Customer	**: AUTOMAK ASSEMBLY INC.**
Machine number	**:**

AutoMak Assembly Incorporated

INSTRUCTION MANUAL

For the

Cool Boy®

Vacuum lifting device for flat surfaced metal insulated wall panels.

SAFE WORKING LOAD:

1100 LBS (500Kg) at 60% vacuum

Read carefully before using the machine and refer to this document at all times.

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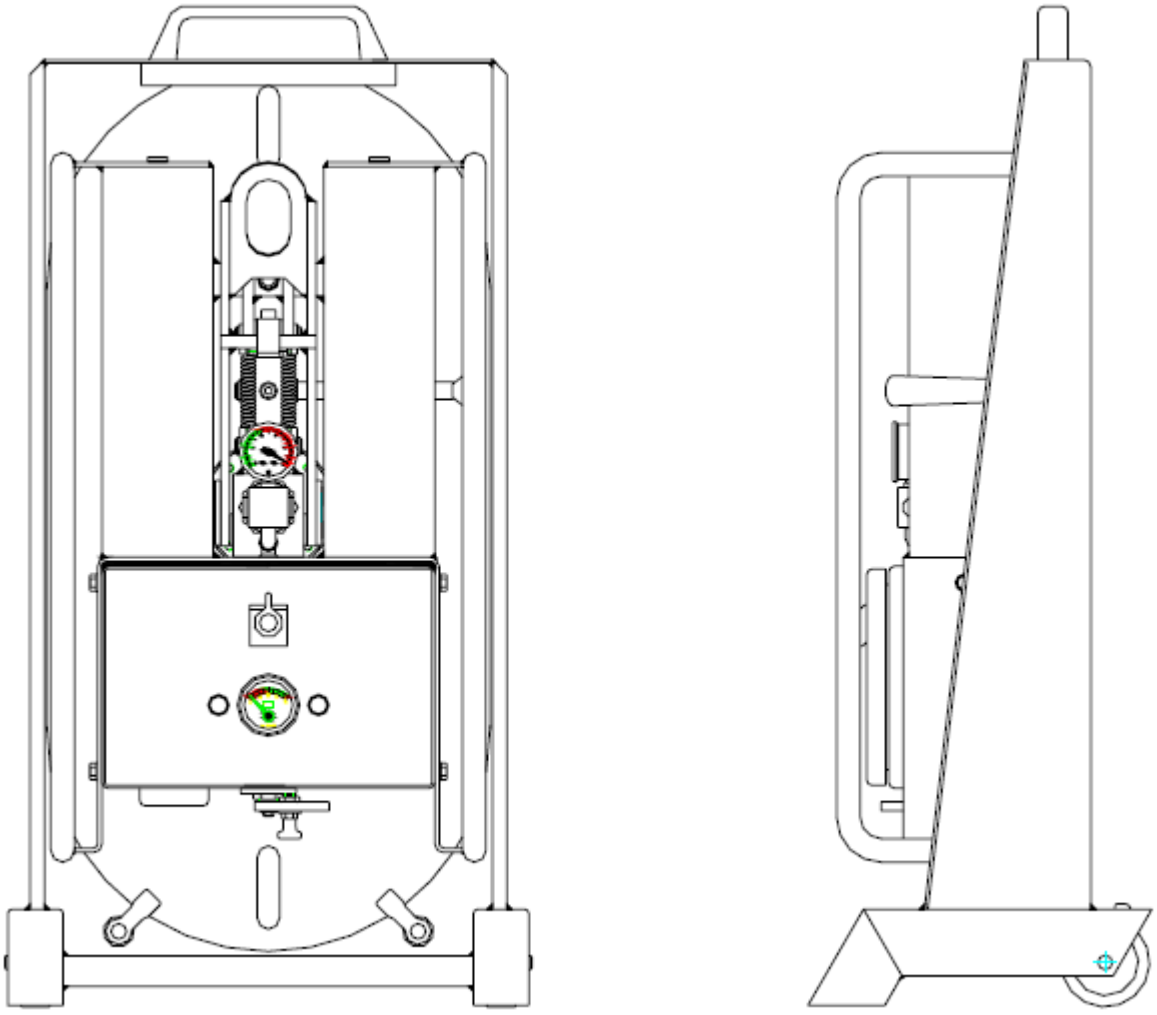
1 Introduction

The Cool Boy® lifter has been proven to be safe, reliable and easy to use. However it is a lifting device and as such does require operator instruction and regular maintenance and checks to avoid the risk of damage to the unit or injury to persons using the equipment or in close proximity to it.

It is essential that all operators read and understand this manual and adhere to the instructions, recommendations and guidance contained within it.

We reserve the right to carry out technical and design improvements to the equipment without notice.

Any questions relating to the operation or application of the Cool Boy® lifter should be directed to the equipment supplier identified on the cover of this manual.



Picture: Transport carriage for Cool Boy® is optional

2 Use and appropriate operation

The Cool Boy® is intended for use for lifting, handling and installing vertical and horizontal flat surfaced insulated metal wall panels with a minimum thickness of 1 ½" (40mm) and a maximum thickness of 10" (250mm)

The maximum allowable safe working load (S.W.L.) is 1100 LBS (500 KG) and this should never be exceeded under any circumstances.

In accordance with the relevant standards and regulations, the S.W.L. has been determined at 60% vacuum with a suspended load in the unfavorable position, i.e. suction area in vertical position.

The maximum recommended panel dimensions are:

Panel thickness	**Horizontal lifting (length)**	**Vertical lifting (length)**
1 ½" (40mm)	12' (3.65m)	20' (6.1m)
2 ½" (63mm)	15' (4.5m)	24' (7.3m)
4" (100mm+)	20' (6.1m)	33' (10m)

Panel dimensions outside these dimensions should not be lifted without the prior written consent of the machine supplier.

ATTENTION! The Cool Boy® lifter is not suitable for lifting thin, soft and flexible sheets where there is a danger of the sheet peeling away from the suction cup with loss of vacuum resulting.

The Cool Boy® can be used both internally and externally but not in areas where specific dangers are known or where there is a risk of explosion.

The safe operational temperature range for the Cool Boy® lifter is 32°F (0°C) to + 104°F (40°C)

With the following special precautions, the Cool Boy® can also be operated safely at temperatures as low as 14°F (-10°C) -

- Remove all snow and ice from the panel surface where the suction pad will locate.
- Take care that all humidity or moisture is out of the Cool Boy® before starting work.
- After operating at freezing temperatures, the machine must be allowed to dry out and condensation removed from the unit. This is achieved by switching the unit on and opening the vacuum actuation valve to allow the pump to run continuously for 10 minutes in a warm and dry environment.

Any proposed use or application not specifically covered in this manual should be considered **unsuitable**. If in doubt you must consult with your machine supplier

3 Safety indications

In this manual you will come upon this  symbol where there is danger of accidents and/or material damage to the Cool Boy®, and/or its user. The respective instructions must be observed and passed on to other users, so that accidents and malfunctions of the Cool Boy® may be prevented.

The following safety aspects must be observed:

The Cool Boy® may only be operated, inspected and used by expert personnel.

Everyone operating the Cool Boy® must have read and understood the manual.

 **For repairs to the Cool Boy® the main switch must be switched off and the power supply must be cut off.**

The operator must inform the manufacturer immediately regarding any changes that could affect safety. It is the operator's responsibility to perform routine inspection and any damage or defects must be notified immediately and the machine should not be used without consulting the supplier.

Changes or modifications to the Cool Boy® unit are strictly forbidden and the operator is fully responsible for any damage or injury resulting from such actions.

Only original spare parts may be used. Maintenance, inspection and testing should be performed by competent persons and only after consultation with the manufacturer.

The secondary safety straps should always be used and under no circumstances should they be dismantled or put out of operation. In the case of a sudden drop in vacuum, the load must be put down as quickly as possible.

It is strictly forbidden to work below suspended loads or to manoeuvre suspended loads over people.

All local, regional, state and national safety and accident regulations apply at all times.

 **It is strictly forbidden to work or stay below a suspended load.**

4 Putting into operation

The Cool Boy® is delivered complete and ready to use and includes an integral battery charger with power cable. Under normal circumstances the battery will have been charged prior to delivery and the lifter will be ready to use.

Before commencement of operations the Cool Boy® must first be checked and tested to make sure it is fully operational and in good condition. Any evident damage must be reported in writing immediately.

Switching on the Cool Boy®

Before use, a test lift must be carried out first.

Put the power switch to position 1 and wait briefly until the red light and acoustic alarm switches off and the green lamp illuminates. In this period a vacuum of more then 60% has been built up in the vacuum buffer tank.

The vacuum pump switches on and off automatically and maintains a vacuum between 66% and 70%. The vacuum pump runs ca. 4-10 sec. If the vacuum pump runs longer then 10 seconds either the battery is flat or there is a vacuum leak.

Check the voltage level on the voltmeter; it should read more than 12 V. If not this may indicate that charging is required before the Cool Boy® can be used.

Vacuum test

Before delivery the Cool Boy® will have been tested by the supplier but we recommend that you regularly check the unit for vacuum leaks in the following manner -

Place the Cool Boy® suction pad on a clean, flat, dry, non porous surface.

Then switch on the main power switch and wait until the lights on the front turn from red to green.

Put the valve in suction mode and the vacuum gauge will then indicate the exact vacuum level. The vacuum pump is automatically switched off by the electronic vacuum switch. Once vacuum is achieved and the pump stopped running, measure the drop in vacuum level over a timed period.

The drop in vacuum may not exceed 10% in a 5 minute period.

If the vacuum level drops by more than 10% within 5 minutes this indicates a vacuum leak. You should then check the condition of the seal on the suction pad and change it if necessary. If the vacuum leak persists you must contact the supplier immediately.

Check before using the Cool Boy®

 The voltage on the voltmeter must show at least 12 volt. If not, recharge the battery before using the machine.

 When elements are suspended from the Cool Boy® the load is entirely held by friction.
For this reason the suction surface area must be entirely dry and clean!
All water, oil, grease, dirt, and ice must be removed from the surface where the suction pad locates.

 Do not operate the Cool Boy® at wind velocities above 4 Beaufort.

 Use the secondary fall safety device at all times.

 Never exceed the S.W.L. of the Cool Boy® lifter. If there is any doubt about the weight of the element to be lifted, weigh it before lifting.

 Never work or stay directly below a suspend load and avoid moving suspended loads over people.

 In case the red light illuminates or the warning siren sounds, never attempt to lift a load and any suspended load must be put down immediately. The red light and warning siren indicates low vacuum level and this needs to be investigated and rectified before resuming lifting operations.

Putting down a load and releasing vacuum

With the Cool Boy® suspended from a crane or other lifting plant the element can be moved to the desired location and manipulated into position. When the load is in the right position, slide the suction valve to discharge This will aerate the suction pad and the load will be immediately released. Now you can pick up a new element.

After use

 To avoid discharging of battery, switch the power off by moving the main power switch to position 0.

 After use the Cool Boy® should not be stored standing on the suction pad!

Either leave the Cool Boy® suspended so that the suction pad hangs free or put it in the appropriate transport carriage. **This is important to protect the suction pad and seal.**

Charging the battery

The battery must be charged after use. You will find the power cable in the box on the front of the Cool Boy®.

- Switch the Cool Boy® off by putting the main power switch to position 0.
- Plug the power cable into a 115V supply socket. The charging time is approx. 6 to 8 hours for a fully discharged battery.

To avoid damage to the battery by deeply-discharging it, the battery must be charged after use.

If the machine is not to be used for some time, please note that the battery needs to be charged for a minimum of 8 hours every 3 months.

Vacuum level gauge:

The Cool Boy® is equipped with a vacuum level gauge which gives a visual indication of the vacuum level at the suction pad when the machine is in suction mode.

The gauge is divided in a red section (0% - 60%) and a green section (61%-100%). As long as the gauge is in the red section you may not lift a load.

Warning device:

Linked to the vacuum pressure switch an electronic warning alarm is installed, which gives an optical and acoustic signal in case the vacuum is too low. Never attempt to lift a load if the red light is illuminated or the warning alarm is sounding.

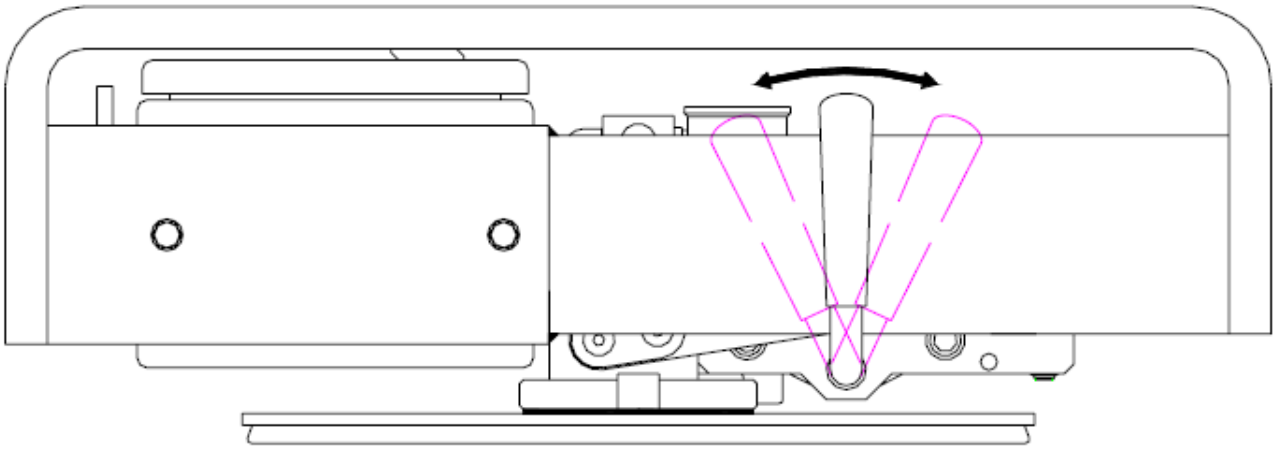

The operation of the warning devices must be checked daily. In case of malfunction there is an obvious danger of the suspended load falling due to low vacuum level.


In case the red light illuminates or the warning alarm sounds, never attempt to lift a load and any suspended load must be put down immediately. The red light and warning siren indicates low vacuum level and this needs to be investigated and rectified before resuming lifting operations.

When the battery charge level is too low the warning alarm will sound automatically. If this happens the vacuum pump of the Cool Boy® will automatically switch on and the load will remain suspended for a short number of minutes but the load should be put down as soon as possible and steps taken to recharge the battery before using the machine again.

5 Positioning

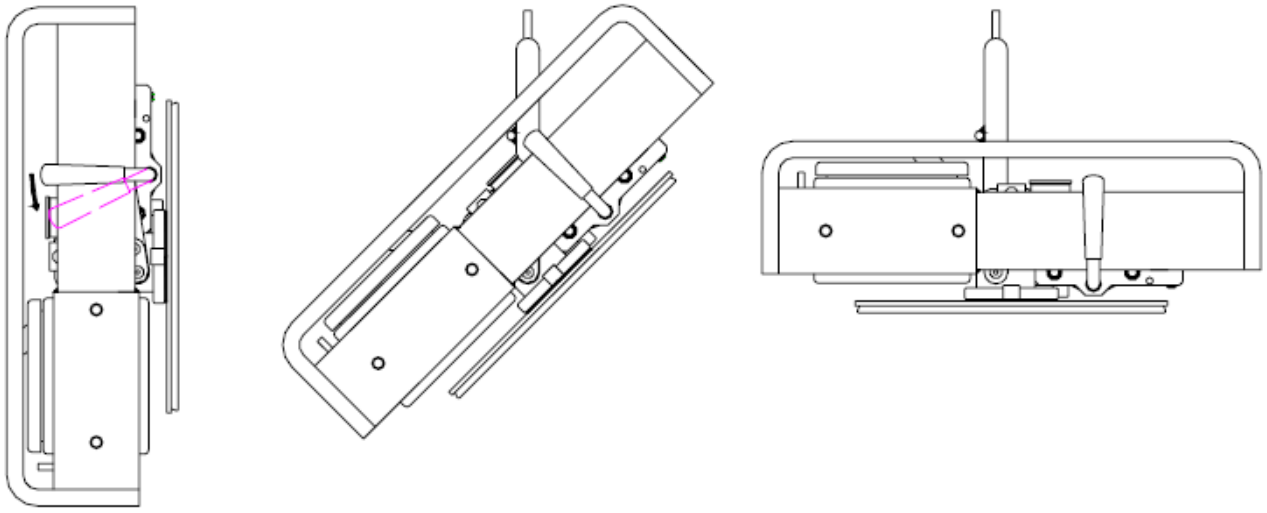
The Cool Boy® features a control lever to operate the pad tilt and rotation functions



Tilting the suction pad

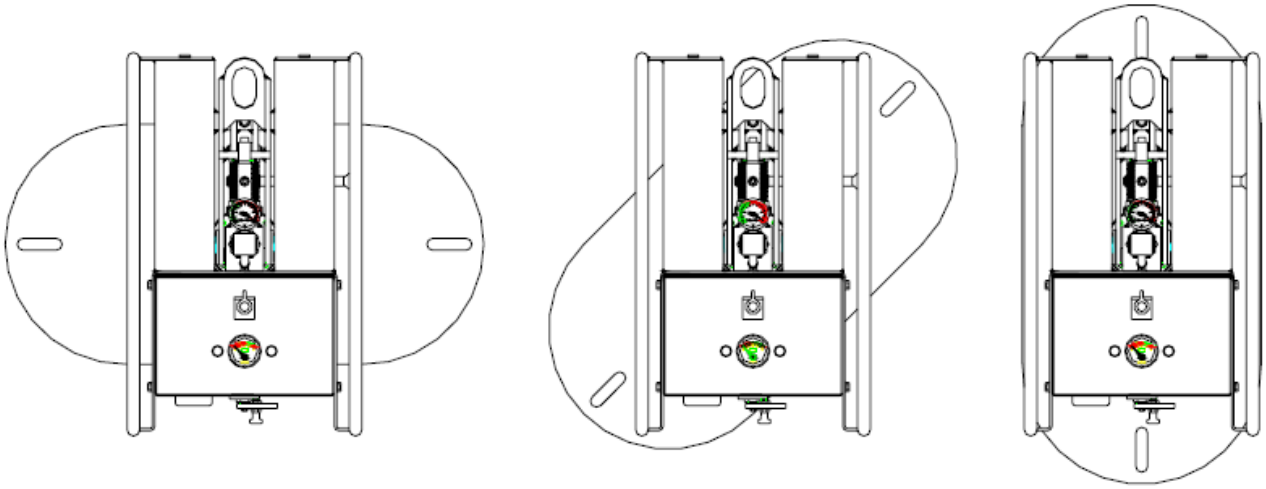
By moving the lever downwards the Cool Boy® suction pad can be tilted 90° from vertical to horizontal.

Loads are usually picked up with the pad in horizontal position and then the suspended element can be tilted to vertical. In vertical position the device will automatically lock in this position.



Rotating the suction pad

By moving the lever upwards it is possible to rotate the suction pad through 360° and at every 90° the pad will automatically be locked into position.



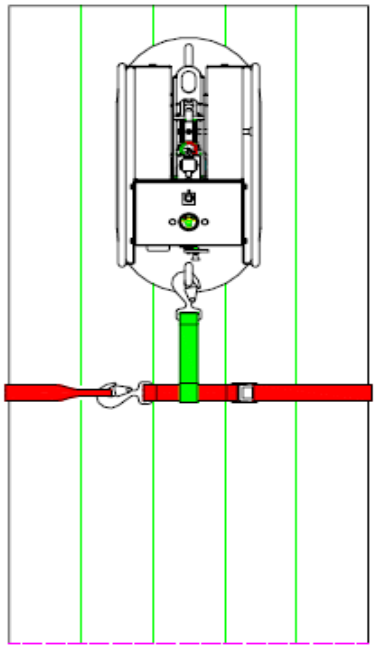
6 Falling safety devices

Regulations require that all vacuum lifting devices used in a building or construction environment should incorporate a secondary safety system when lifting elements overhead.

For this purpose the Cool Boy® utilizes secondary fall safety straps which are adjustable in length and can be used for either vertical or horizontal elements.

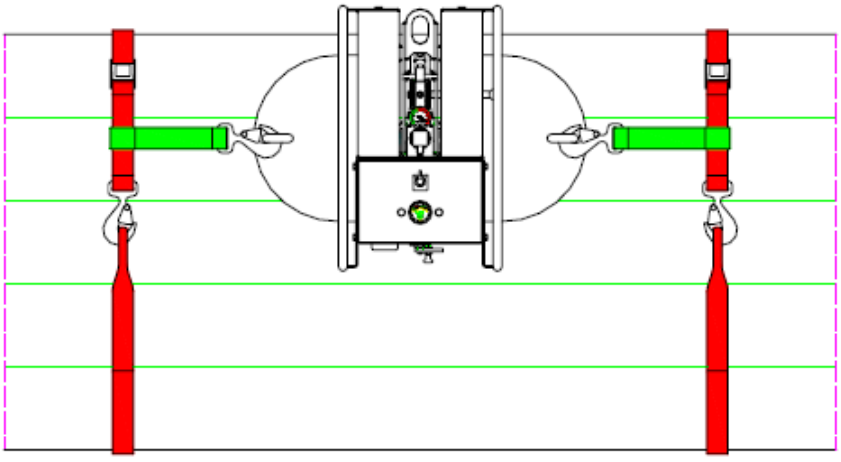
Vertical wall panels

Take care that the strap is tightened around the panel.



Horizontal wall panels

Take care that the straps are tightened around the panel.



7 Maintenance

Checking

It is the responsibility of the operator to perform routine maintenance. Failure to perform such maintenance may result in damage to the Cool Boy® and repair costs may be charged to the operator.

Within the ASME B30.20-2006 regulations require that a full examination, inspection and service where necessary be performed at least every 12 months. All our machines are inspected every 6 months and carry a current certificate of examination which should be in date. A date sticker on the side of the unit will also indicate when re-test is due.

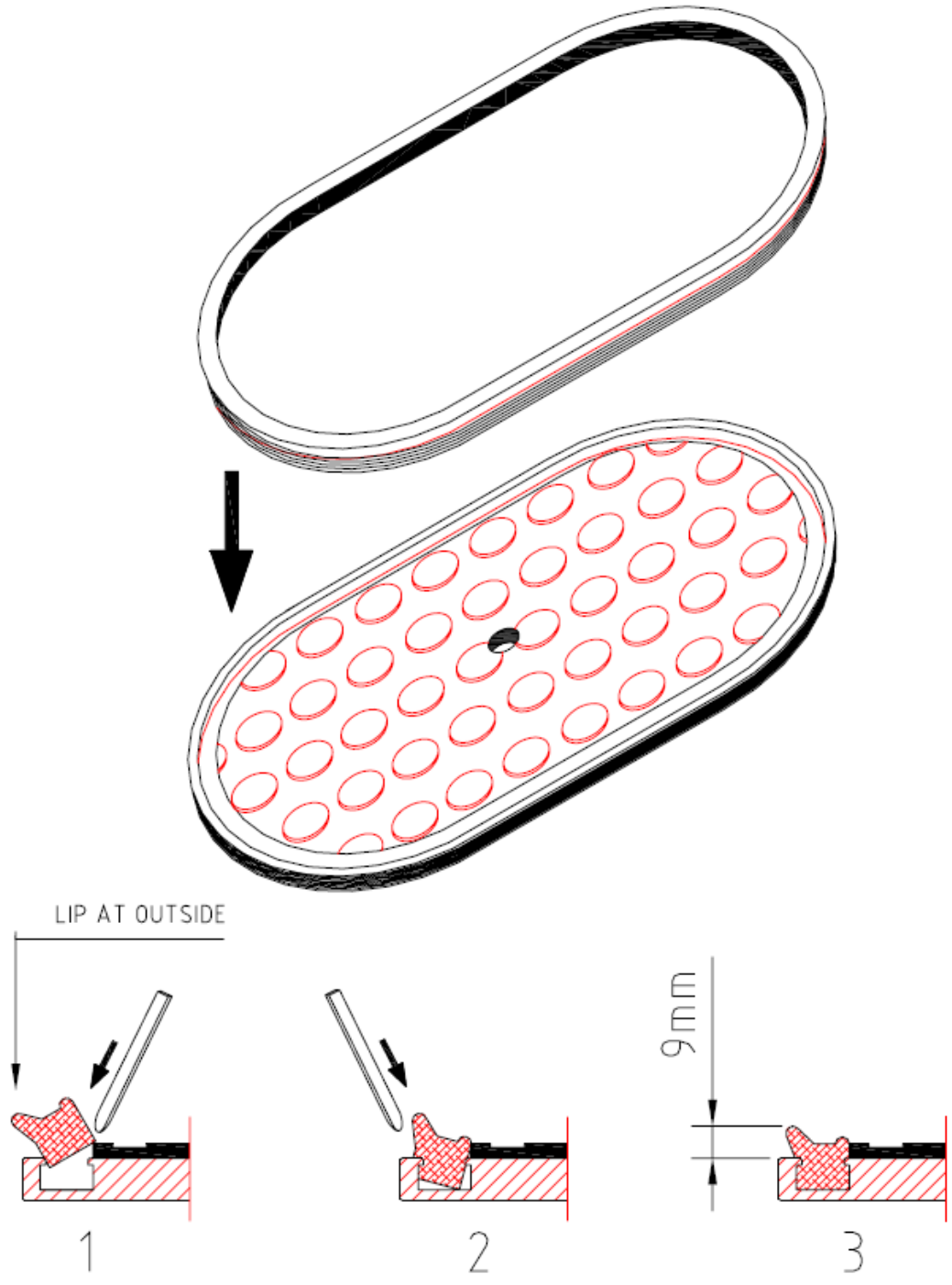
Only original spare parts may be used. A local stock of spare parts is recommended. Spare parts may only be changed by expert personnel! If in doubt on any point please contact your supplier.

Inspection and maintenance list

Range:	Part to be checked:	Freq.:	Maintenance:
1. Vacuum			
	Vacuum pump		Refer to separate manual.
	Vacuum filter	weekly	Clean the filter with compressed air or replace if necessary.
	Suction caps, sealing	daily	Replace faulty caps
	Hose connections	daily	If necessary tighten hose connections
2. Vacuum test			
	Performance check	daily	Compare the red- and green light switch with the vacuum gauge; make sure the siren is activated at the same time the red light lights up. Check the maximum values of the vacuum gauge.
3	Actuating valve	daily	Function suction - discharge.
4	Complete equipment	daily	Check for visible damage and malfunctions
		yearly	Check by an expert

Replacing the suction pad seal

The suction pad seal must be in good condition before attempting to lift any loads.
The seal is exchangeable and can easily be replaced by using a tool to press the seal into the groove.



Ensure that the new seal is installed as shown with the lip to the outside.