 mm
net weight of Konter system:	9100 kg
included counterweights:	6 x 1000 kg

Temperature range:

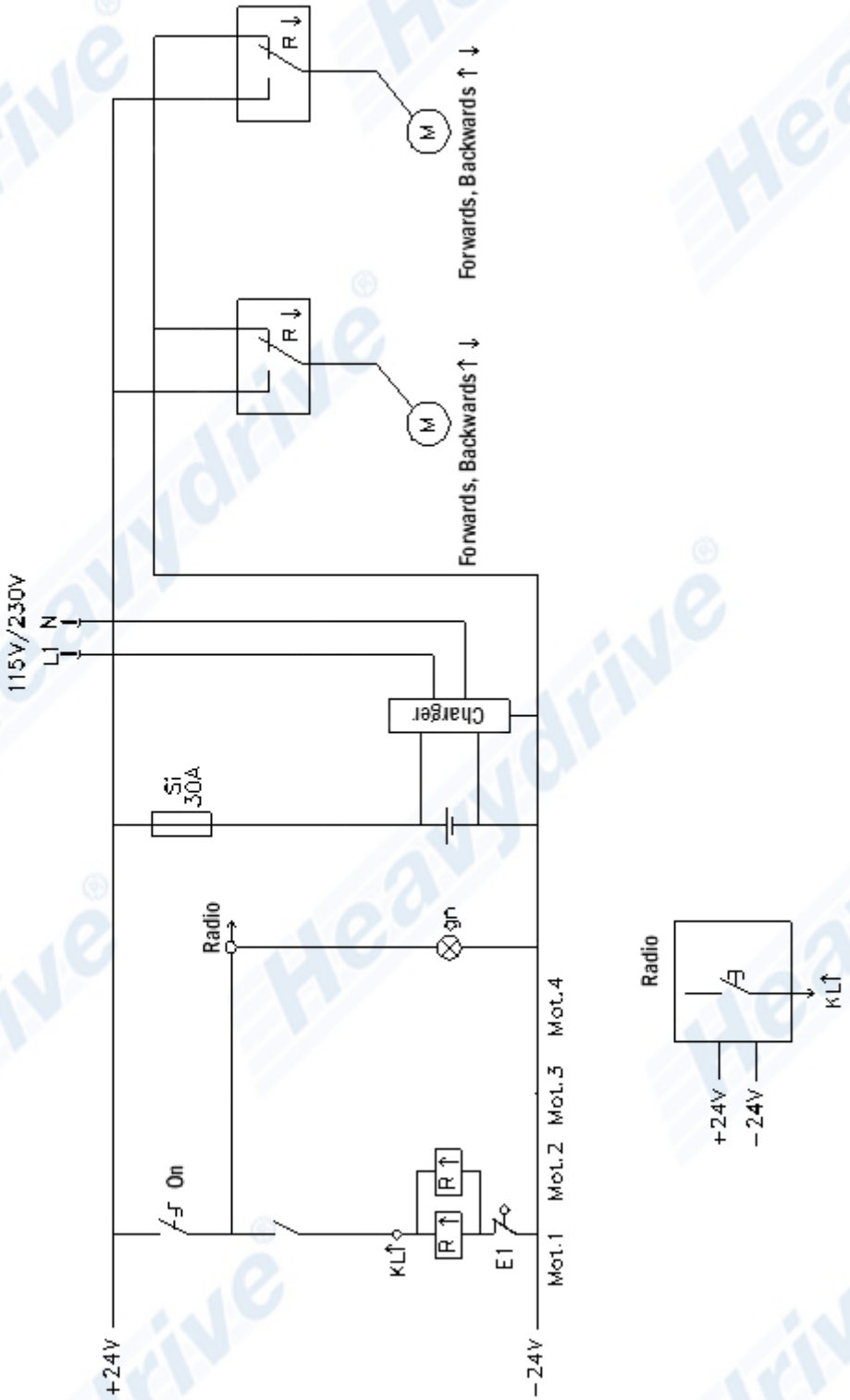
Operating temperature:	1 to +35°C (ambient)
Storage temperature:	-5 to +50°C (ambient)

Maximum load capacity 6000 kg

Total weight with counterweights and max. load capacity 9100 kg / 6000 kg

Bearing capacity 4-strand hoisting chain 9500 kg

Wiring diagram VSG Konter 6000-6 DT



Spare parts list for VSG Konter 6000-6 DT

Position	Quantity	Designation
1	1	4-strand hoisting chain, load capacity 9500kg, Pfeifer
2	8	Combined roller D=62.6mm 4.454+AP0, angle
3	2	Double roller chain 16 B-2, 279 links
4	4	Open connecting link with spring clip
5	4	Double chain wheel Z=19
6	2	Taper bush d=25
7	2	Taper bush d=30
8	2	Chain tightener
9	1	Control box
10	2	Battery 12V/38A
11	2	Charger 12V/7A
12	2	Relay
13	4	Limit switch
14	2	Gear i=700
15	2	Electric motor 1800 U/min, 24V