

Nemo

POWER TOOLS

SUBMERSIBLE CORDLESS
HULL CLEANER

NEMO HULL CLEANER
ELECTRIC BRUSH



NEMO Hull Cleaner

Functional Description and Specifications

Intended Use

The Nemo hull cleaner electric brush is specifically designed for divers, boaters, industrial and marine professionals to make in-water boat cleaning easy. Remove hardened barnacles, algae, moss, scum lines and tough stains; reach rudders, keels, propellers and all in-water boat surfaces up to 164 ft (50m) deep.

Packing List

Your Nemo hull cleaner electric brush is packaged together with the following accessories:

- ◆ Battery charger
- ◆ (2) 10 Ah Batteries
- ◆ 2 Brushes (hard & soft)
- ◆ Hand Pump
- ◆ 2 Side handles
- ◆ Drying cloth
- ◆ Carrying case

Technical Specifications

Battery Charger

Model	XVE-2100400
Approximate charging time	150 mins
Charging output voltage	21V
Charging input voltage	100V – 240V

Nemo Hull Cleaner Electric Brush

Model	HCEB-18V-10Li-50
Motor	Brushless 900W
Min/Max speed	120/160 RPM
Net weight (without battery and brush)	5.1 lbs (2.3kg)
Dimensions (with 10Ah battery)	205 x 122 x 410 mm 8.1 x 4.8 x 16.1 in
Brush Diameter	11.8 in (300 mm)
Working temperature	32-140°F (0-60°C)
Run time underwater (no load/ no pressure inside)	370 mins
Submersible up to	164 ft (50m)



Caution: You must pressurize the Nemo hull cleaner electric brush before you can use it underwater, as described in *Pressurizing the Nemo Hull Cleaner Electric Brush for Underwater Use*, page 13.

Safety Warnings



Warning: Read all safety warnings and instructions, and save them for future reference. Failure to adhere to these warnings can result in serious injury and damage to equipment.

Work Area Safety

- ◆ All work should be done in accordance with the local, state, and government occupational safety and health guidelines.
- ◆ Keep your work area clean and well lit.
- ◆ Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
- ◆ Keep bystanders and children away when operating power tools.

Personal Safety

- ◆ Stay alert and use common sense when operating power tools.
- ◆ Do not use power tools when you are tired or under the influence of drugs, alcohol, or medication.
- ◆ Use personal protective equipment. It is recommended to always wear eye protection, as well as a P2 filter-class respirator.
- ◆ Dust from materials such as lead-containing coating, some wood types, minerals, and metal can be harmful to one's health. Observe the relevant regulations in your country for the materials to be worked.

General Power Tool Safety

- ◆ Store idle power tools out of reach of children, and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.

- ◆ Maintain your power tools. Check for misalignment or binding of moving parts, breakage of parts, and any other conditions that may affect the power tool's operation. If damaged, have the power tool repaired by an authorized service technician.



Caution: Under no circumstances should the power tool be opened for repairs or any other purpose by anyone other than an after-sales service technician authorized by Nemo Power Tools. Opening the power tool invalidates the manufacturer warranty.

- ◆ Use power tools and accessories in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Consult local, state, and government occupational safety and health guidelines before operating a power tool.
- ◆ Hold the power tool with a firm grip.
- ◆ Work only on stable items. Do not hold any workpiece in your hand. Secure the workpiece with clamping devices or in a vice.
- ◆ Always wait until the power tool has come to a complete stop before placing it down.

General Brush Cleaning Tips

When using the brush submerged:

- ◆ Use the softest brush that will get the job done.
- ◆ Use the slowest speed that will get the job done.
- ◆ Allow the hull cleaner electric brush to do the work. Don't fight it.
- ◆ Do not apply excess pressure to the surface you are cleaning. Excess pressure against the tool may cause the battery to shut down prematurely . (See **Battery Safety Feature** , page 20) .
- ◆ Do not scrub, just guide the brush in the direction you want to clean.
- ◆ Occasionally change hands, grip and position to equalize loads on your muscles.

- ◆ It may take some practice to get efficient with the hull cleaner electric brush. You will need to unlearn hand scrubbing techniques. Be prepared to use one to two batteries while familiarizing yourself with its operation and a new brush technique.

When using the brush above the waterline:

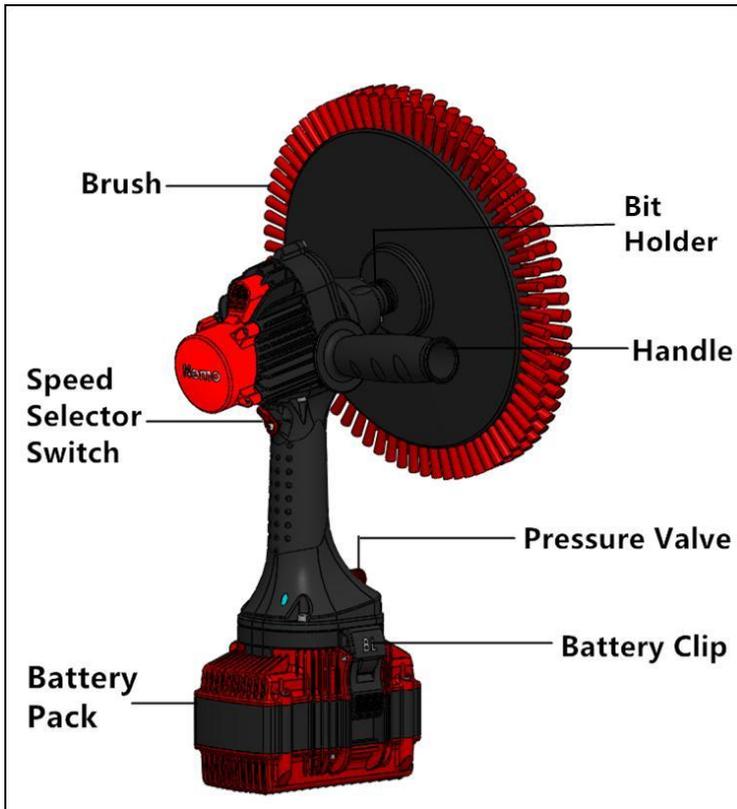
- ◆ Use the softest brush to get the job done.
- ◆ Keep the tool unit cool when using it on deck by spraying with water regularly.
- ◆ Test the brush on an inconspicuous spot before using it to clean a surface.
- ◆ Ensure the surface is kept wet when using the brush to clean.

Rechargeable Battery Safety

- ◆ Use only the battery pack supplied with your power tool.
- ◆ When the battery pack is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, and screws, which can make a connection from one terminal to another.
- ◆ Store and charge the battery pack within a temperature range of 32°F - 113°F (0°- 45°C).
- ◆ Before any work on the power tool, such as a tool change, as well as during transportation and storage, remove the battery pack from the power tool. There is danger of injury when accidentally activating the On position.
- ◆ Do not open the battery.
- ◆ Protect the battery against heat, including continuous sun irradiation and fire.
- ◆ When the battery is defective, liquid can escape and come into contact with adjacent components.
- ◆ Use only original batteries with the voltage listed on the nameplate of your power tool. When using other batteries, such as imitations, reconditioned batteries, or other brands, there is danger of injury as well as property damage through exploding batteries.
- ◆ Use only the battery charger provided with the power tool to recharge the battery. Only this battery charger is matched to the lithium-ion (Li-ion) battery of your power tool.
- ◆ Protect the battery charger from rain and moisture. The battery charger is not waterproof.
- ◆ Do not charge other batteries. The battery charger is suitable only for charging the battery pack supplied with the tool.
- ◆ Before use, always check the battery charger, cable, and plug. If defects are detected, do not use the battery charger. Never open the battery charger. Only have it opened and repaired by qualified personnel who will use original spare parts.

Getting Started with the Hull Cleaner Electric Brush

Your Nemo Hull Cleaner Electric Brush (HCEB-18V-10Li-50) includes the following main components:



Charging the Battery

The battery is supplied partially charged, and must be charged to full capacity before using the hull cleaner electric brush for the first time.



Caution: Only use the battery charger provided with the hull cleaner electric brush. Only this battery charger is matched to the Li-ion battery supplied with your power tool.



Danger: Ensure that the voltage of the power supply corresponds with the data given on the nameplate of the battery charger.



Danger: Only use the charger in a dry environment. The charger is not waterproof. Never attempt to charge the battery underwater.

The battery can be charged at any time without reducing its service life. The battery charger detects the charging condition of the battery, and charges it with the optimum charging current for its temperature and voltage. This lengthens the battery life, and leaves it fully charged when stored in the charger.

Interrupting the charging procedure does not damage the battery. Only charge the battery when its temperature is between 32°F-113°F (0°C- 45°C).

1. Connect the mains plug of the battery charger to an electrical outlet. A steady green light on the battery charger indicates that the charger is ready for operation.
2. Press the battery charger's connectors into the sockets on the top of the battery pack. There is only one correct way to insert the connectors into the battery sockets.



The battery begins charging as soon as it is connected to the charger.

- ◆ A steady red light on the battery charger indicates that the battery is charging.
 - ◆ A steady green light on the battery charger indicates that the battery is fully charged.
3. When you are ready to use the battery, rotate the connectors' plastic caps counterclockwise and pull the connectors vertically out of the charger.

Inserting a Battery into the Nemo Hull Cleaner Electric Brush

1. Ensure the speed selector switch is in the Off position.



Caution: To minimize the risk of accidental activation, ensure the speed selector switch is in the Off position before performing any maintenance on the hull cleaner electric brush, as well as during transport and storage.



Caution: Use only a Li-ion battery from the original factory with the voltage listed on the nameplate of your hull cleaner electric brush. Using other batteries not suitable for the hull cleaner electric brush can lead to malfunctions, cause damage to the power tool, and pose a fire hazard.

2. Place the hull cleaner electric brush onto the battery. There is only one correct way to position the hull cleaner electric brush on the battery.



3. Push the hull cleaner electric brush down until it clicks into place, then close the clips on either side of the battery to lock it in place. The clips hold the battery pack in position and prevent it from detaching.



Removing a Battery from the Hull Cleaner Electric Brush

1. Ensure the speed selector switch is in the Off position.



Caution: To minimize the risk of accidental activation, ensure the speed selector switch is in the Off position before performing any maintenance on the hull cleaner electric brush, as well as during transport and storage.

2. Open the clips on either side of the battery. These clips hold the battery pack in position and prevent it from detaching.
3. Gently lift the unit off the battery, without exerting any force.

Fitting the Hull Cleaner Electric Brush Side Handle

The side handle enables you to hold the hull cleaner electric brush securely with both hands. It is repositionable, and can be fitted on either side of the unit.

1. Ensure the speed selector switch is in the Off position.



Caution: To minimize the risk of accidental activation, ensure the speed selector switch is in the Off position before performing any maintenance on the tool, as well as during transport and storage.

2. Screw the handle securely into one of the holes found on either side of the Nemo hull cleaner electric brush body.

Mounting a Brush

1. Ensure the speed selector switch is in the Off position.



Caution: To minimize the risk of accidental activation, ensure the speed selector switch is in the Off position before performing any maintenance on the hull cleaner electric brush, as well as during transport and storage.

2. Pull the chuck sleeve out gently without removing it from the tool body. Insert the brush spindle into the drive shaft. The brush spindle will lock into place. Release the chuck sleeve and

ensure that the brush spindle is securely locked into the drive shaft.

Operating the Brush

The brush is controlled by a red switch at the back of the tool unit. The brush motor has 3 modes: stop/off, low speed, and high speed. The LED light at the back of the tool unit indicates power supply. When the LED light starts blinking it is time to recharge the battery pack.



1. To turn the brush motor ON move the red switch at the back of the tool unit to **middle right** for low speed.
2. For high speed move the red switch to the **far right**.
3. To stop/switch off the motor, move the red switch to the **far left**.
4. The brush rotational movement is clockwise.

Dismounting the Brush

1. To remove the brush simply gently pull the chuck sleeve out and release the brush spindle from the drive shaft.
2. Remove the brush and rinse it clean with fresh water.
3. Leave the brush to dry before storing it back in the hard carrying case.

Pressurizing the Nemo Hull Cleaner Electric Brush for Underwater Use

Your hull cleaner electric brush can be used in-water, and can be submerged and used underwater at depths of up to 164ft (50m).

1. Remove the red cap from the pressure valve on the foot of the hull cleaner electric brush.
2. Attach a pump, such as the hand pump supplied with the hull cleaner electric brush, to the valve.
3. Pressurize the hull cleaner electric brush according to the depth to which you are going to submerge it, as follows:

Depth in meters	Depth in ft	Pressure
Up to 5m	16 feet	Minimum 15 psi (1 Bar)
Up to 10m	33 feet	Minimum 29 psi (2 Bars)
Up to 20m	66 feet	Minimum 44 psi (3 Bars)
Up to 30m	98 feet	Minimum 58 psi (4 Bars)
Up to 40m	131 feet	Minimum 73 psi (5 Bars)
Up to 50m	164 feet	Maximum 87 psi (6 Bars)



Caution: Never add more than 87 psi (6 Bars) of pressure to the hull cleaner electric brush.



Caution: Under no circumstances should the hull cleaner electric brush be pressurized underwater. Pressurizing the tool underwater will cause the tool to burn out.

Best Practices for Underwater Operation

Your Nemo hull cleaner electric brush is designed to be waterproof, so that it can be used both on land and underwater. To obtain the maximum serviceable life of your hull cleaner electric brush, adhere to the following best practices when using the Nemo hull cleaner electric brush underwater:

- ◆ You must pressurize the hull cleaner electric brush before you can use it underwater, as described in *Pressurizing the Nemo Hull Cleaner Electric Brush for Underwater Use*, page 13 .
- ◆ Do not exceed the maximum operational depth as recommended by the manufacturer.
- ◆ The hull cleaner electric brush is a hi-tech piece of equipment and should be treated with care. Its watertight seals may be damaged if it is dropped.
- ◆ The hull cleaner electric brush can be used in salt water.



Note: After using the hull cleaner electric brush in salt water, immediately rinse it in fresh water to remove all salt residue.

- ◆ Before storing the hull cleaner electric brush in the carrying case after use in water, rinse it with fresh water and dry it off.
- ◆ Treat the high-quality battery with care. Keep the battery fully charged and dry, ready for use, and always store it in the carrying case when not in use.
- ◆ To extend the operating time of the battery when working underwater, ensure the speed selector switch is in the Off position when the hull cleaner electric brush is not in use. When the speed selector switch is in this position, the battery does not supply any power to the motor, conserving battery power.
- ◆ Before inserting the battery into the hull cleaner electric brush, check that the O-ring on the body basement is present and undamaged.



Caution: If the O-ring is missing or does not seal completely, water can enter the hull cleaner electric brush or battery, causing serious damage.

Maintenance

Servicing the Hull Cleaner Electric Brush

If your Nemo hull cleaner electric brush is damaged or faulty, have it repaired by an authorized service technician.



Caution: Under no circumstances should the hull cleaner electric brush unit be opened for repairs or any other purpose by anyone other than an after-sales service technician authorized by Nemo Power Tools. Opening the unit invalidates the manufacturer warranty.

Transporting the Hull Cleaner Electric Brush

For maximum protection, always transport your hull cleaner electric brush secured in its carrying case.

The battery pack has effective protection against internal over-pressure and short-circuiting, as well as devices preventing violent rupture and dangerous reverse current flow.

The regulations governing dangerous goods may be relevant when transporting the hull cleaner electric brush and its batteries. It might be necessary to comply with special conditions, such as those governing packaging and labeling, when shipping the tool with one or more batteries.

Disposing of the Hull Cleaner Electric Brush

At the end of its lifecycle, the hull cleaner electric brush, its accessories, and packaging should be sorted for environmentally friendly recycling.

Do not dispose of the battery pack in household waste, fire, or water. Battery packs should be collected, recycled, or disposed of in an environmentally friendly manner.

How to preserve the battery life and store your Nemo Power Tools

Before using a Nemo Power Tool, ensure that the battery for the tool has been fully charged to 100%.

Do not operate a Nemo Power Tool, when the battery of the tool is low in power.

If the battery power becomes low, stop work immediately and recharge the battery.

When not in use, the Nemo Power Tool should be safely stored away with the battery disconnected from the power tool.

Never leave the battery connected to the Nemo Power Tool longer than 24 hours when not in use.

Make sure there is no metal or other things to block the connector after every dive and keep the brass pin dry when storing.

Troubleshooting

Problem: The battery is not charging, and there is a blinking red light on the battery charger.	
Possible Cause	Corrective Action
The battery is not correctly inserted into the charger.	Remove the battery from the charger, then re-insert it correctly.
The battery contacts are contaminated.	Clean the battery contacts, for example by repeatedly removing and inserting the battery, or replace the battery.
The battery is defective.	Replace the battery.

Problem: The battery charger indicator does not light up.	
Possible Cause	Corrective Action
The mains plug is not correctly plugged in to the socket.	Insert the mains plug fully into the socket outlet, and ensure that the socket is functional.
The socket outlet, mains cable, or battery charger are defective.	Check the voltage power; have the battery charger checked by an authorized after-service agent.



Caution: Under no circumstances should the hull cleaner electric brush or accessories be opened for repairs or any other purpose by anyone other than an after-sales service technician authorized by Nemo Power Tools. Opening the hull cleaner electric brush unit invalidates the manufacturer warranty.

Problem: The battery charger is warm to the touch.	
Possible Cause	Corrective Action
Continuous or repetitive charging cycles without a break may cause the charger to warm up.	No corrective action is required as this does not indicate a fault with the battery charger.

Problem: The battery operation time is significantly reduced, even after the battery is fully charged.	
Possible Cause	Corrective Action
The battery is defective, or has reached the end of its life (approximately 1000 charging cycles).	Replace the battery.

Problem: The tool stops suddenly.	
Possible Cause	Corrective Action
The tool has overheated.	Switch the speed selector to Off position. Take the tool out of the water and remove the battery. Check the temperature of the tool; if it is hot, let it cool down, and then reconnect the battery.
The power in the battery pack is low.	Check the LED light on the back of the tool body. If the LED light is blinking, recharge the battery, or replace with a fully charged battery.

Problem: Many air bubbles come out from the tool.	
Possible Cause	Corrective Action
Excessive mechanical seal leakage.	Immediately stop using the tool and take it out of water. Rinse the tool with clean water and dry it. Contact an after-sales service technician authorized by Nemo Power Tools.

Problem: Unable to dismount the brush.	
Possible Cause	Corrective Action
There is some debris stuck in the chuck or the chuck is rusted.	Turn the brush clockwise and counterclockwise. Pull out the chuck to release the brush spindle from the drive shaft.

Problem: The battery is connected but the tool does not work.	
Possible Cause	Corrective Action
Battery pack is not properly sealed or battery contacts are not connected.	Ensure the battery is fully charged. Check that the battery contacts are connected and the battery pack is properly sealed with the side clips.

Problem: The brush spindle will not go into the drive shaft.	
Possible Cause	Corrective Action
Debris or residue is trapped inside the chuck.	Ensure the chuck is clean of debris or residue. Try again.



Caution: Under no circumstances should the hull cleaner electric brush be pressurized underwater. Pressurizing the tool underwater will cause the tool to burn out.

Battery Safety Feature

A battery that " fails " or seems to have a short life before it shuts down , may simply be a battery that has gone into its SAFE mode .

A battery that has experienced an excessive current draw from a short circuit , or a high current draw when the tool was under an excessive load , may shut down prematurely . This is a built-in safety feature. To avoid excessive amperage from shutting the battery off prematurely, please see **General Brush Cleaning Tips** -Page 4 .

If the battery contacts are not damaged , recharging the battery for a short period (even a few minutes) will reset the battery's electronics and restore the battery voltage to the voltage level before it shut down.

If this battery or another battery experiences the same problem immediately upon restarting the tool , then a short circuit should be suspected and the tool should be inspected for repair.

Disclaimer :

Nemo Power Tools Ltd reserves the right to change the contents of this manual at any time without prior notice .

Nemo Power Tools Ltd
www.nemopowertools.com

