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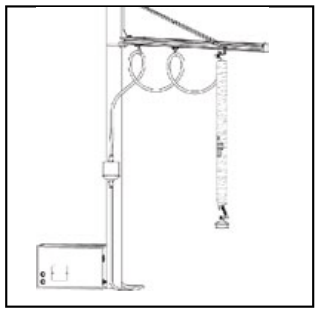
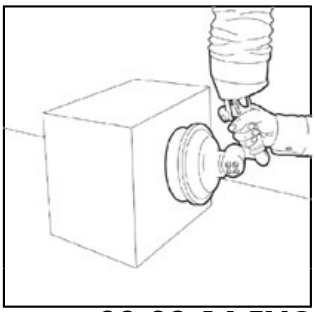
Vaculex TP

Operator's Manual for Vaculex TP

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This product is in accordance with applicable CE directives

1. INTRODUCTION

Vaculex TP is a Swedish invention based on vacuum technology. The lifting aid is specially designed for the express parcel handling type of business. Please contact your local distributor for more detailed information. Vaculex AB's goal is to make your lifting work easier, with an emphasis on efficiency, ergonomy and safety, but also by being at your service to provide rapid troubleshooting via authorized retailers and our support organisation.

The user manual contains a description of safety rules, installation, operation, maintenance and troubleshooting. Custom made versions of Vaculex TP are not covered. Information about these products is provided by your supplier. The equipment supplied must only be used for lifting the objects for which it is intended, as described in the quotation and order acknowledgement. If you want to use the lifting unit for other objects, please contact your supplier.

The peripheral equipment in which Vaculex TP is installed is not described in this manual. Please refer to a separate description of each product.

Vaculex AB constantly endeavours to develop and improve the design and construction of our lifting units. For this reason, we reserve the right to change the design and specifications without prior notice.

All information in the user manual was approved for publication at the time it was written, but is provided with reservation for any typographical errors.

Vaculex AB

Under no circumstances may the design and construction of the vacuum tube lifter be modified without permission from the manufacturer. Always use original accessories/spare parts. Unauthorized modifications and/or non-approved accessories/spare parts can cause serious personal injury during lifting.

2. SAFETY

WARNING!

Operator

- Vaculex TP must only be used by personnel who have read and been able to understand the contents of this manual.
- Never use Vaculex TP when you have used alcohol, other drugs or sleeping pills.

Protective equipment

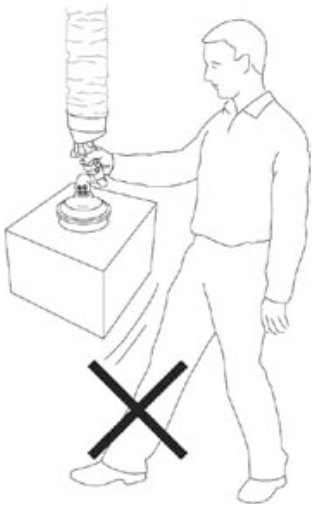
- Use protective shoes

Loads

- Never handle heavier loads than the equipment is designed for.
- Only use Vaculex TP to handle loads which are so strong that there is no risk they could fall apart when lifted.
- Never fix the suction cup to surfaces with loose components, such as address labels.
- Never fix the suction cup to surface which are so slippery that there is a risk the load could slide off the suction cup.
- Be particularly careful when using Vaculex TP to handle sharp objects.
- Never use Vaculex TP to handle loads containing hazardous or explosive contents, without first ensuring that the procedure is risk-free.

Operation

- Vaculex TP with a load must not be operated in such a way that there could be any risk that a falling load could risk injuring anybody.
- Never release a lifted load if it risks causing personal injury or damaging the load.
- Never use the suction cup on a person or an animal.
- Never leave a hanging load unattended.
- Never attempt to use your own strength to influence Vaculex TP with a load in the lifting apparatus.



...SAFETY...

IMPORTANT INFORMATION

- ⓘ Read through the entire manual and get to know the equipment before it is installed and taken into service.
- ⓘ Operate Vaculex TP with light force on the control handle to avoid jerky movements when lifting.
- ⓘ The equipment must be switched off during service and cleaning.
- ⓘ Handle the vacuum pump carefully since it is sensitive to impacts and jolts.
- ⓘ Never operate the vacuum pump without the air filter in place.

3. PRODUCT DESCRIPTION

Vaculex TP

CE

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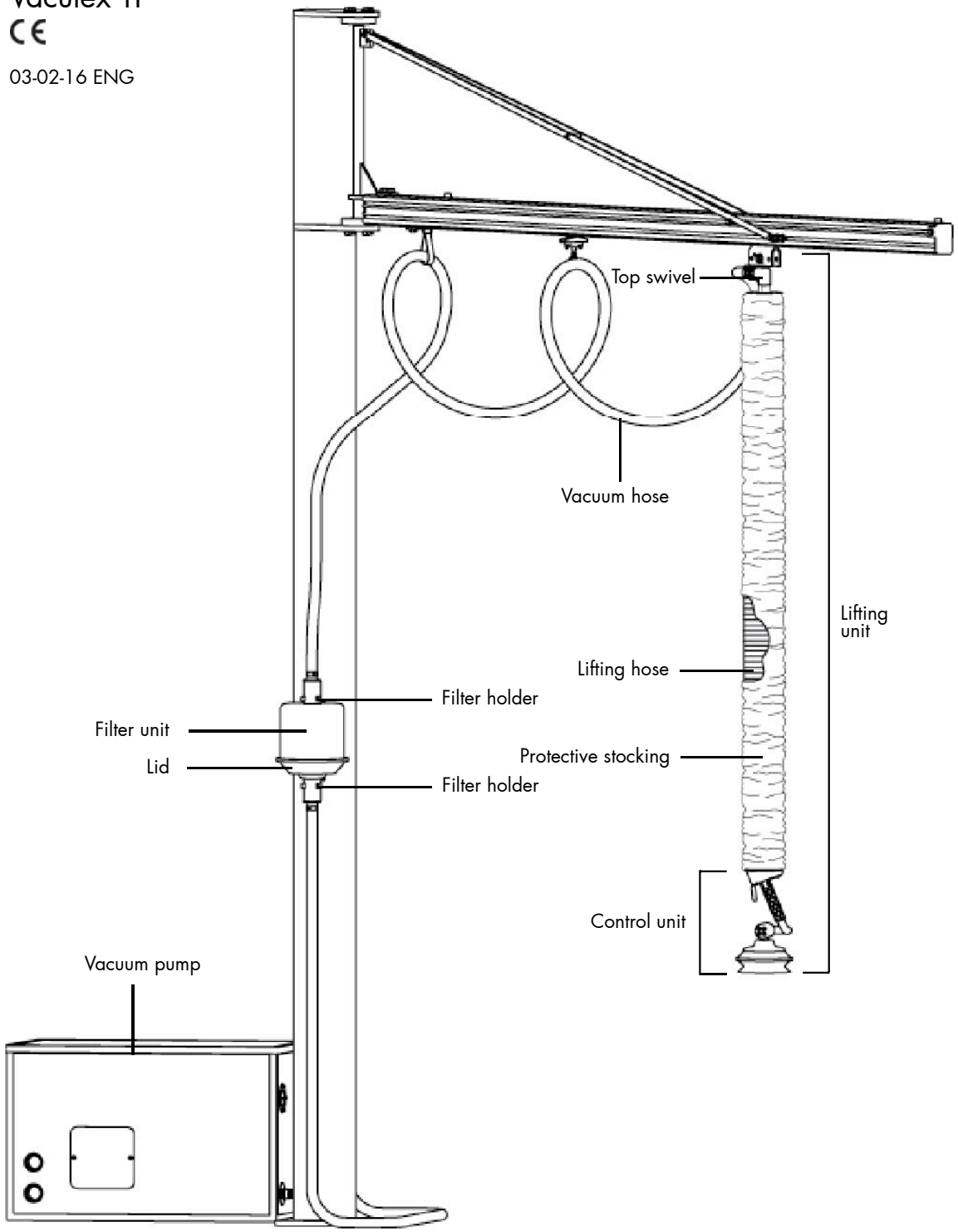

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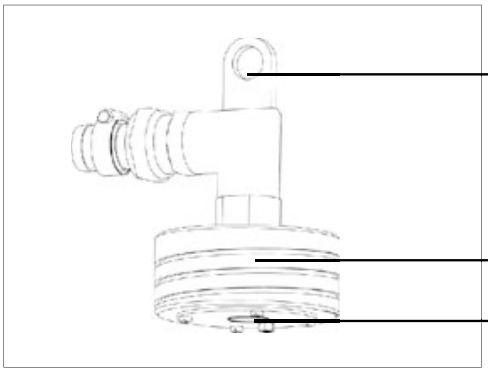
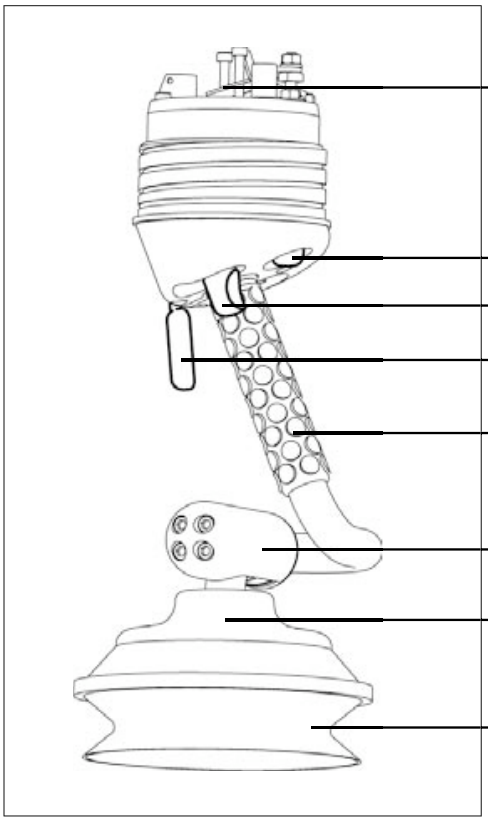


Top swivel

Suspension ear

Plastic adapter

Non-return valve



Control unit

Balance valve

Balance knob

Release button

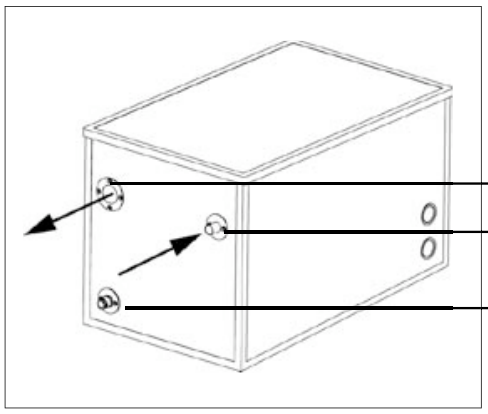
Control lever

Handle

Elbow joint

Bottom swivel

Bellows suction cup



Vacuum pump

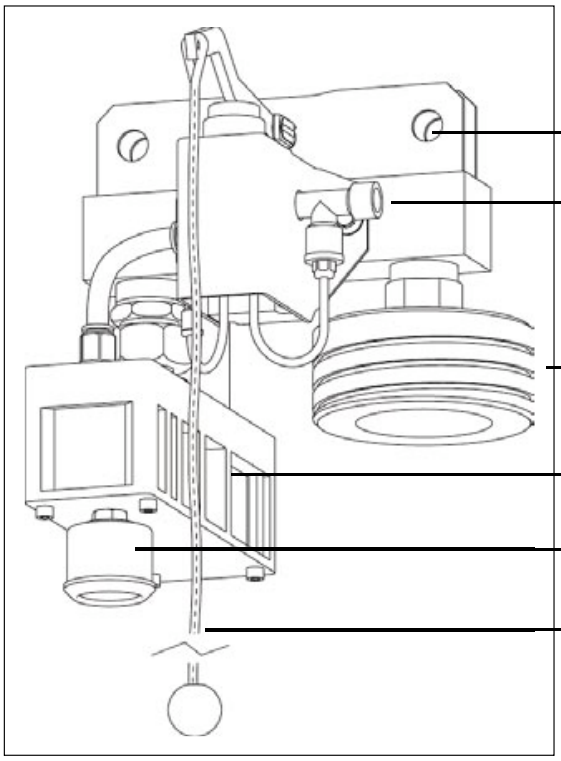
Air outlet

Connection for vaccum hose

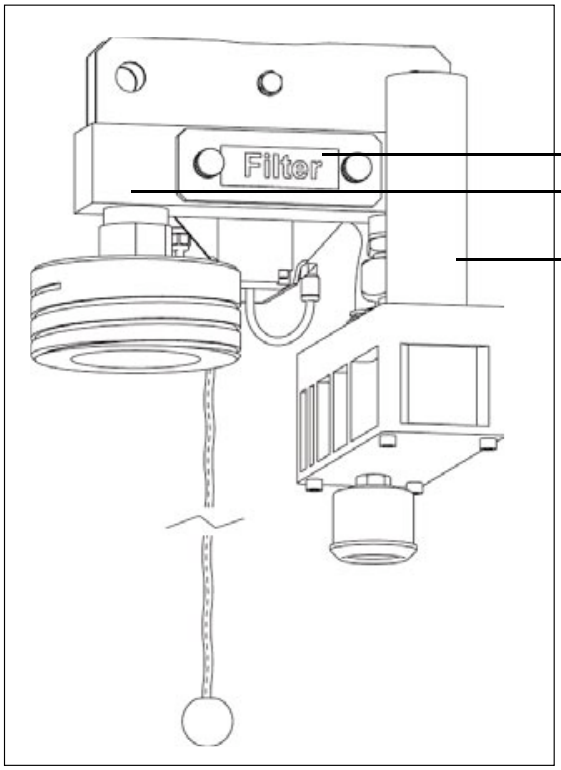
Cable transition

...PRODUCT DESCRIPTION...

Compressed air driven vacuum pump/connection side



Compressed air driven vacuum pump/filter side



4. SETUP

Make sure that the lifting unit supplied coincides with the dispatch note. If anything is missing, please contact your supplier. Many problems during installation and test run can be avoided if you read the manual through before setup. For safety reasons, it is essential that you have thorough knowledge of the equipment. Vaculex TP is supplied with an electrically operated vacuum pump or a compressed air driven vacuum pump. Please observe the instructions for each type of pump.

Safety instructions during setup

⚠ The person responsible for installing the Vaculex TP must ensure that the support system is adequately dimensioned to support the weight of the Vaculex TP equipment itself, its maximum load plus an adequate safety factor.

⚠ A competent electrician must be responsible for electrical installation.

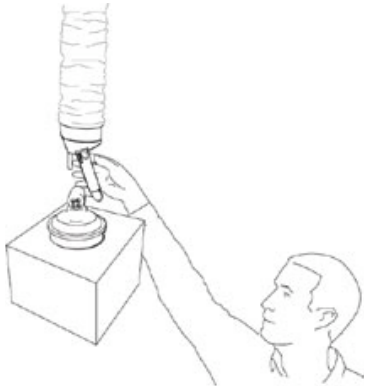
Installing the lifting unit

🛠 The person responsible for the installation must ensure that the support system (such as a traversing crane) is adequately dimensioned to support the weight of the Vaculex TP equipment itself, its maximum load plus an adequate safety factor.

🛠 The lifting unit is suspended from its suspension ear. Make sure that other suspension attachments are sufficiently dimensioned and that they are secured where applicable.

🛠 When the lift unit is suspended, the suction cup should be 100 mm above the surface of the floor. If the suction cup is closer to the floor, the hose must be shortened or the suspension system must be raised. If the suction cup is further away from the floor, the hose must be lengthened or the suspension system must be lowered.

ⓘ Make sure that the lifting unit can be reached by the operator when at its highest position, and that the desired working heights are attained. In other cases, it will be necessary to adjust the length of the lifting hose and/or lifting unit suspension height.



If the ceiling height is low, the lifting hose may have to be cut

Undo the protective stocking by the control unit, remove the black tape and unscrew the lifting hose from the plastic adapter. Measure the amount the lifting hose has to be shortened to give the Vaculex TP the correct height above the ground.

1. Cut the hose and cut the steel wire away.
2. Excess fabric and orange tape should be cut away. By using the procedure shown in the illustration, you will be able to do this without having the steel wire escape from the rest of the fabric.
3. Remove app. 20 mm of orange tape around the steel wire.
4. Remove about 2 turns of the white thread around the cut end.
5. Screw the lifting hose back onto the plastic adapter.
6. Then tape around the hose and plastic adapter with fabric reinforced tape, part no. 700S618. The tape should be tightly stretched.

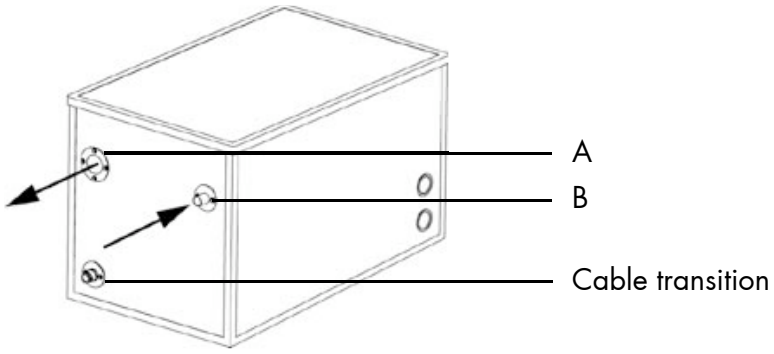
Location of the electric vacuum pump

- Place the vacuum pump as close to the lifting unit as practically possible in order to minimise the length of the vacuum hose. If Vaculex TP is to lift loads at high speed, it is important that the vacuum hose between the vacuum pump and the lifting unit is not too long. A long vacuum hose reduces the ability of the lifting unit to utilise the capacity of the vacuum pump. We recommend that the length of the hose between the vacuum pump and the lifting unit should not exceed 30 m. If you want to use a longer hose, please contact your supplier.
- The vacuum pump should be installed in a well ventilated area considering the heat given off by the pump. Make sure that the pump is placed with at least 300 mm free space all round, and that there is no risk that any object could block the ventilation holes of the pump.
- If the pump is not installed on the floor, make sure that the pump is adequately secured to ensure that it can not fall down or tip over.

...INSTALLATION...

Electrical installation of the electrical vacuum pump.

- A qualified electrician must carry out the electrical installation. A wiring diagram is included in the vacuum pump junction box.
- The electrician must check that air is blown out through A (please refer to the illustration below), to ensure that the vacuum pump motor rotates in the correct direction. NOTE! Never operate the pump without the filter attached.
- The electric cable should be run through the cable transition provided (please refer to the illustration below).
- If several Vaculex TP units are to be installed, the vacuum pumps must be marked to make it clear which Vaculex TP each pump is connected to.



Installation of vacuum hose and air filter to vacuum pump

- The air filter should be installed in a position where it is easily accessible and clearly marked to indicate the lifting unit to which it is connected. Start by hanging up the vacuum hose in the suspension system from which the lifting unit is hung (such as from a traversing crane system).
- Connect the vacuum hose to the lifting unit top swivel and to the air filter.
  Also connect the vacuum hose between the air filter and the vacuum pump.
  NOTE! The arrow on the air filter should point in the direction of the hose which goes to the vacuum pump.
- Make sure that there is no risk that the vacuum hose could be pinched anywhere along its length, or come into contact with objects which might damage it.

...SET UP...

Installation of the compressed air driven vacuum pump

🛠 Hang up a compressed air hose on the suspension system on which the lifting unit is installed (such as a traversing crane). A compressed air hose of dimension ½" is recommended.

🛠 Connect the compressed air hose to the vacuum pump compressed air connection. The compressed air union has a ¼" internal thread.

ⓘ Make sure that incoming compressed air is free from contamination and water. A water trap and particle filter should be installed between the compressor and the vacuum pump.

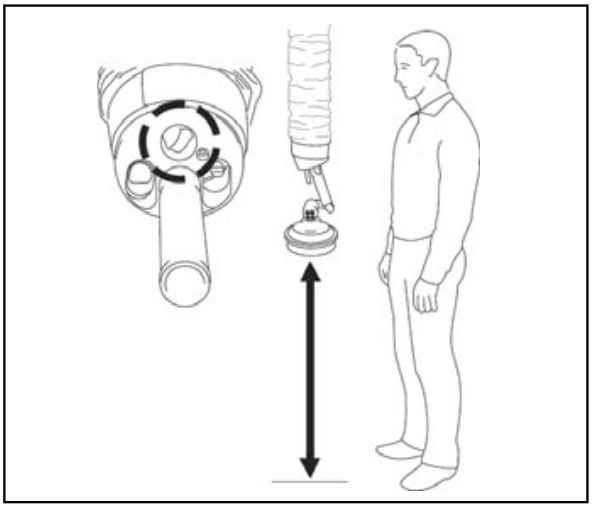
ⓘ The lifting speed of the Vaculex TP with a compressed air operated vacuum pump will not be fully satisfactory unless the compressed air supply is capable of providing **630 litre/minute** at a supply pressure of **6 bar**. Restrictions such as inadequate dimensions of the compressed air hose and 90° elbows should be avoided.

Test operation

- Lift a load with a fully air-tight surface. Leave the load hanging on the lift and then listen for whistling noises to ensure that there is no leakage anywhere in the installation.
- Lift a load with a fully air-tight surface which weighs about 5 kg. Leave the load hanging in the lifting unit and then switch the vacuum pump off. The load and the lifting unit should now slowly sink down towards the floor. If this does not happen, please contact your supplier.
- Lift a load with a fully air-tight surface and the highest permissible load for the installation. Please refer to "Troubleshooting" if the load is not lifted.

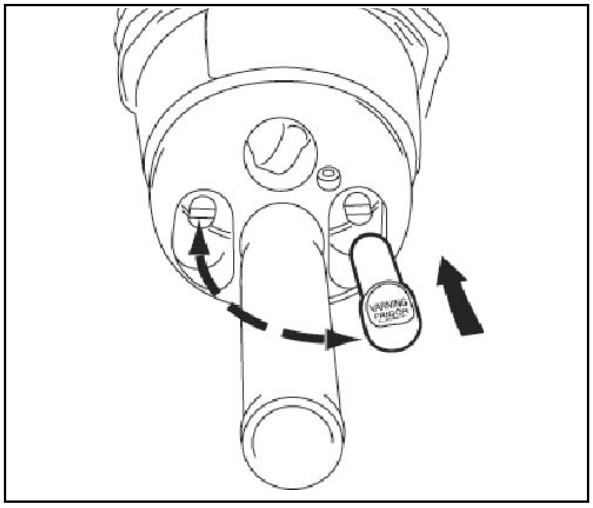
5. OPERATION

ADJUSTMENTS



Adjustment of the balancing level with no load

Balancing level with no load is adjusted with the balance knob, please refer to the illustration.

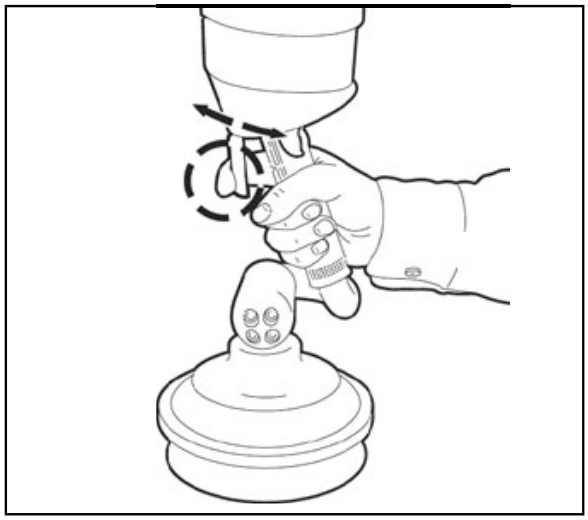


Adaptation for right handed or left handed persons

- Undo the release button from its anchorage and press it back on the right or left side of the handle.

...OPERATION...

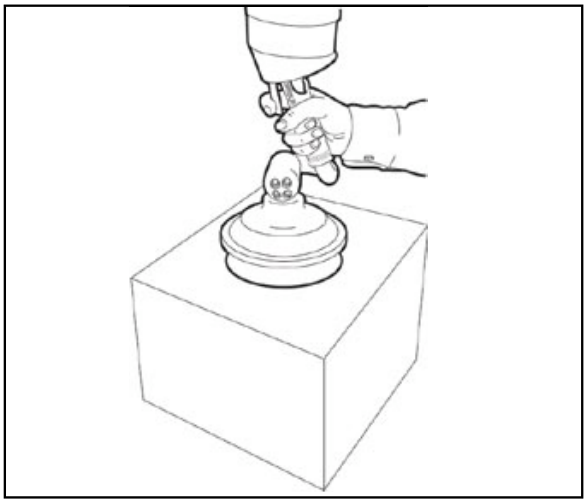
USAGE



Operation handle

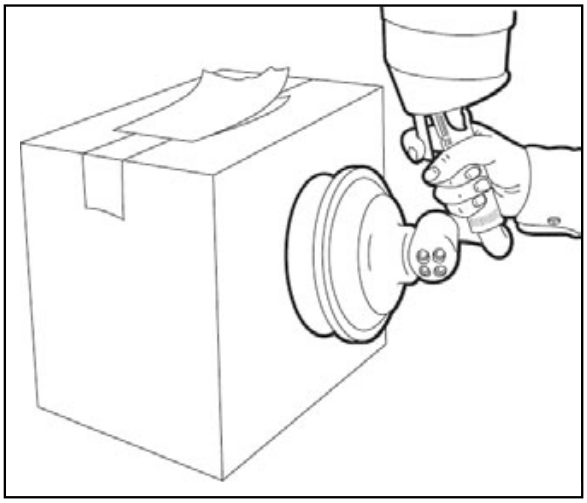
1. Operating handle in outer position
   - The lift is raised to its highest position with load.
   - Without load, the lift is raised to its pre-set balancing position.
2. Operating handle in partly depressed position
   - The load is raised or lowered, depending on the amount the control is depressed.
3. Operating handle in completely depressed position.
   - With load, the lift is lowered quickly and the load is released when it has reached a solid support.
   - Without load, the lift is lowered quickly

GRIPPING THE LOAD



Gripping the load from above

- Completely depress the operating handle, put the suction cup on the load to be lifted. Release the handle fully or partly to lift the load.



Gripping the load from the side

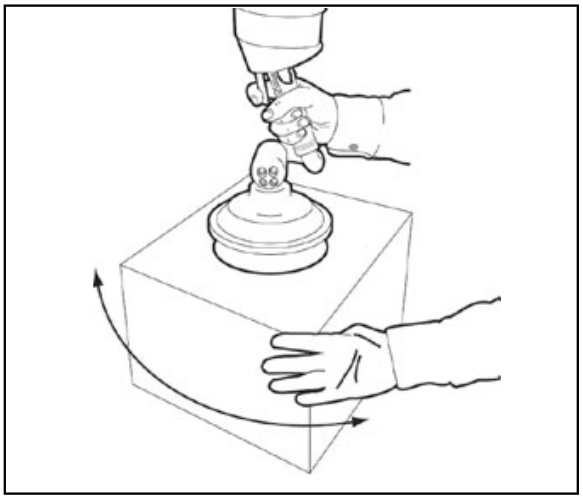
- Angle the suction cup forwards when the load is to be lifted from the side

⚠ Do not lift on surfaces which contain loose objects. These objects could be sucked into the suction cup and make the load fall off!

⚠ Only lift loads which are so strong that there is no risk they could fall apart when lifted.

ⓘ Use the facility of lifting from the side when the top does not have a suitable, grippable surface.

ROTATING THE LOAD

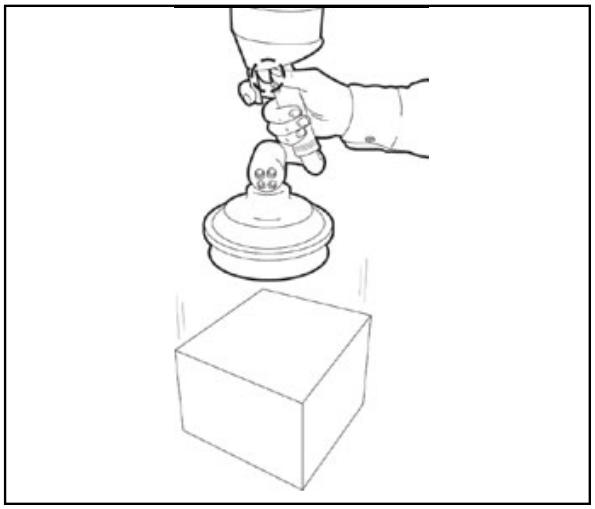


Rotate

- The entire control unit with load can be rotated
- The load can be rotated freely even when the control unit is held stationary.

ⓘ The facility of rotating the load even when the control unit is held stationary can be useful when the load needs to be twisted into a confined space.

RELEASING THE LOAD



Release button

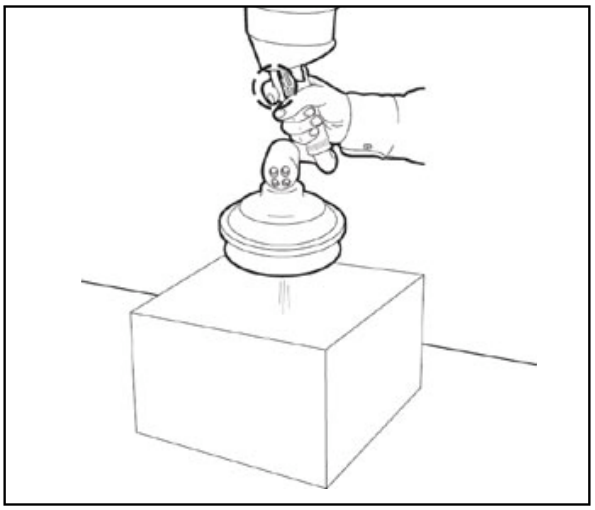
- Depress the release button and the load will be released and can fall freely.

⚠ Only use the release button when you have made sure that a freely falling load can not lead to personal injury.

⚠ Only use the release button when there is no danger that the load could be damaged by a free fall.

ⓘ The release button can be used when the load is to be released into a deep bin

ⓘ It can be necessary to use the release button to release very light loads.



Releasing with the control handle

- Depress the control handle fully and the load will release when it reaches a solid support.

6. MAINTENANCE

The maintenance instructions must be observed if the equipment is to function safely and not impair the lifting ability. If any fault is discovered in the equipment, this must be attended to at once before the Vaculex TP is taken into service again.

⚠ The installation must be switched off during service work.
⚠ Only use Vaculex TP original spare parts during maintenance and repair work.

Daily maintenance:

• The filter must be checked daily in dusty or dirty environments. Shake the filter off and vacuum clean it. Damaged filters and filters which can not be cleansed must be changed.

Weekly maintenance:

- Test to see that a power failure does not lead to a rapidly sinking load.
  - → Start the vacuum pump.
  - → Lift a load with a fully air-tight surface, weighing about 5 kg, and leave it hanging.
  - → Switch the vacuum pump off. The load should now sink to the floor.
    If the load sinks rapidly, the Vaculex TP must not be used until the fault has been rectified. Contact your retailer.
- Check that the filter is not clogged or damaged.
- Check that the bellows cup is not damaged.
- Check that the lifting hose is not damaged.

Every three months:

- Check that the suspension ear and the equipment that the Vaculex TP hangs from are not damaged. *If there is any damage, the Vaculex TP must not be used until the fault has been rectified. Contact your retailer.*
- Check that the nuts and bolts in the suspension system are tight and secured where appropriate.
- Check that the vacuum hose and lifting hose are air-tight and are not chafed or pinched.

7. TROUBLESHOOTING

The load is not lifted or is lifted more slowly than normal

- Is the air filter clogged?
- Shake out the filter or vacuum clean it. Change the filter if it is damaged.
- Is the filter unit lid correctly installed?
- Tension the lid correctly.
- Is there any leakage in the installation? Get the suction cup to grip an air-tight, flat board. Listen for leakage along the vacuum hose, couplings, air filter, top swivel, lifting hose, control unit and suction cup.
- Seal leaks or change components which leak.
- Is there any rubbish inside the suction cup?
- Remove the rubbish out of the suction cup.
- Is the vacuum hose pinched anywhere?
- Change the whole or part of the vacuum hose.
- Do the test to see if a power cut makes the load sink rapidly. (Please refer to "Weekly Maintenance")
- Contact your retailer.

ⓘ If the load is not lifted, this could be because no vacuum is generated in the lifting hose and/or suction foot. The reason for this is commonly leakage in either the load or the lifting unit.

The load is lifted very slowly at first, but the speed increases as the lift height increases.

- Leakage in the lifting hose?
- Change the lifting hose.
- Leakage in the vacuum hose?
- Seal the leakages or change the vacuum hose.

...TROUBLESHOOTING...

The load is not lowered slowly during the power cut test

- Please refer to “Weekly Maintenance”.
- Contact your retailer for rectification.

It is not possible to set the position you want for the balancing level without load

- Unscrew the control unit from the lifting hose.
- Check that no rubbish has got stuck in the balance valve.
- Remove the rubbish.

The vacuum pump does not start

- Contact the person responsible for your electrical installation or your retailer.

Bad noise in the vacuum pump

- Contact your retailer.