

PATENTED

GRABO[®] H-V2

THE WORLD'S FIRST
PORTABLE ELECTRIC
VACUUM LIFTER



Nemo

POWER TOOLS

NG H-V2

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GRABO® tools are invented, developed, manufactured and serviced by Nemo Power Tools and distributed by various partners. Our wholly owned subsidiary companies are located in Las Vegas, Hong Kong, Huizhou, Shenzhen, & Israel.

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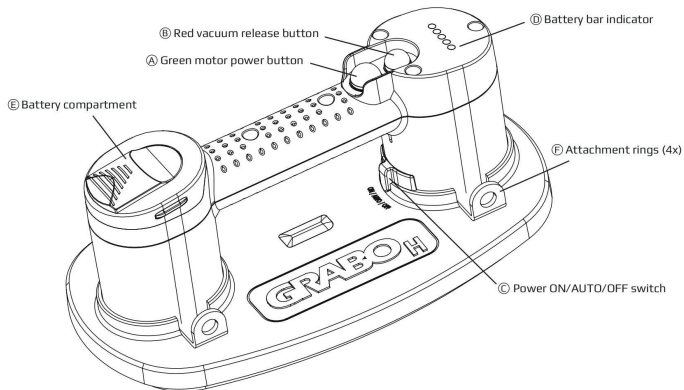
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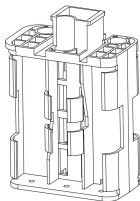
Email: Gizmo@GRABO.com

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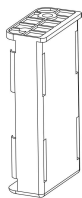
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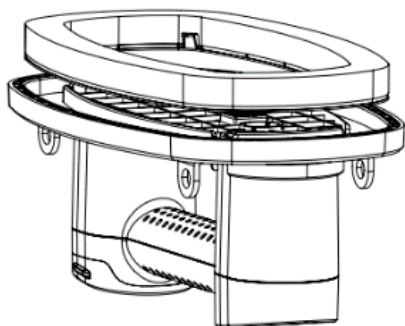


AA battery compartment (6 batteries)

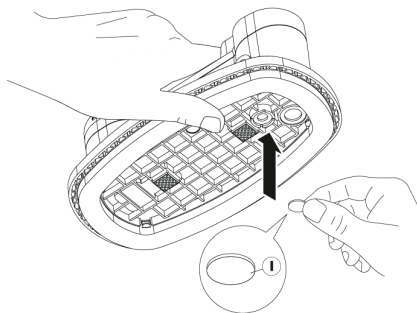
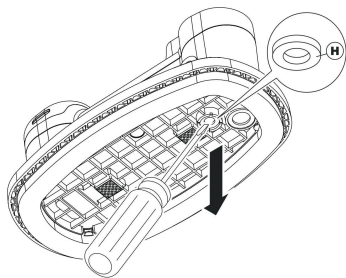


18650 battery compartment (2 batteries)

② ⑥

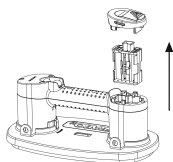
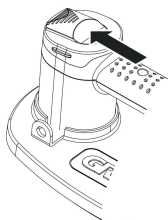


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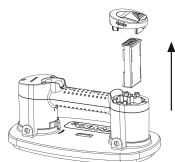


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④



AA batteries



18650 batteries

⑤



⑥



⑦



INTRODUCTION

The GRABO® H V2 is a portable electric vacuum lifting device intended to lift, move, and place objects such as tiles, stone pavers, drywall, glass, wood, flooring, furniture and much more. GRABO® H V2 has a built-in pressure sensor with an automatic start/stop function. The GRABO® H V2 is designed to work with dry, rough and slightly porous material. The GRABO® H V2 is not intended:

- to be used for climbing or securing the human body in any way. This product is not designed or intended for climbing or to support a person's weight. Using this product for climbing or any other unintended purpose may result in injury or death.
- to lift, move, or place objects consisting of very porous, soft/flexible, and crumbling materials, such as simple cardboard boxes, styrofoam, dry cast pavers, compressed sand, or bad quality concrete.

! Read this instruction manual carefully before use and save it for future reference

The GRABO® H V2 features up to 75 kg (165 lbs) of grabbing force, and can secure to almost any surface, enabling you to handle unwieldy loads quicker and more safely than ever before, all while minimizing the risk of damage to expensive materials.

TECHNICAL SPECIFICATIONS

Model	NGH-V2
Working Voltage	7.4V
Rated power	10 W
Non-stop Working hours	AA (Nanfu alkaline battery) 1.1h
Working Cycle (Full battery, working for 10s and then restart after 8s	AA (Nanfu alkaline battery) _350 times 18650 (2200mAh _344times

Net weight (without battery)	0.85kg (1.9lb)
Working temperature	0°C~60 °C (32°F~140°F)
Dimension	278x162x120 (mm) 10.94x6.38x4.72(in)
Rated flow	7 L/min
Maximum Vacuum Rate	-0.8 Bar (-80 kPa)
Maximum Lifting Capacity	75 kg (165 lbs)
Service life	100000+ times/800h+
Additional features	Automatic start/stop function

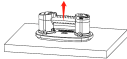

NOTICE: When the vacuum level drops below -0.6 Bar (- 6kPa) the GRABO® H V2 will automatically restart the pump (when the pump is switched to auto mode), thereby achieving the pressure required for use.

GRABO® H V2 can be powered by either 6 AA alkaline batteries or 2 18650 batteries. (Batteries not included)

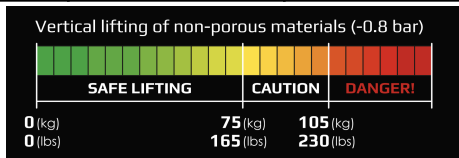
The GRABO® H V2 features a thermal protection system to prolong its lifespan. When the temperature of the motor/PCBA is operating between 65-75°C, the red light blinks rapidly and the product runs normally; when the temperature is higher than 75°C, there is a solid red light and the GRABO® H V2 is unable to be activated.

GRABO® H V2 LIFTING CAPACITY

ESTIMATED SAFE LIFTING FORCE CHART AS TESTED ON DIFFERENT MATERIALS

	Perpendicular Hold 	Parallel Hold 
	MAX	MAX
Glass	75kg	50kg
Metal	63kg	45kg
Plastic	60kg	45kg
Wood	50kg	28kg

Ceramic tile	65kg	45kg
Rough concrete	37kg	35kg
Drywall	37kg	15kg
Rough Slate	65kg	35kg



SCOPE OF DELIVERY

NOTICE: The exact scope of delivery may change, but it will always contain the items listed below. If your delivery contains any additional items, these will be listed separately. See Spare

Parts for more information on ordering spare parts.

BASIC GRABO® H V2 SCOPE OF DELIVERY:


- GRABO® H V2 (tool only)
- Operator's manual

TOOL ELEMENTS ①⑦

- Ⓐ Green motor power button
- Ⓑ Red vacuum release button
- Ⓒ Power ON/AUTO/OFF switch
- Ⓓ Battery bar indicator
- Ⓔ Battery compartment
- Ⓕ Attachment rings (4x)
- Ⓖ Foam seal
- Ⓗ Air filter lock ring
- Ⓘ Air filter pad

SAFETY

GENERAL POWER TOOL SAFETY WARNINGS

 **WARNING:** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury. Save all warnings and instructions for future reference. The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) WORK AREA SAFETY

- a) Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
- b) Do not operate power tools in an explosive atmosphere, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite dust or fumes.
- c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) ELECTRICAL SAFETY

- a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
- c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

f) If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of a RCD reduces the risk of electric shock.

3) PERSONAL SAFETY

a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

b) Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes, a hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to a power source and/or battery and picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

f) Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Removal of dust can reduce dust- related hazards.

h) Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles. A careless action can cause severe injury within a fraction of a second.

4) POWER TOOL USE AND CARE

a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

- b) Do not use the power tool if the switch does not turn on and off easily. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) Disconnect the plug from the power source and/or remove the battery, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the

power tool for operations different from those intended could result in a hazardous situation.

h) Keep handles and grasping surfaces dry, clean and free from oil and grease. Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5) BATTERY TOOL USE AND CARE

a) Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery may create a risk of fire when used with another battery.

b) Use power tools only with specifically designated batteries. Use of any other battery may create a risk of injury and fire.

c) When the battery is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.

d) Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

e) Do not use a battery or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.

f) Do not expose a battery or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C/265 °F may cause an explosion.

g) Follow all charging instructions and do not charge the battery or tool outside the temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

6) SERVICE

a) Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

b) Never service a damaged battery. Service of battery should only be performed by the manufacturer or authorized service providers.

VACUUM LIFTING DEVICE SAFETY WARNINGS

a) Do not deliberately try to rip the load off with extreme force. There is a risk of the load crushing feet and hands and damaging the object and tool.

- b) Do not lift objects weighing more than 75 kg (165 lbs). There is a risk the weight can fall off.
- c) Risk of load crushing feet and hands and damaging the object and tool. Do not shake the tool while lifting, moving and placing objects. Do not swing or shake the load while lifting, moving and placing objects. Do not use the tool when the seal is worn out. Lift and carry the load with uniform speed without sudden sharp and strong movements.
- d) Do not use the tool while the battery is low. There is a risk of injury and damage to the materials being lifted.
- e) If the sealing force begins to noticeably decrease while the battery is fully charged, check the foam seal for wear and tear or damage. Do not attempt to lift anything with the tool until you have replaced the seal.
- f) Use caution when lifting large thin flexible sheets, like drywall, cardboard, plastic, plywood, thin sheet metal etc. Thin sheets bend and flex and can unexpectedly change curvature above their limit and detach.
- g) Do not attach the tool to surfaces with visible puddles of water. Internal components are not waterproof. If water is sucked into the air ducts it can cause permanent damage to the tool. The GRABO® H V2 is not waterproof and therefore extreme caution should be taken when using in the rain or wet

conditions.

h) Do not drop the tool from heights above 1.5 meter above the ground (chest level). If dropped by accident, inspect the seal side lips for damage.

i) Do not place heavy objects on top of the tool.

j) To avoid overheating, do not cover the tool.

k) Ensure the switch is in the off-position before transporting the tool and when in storage. Be mindful that the tool is not switched on accidentally.

WARNING! Weight may drop without warning if the safety precautions are not met! The GRABO® H V2 creates a strong vacuum. In case the seal is broken or the allowed weight is exceeded or any other factor that causes the negative pressure to release spontaneously, this kind of failure will happen suddenly and absolutely without any sensory indication or warning. You will not notice the weight detaching and there will be no possibility to stop or catch it. This is very dangerous, especially with heavy loads. Therefore all safety precautions should be kept to the maximum.

FOAM SEAL USAGE AND SAFETY

! The foam seal, made of black rubber foam uses patented technology and is one of the main components of the tool. It should be handled with caution as it directly impacts the overall performance and safety.

a) The seal can withstand an estimated 900 compression cycles, depending on force and duration of compression, without any damage.

b) Avoid rubbing the seal over rough surfaces. Seal material is very prone to parallel wear (moving parallel to rough surface in ironing motion). Lift perpendicularly on very rough surfaces. Rubbing the seal over a smooth surface such as granite in the presence of thick abrasives (thick sand) will damage the seal and may cause unexpected detachment.

c) Surfaces with very sharp edges should not be lifted in parallel hold. Edges sharper than 45 degrees may damage the seal and lead to sudden vacuum loss and sudden detachment. The motor should always be on.

d) Always store the seal covered with a hard cover. The seal can be easily damaged by sharp corners and edges when in storage. The seal should not be stored with sharp tools or in contact with any hard objects (e.g. inside a toolbox).

e) Do not dip the seal in water. The foam seal is slightly water absorbent. Unless it is fully dipped in water and soaking wet,

slightly soaking the seal with water will not damage its performance. If it is soaked in water, it can be squeezed by hand like a sponge to dry without damage. It is advisable to use a dry seal to avoid water getting sucked into air ducts and inside the body.

! Do not dip or use the seal in the presence of any oil-based products. Oil and oil products (machine oil + lubricants) will permanently damage the seal and cannot be removed. If the seal has absorbed oil, it should be disposed of safely, the base should be cleaned, and the seal replaced.

! Do not use or store the seal in the presence of chemical solvents. Kerosene, acetone, turpentine, benzene, acids, etc. and even their fumes in closed spaces or thin layers on surfaces can melt the seal and damage its structure and cause failure.

EXPLANATION OF SYMBOLS

- ⑤ Read the operator's manual before use
- ⑥ Wear protective shoes and gloves
- ⑦ Do not dispose of the tool together with household waste material

TRANSPORTING

The GRABO® H V2 doesn't come with batteries in order to reduce the risk of hazardous product transportation.

OPERATION

LIFTING TECHNIQUES

- Plan ahead. Know what you are lifting and how you will lift it. Be aware of the weight of the object. Determine whether or not it is safe to lift on your own. Make sure the work area is flat, dry and clear of debris.
- Check your path. Make sure the lift path is clear. Remove any tripping hazards or debris. Check for any wet or slick surfaces.
- Use ergonomic equipment. Use lift assists such as a forklift, dolly, cart, hand truck, or hoist.
- Make sure you are trained before using the equipment.
- Get help when needed. When lifting awkward or heavy loads, utilize a two person lift. Make sure you lift at the same time and keep the load level.
- Wear proper required protective shoes and gloves.

- Basic diagonal lifting technique.

! Use this basic lifting technique for small objects when you can straddle the load and use a wide stance.

1. Get as close to the object as possible.
2. Use a wide stance with one foot forward and to the side of the object for good balance.
3. Keep your back straight, push your buttocks out. Use your legs and hips to lower yourself down to the object.
4. Move the object as close to you as possible.
5. Put the hand (same side of your body as the forward foot) on the side of the object farthest from you.
6. When lifting the load holding the GRABO® H V2 with one hand, secure the load with your other hand.
7. Prepare for lifting, tighten your core muscles, look forward and upward, and maintain a straight and strong back.

! Do not hold your breath while lifting. Do not bend or twist your waist. Do not use a partial grip (1-2 fingers). Do not obstruct your vision when carrying. Do not jerk or lift quickly. Do not pinch your fingers or toes.

8. Lift slowly and follow with your head and shoulders. Hold the load close to your body. Lift by extending your legs with your back straight, and breathe out as you lift. Pivot

your feet to avoid twisting.

OPERATING THE GRABO® H V2

1. Install batteries [not included] (see INSTALLING / CHANGING THE BATTERIES).
2. Slide the power ON/AUTO/OFF switch **Ⓒ** into the ON position (motor continually runs) or AUTO position (automatic start/stop function). When the vacuum level reaches -0.6 Bar (- 6kPa) the pump will automatically stop. When the vacuum level drops below -0.6 Bar (- 6kPa) , the GRABO® H V2 will automatically restart the pump (when the pump is switched on). The Battery bar indicator **Ⓓ** shows the amount of available charge. **NOTICE:** If the battery bar indicator **Ⓓ** flashes red and green the batteries are low and need to be replaced (see INSTALLING / CHANGING THE BATTERIES).

CAUTION: Using the GRABO® H V2 while the batteries are low may result in injury and damage to the materials being lifted. It is advisable to check the battery before using the GRABO® H V2.

3. Position the GRABO® H V2 firmly against the surface of the object you want to lift.

4. Press the green motor power button **(A)**. The indicator light will flash green when the motor is running. The seal is created within seconds.

5. Lift and move the object.

! When lifting materials with dusty, dirty, or moist surfaces, remove the dust and dirt as much as possible. The GRABO® H V2 will automatically turn the pump on and off (when in AUTO mode) to maintain the pressure necessary for safe lifting.

! Do not try to lift any weights heavier than the values displayed in the “maximum lifting force” chart.

TO END OPERATING THE GRABO® H V2

1. When you are done and the object is in a secure and stable position, press the green motor power button **(A)** to stop the vacuum pump. Press the red vacuum release button **(B)** to break the seal and release the object. Slide the power ON/AUTO/OFF switch **(C)** to OFF.

INSTALLING / CHANGING THE BATTERIES ④


1. Slide the battery latch to unlock the battery compartment ⑤.
2. Remove the battery compartment ⑤.
3. Insert batteries (6 x AA or 2 x 18650 not included) into the battery compartment.
4. Put the battery compartment back into place.
5. Press and slide the battery compartment latch to lock the battery.

! CAUTION: Only use genuine batteries from major brands. Using other batteries, will shorten the lifespan of the tool, and pose safety hazards.


DANGER: Take out the batteries when the product is not in use to avoid battery leakage corroding the circuit board.

EXPLANATION OF VISUAL INDICATORS

The indicator light is constantly green when the pressure reaches its maximum capacity and automatically stops (AUTO mode).

The indicator light will flash green when the motor is running. The battery bar indicator  flashes red and green when the batteries are low and need to be replaced

MAINTENANCE

 **WARNING:** Changes to the tool and technical modifications are not permitted. This can lead to injury. If the tool is damaged, or faulty despite the care taken in manufacturing and testing procedures, repair shall be carried out by an authorized after-sales service center for the GRABO® H V2.

! CAUTION: Under no circumstances should the GRBAO H V2 be opened for repairs or any other purpose by anyone other than an after-sales service technician authorized by Nemo Power Tools Ltd. Opening the GRBAO H V2 invalidates the manufacturer warranty.

REPLACING THE FOAM SEAL

Remove the foam seal if it has become worn or damaged.

1. Pull out the foam seal **Ⓒ**.
2. Gently press a replacement foam seal into position.
3. Make sure that the replacement foam seal fits correctly and securely.

REPLACING OR CLEANING THE AIR FILTER **Ⓓ**

Clean the filter when dirty. The filter needs to be replaced when the filter is badly worn or ripped (at customer's discretion). This is determined by how the GRABO® H V2 is being used. When lifting clean material, the filter will last longer than when being used on dirty/dusty materials.

1. Turn the GRABO® H V2 upside down.
2. Use the tip of a screwdriver to remove the air filter lock ring **Ⓗ** and the air filter pad **Ⓘ**.
3. Do one of the following:
 - a. Clean the filter with compressed air, or
 - b. Insert a replacement air filter pad.
4. Insert the air filter lock ring **Ⓗ** to secure the filter **Ⓘ**.

! Do not clean a dirty air filter pad ① with water. It may become clogged and unusable.

! A decrease in suction power indicates that the air filter needs to be cleaned and/or replaced. Check that the air duct is free from any obstruction or foreign objects during filter replacement.

TROUBLESHOOTING

www.GRABO.com

DISPOSAL

Do not dispose of electric equipment, batteries, accessories, and packaging in domestic waste. Electrical equipment that has reached the end of its life shall be collected separately and returned to an environmentally compatible recycling facility. The WEEE symbol ⑦ will remind you of this when the need for disposal occurs.

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