SMOKE RANCH CNC
BOISE, IDAHO

VACLIFT MAX

HEAVY-DUTY SHEET METAL SUCTION LIFTER

USER MANUAL

WWW.SMOKERANCH-CNC.COM

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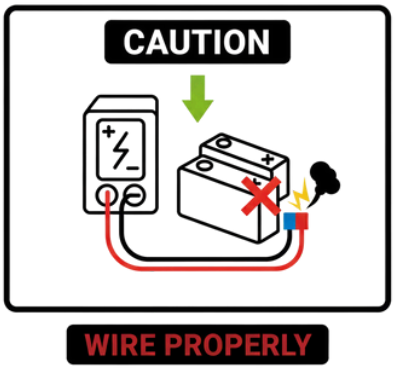
1. INTRODUCTION

The VacLift Max provides an affordable, professional-grade solution for handling sheet material. It generates holding force through vacuum suction and must be suspended from an external lifting device such as a crane, hoist, or forklift. This setup allows a single operator to safely move metal sheets up to 1,320 lbs with confidence.

This manual covers the basic operation, safety, and routine maintenance of the VacLift Max.

2. SAFETY INFORMATION

DO NOT USE IN WET OR RAINY CONDITIONS.



Battery or DC-DC converters must be installed and wired correctly. Incorrect connections can damage the unit or create a safety hazard.

Battery or DC converter are NOT included with purchase

3. POWER AND BATTERY SETUP

DC converter or Battery are NOT included with purchase

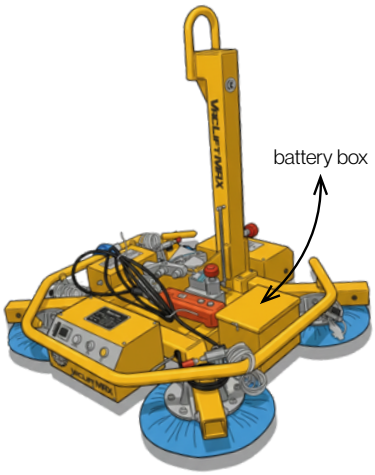
The VacLift Max can be powered in one of two ways.

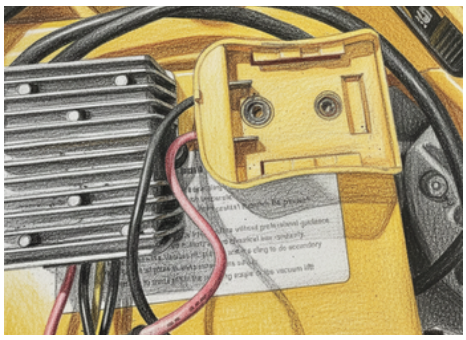
The first option, which is recommended by SRCNC, is to use an external rechargeable battery pack with a DC-DC converter. In this configuration, the DC-DC converter is mounted on the outside of the battery box (Figure 3-1). The rechargeable battery pack connects to the input of the converter, and the output of the converter feeds the VacLift power terminals. The converter must be securely mounted in a ventilated location, away from heat sources and pinch points. Polarity must be observed carefully: positive to positive and negative to negative (Figure 3-2). Reversing polarity can blow fuses and damage the controller.

Before each use, ensure the battery level is above 25% and verify that the output voltage from the battery or DC-DC converter is correct. All wiring should be secure, insulated, and free from damage to ensure safe and reliable operation.

The second option is an internal battery. In this setup, a 12V ML7-12 (7.2Ah) sealed lead-acid battery is installed inside the battery box and connected directly to the VacLift power terminals (Figure 3-3). Only a battery of the correct type and rating should be used to ensure proper operation and avoid damage.

(Figure 3-1) DC-DC converter is mounted on the outside of the battery box





Top view of battery terminal mounted to the battery box, no battery installed

Side view of DC converter mounted on the battery box, battery installed

NOTE:
The converter must be securely mounted in a ventilated location, away from heat sources and pinch points.

Visit our website for links to DC-DC converter & Battery options
www.smokeranch-cnc.com/vacliftmax

3. POWER AND BATTERY SETUP

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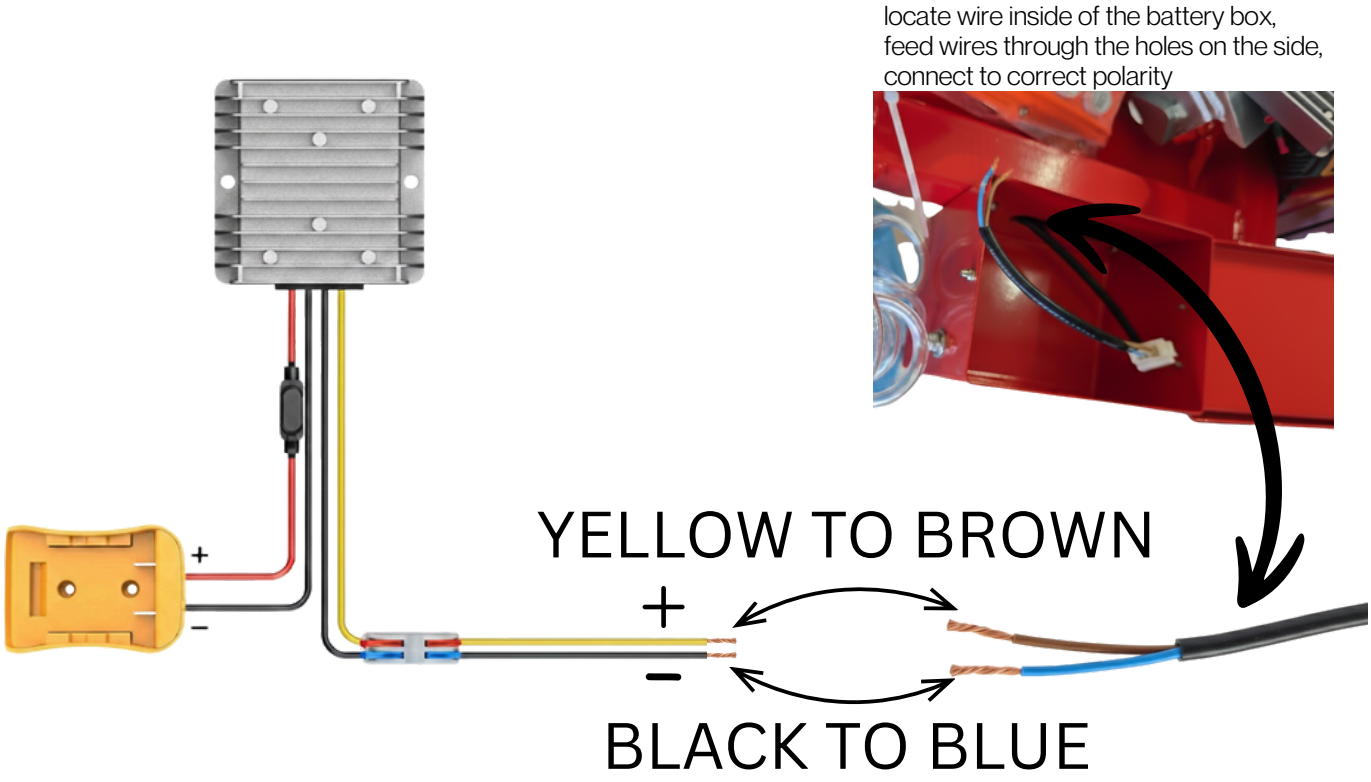
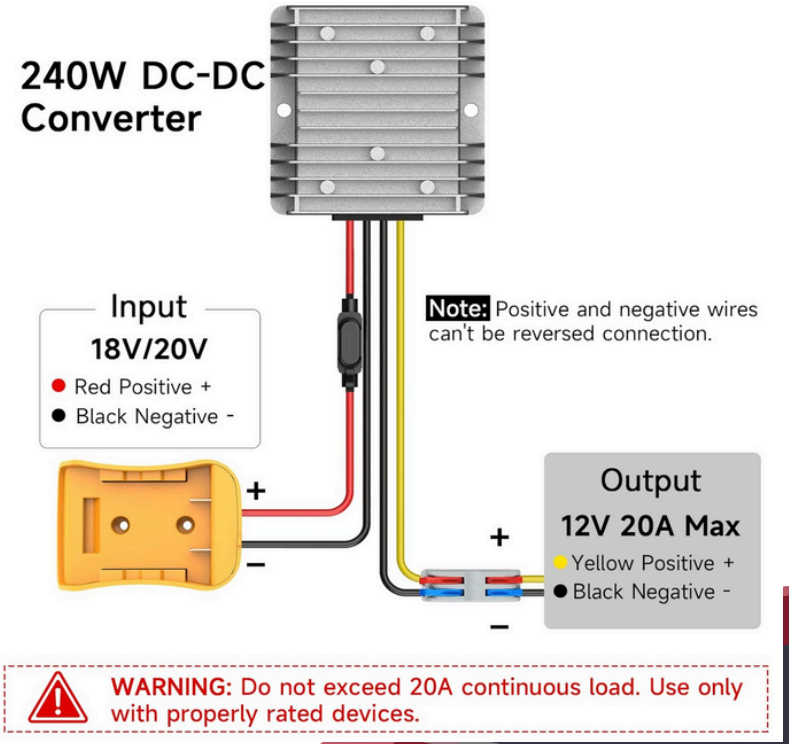
(Figure 3-2)

Polarity must be observed carefully: positive to positive and negative to negative (Figure 3-2). Reversing polarity can blow fuses and damage the controller.





NOTE:

Before each use, ensure the battery level is above 25% and verify that the output voltage from the battery or DC-DC converter is correct. All wiring should be secure, insulated, and free from damage to ensure safe and reliable operation.

3. POWER AND BATTERY SETUP

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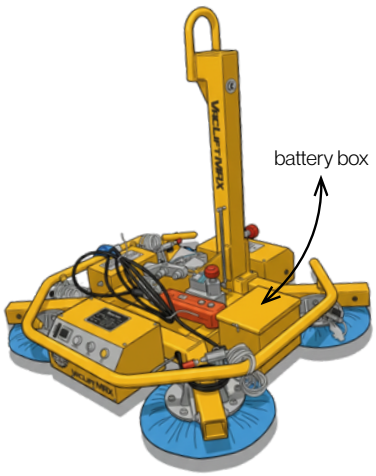
The second option is an internal battery. In this setup, a 12V ML7-12 (7.2Ah) sealed lead-acid battery is installed inside the battery box and connected directly to the VacLift power terminals (Figure 3-3). Only a battery of the correct type and rating should be used to ensure proper operation and avoid damage.

(Figure 3-3)

Using an internal battery, a 12V ML7-12 (7.2Ah) sealed lead-acid battery is installed inside the battery box and connected directly to the VacLift power terminals



4. WORK AREA REQUIREMENTS

Ensure a minimum clearance of 6.5 feet around the load at all times.
The floor should be flat, clean, and dry to maintain stability during lifting operations.
Store the VacLift Max in a shaded area, and avoid leaving suction cups in contact with any surface when not in use to prevent deformation.

5. PRE-OPERATION CHECKS

- Confirm the power system is properly connected and battery level is above 25%.
- Inspect suction cups, air lines, and wiring for damage or loose connections.
- Turn on the vacuum and allow pressure to build to -55 to -70 kPa before lifting.
- Clean the metal surface. Remove dirt, grease, heavy rust, and loose scale.
- For thin sheets, space all six suction cups evenly.

6. OPERATING INSTRUCTIONS

1. Press ON to activate the vacuum pump.
2. Wait until the vacuum stabilizes between -55 kPa and -70 kPa before lifting the load. Ensure the vacuum reaches the proper level to safely support the material.
3. Lift the load only once the vacuum is within this range.
4. To release the load, press OFF, then press both RELEASE buttons simultaneously to disengage the vacuum hold. Confirm that the load is fully released before moving the lifting device.

Notes:
The VacLift Max is rated for a maximum load of 1,320 lbs at 60% vacuum.
Always monitor the vacuum gauge; an audible or visual alarm will trigger if the vacuum falls below 60% of the operating level.

7. LOAD CAPACITY AND LIMITS

- The VacLift Max has a maximum lift capacity of 1,320 lbs at 60% vacuum.
- It uses six suction cups, each 11.8 inches in diameter, to secure the load.
- An audible and visual alarm will activate if the vacuum falls below the safe operating level.

Never exceed the rated capacity.

8. CARE, INSPECTION, AND SERVICE

- Before use, inspect all suction cups and air lines for cracks, hardening, loose fittings, or visible leaks. Verify normal gauge and control operation before lifting any load. Do not operate the unit if damage or abnormal behavior is found.
- Remove metal shavings and debris from the unit daily. Clean suction cups with warm water and mild soap. For heavy grease, use isopropyl alcohol only.

Do not use gasoline or petroleum-based solvents, as they will damage the rubber cups.

- Before storage, ensure suction cups are clean and fully dry. Store the unit in a shaded area with the suction cups not pressed against any surface to prevent deformation.
- A complete safety inspection must be performed every six months to verify vacuum integrity, control operation, and alarm function.

Use only approved replacement components, including:

- Suction cups, 11.8 in. diameter
- Vacuum filter elements
- Air hose (SMC-style)
- DC-DC converter fuses (30A typical)

9. TROUBLESHOOTING

Issue	Possible Cause	Solution
Pressure will not reach -70.0 kPa	Air line leak or loose circuit connection.	Inspect windpipe for damage; listen for hissing.
Suction cup won't grip	Heavy mill scale, dust, or grease.	Clean the metal plate and suction cup face.
Vacuum pump will not start	Moisture in lines or poor remote contact.	Replace remote handle; check for moisture.
Workpiece will not release	Electrical short or broken release button.	Check terminals; replace control handle.
Inaccurate power display	Blown fuse or faulty battery monitor.	Inspect fuse box and monitor connections.

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