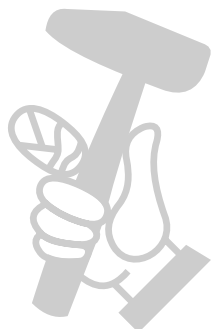




VR001C
VR002C
VR003C
VR004C

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INTENDED USE

The tool is intended for removing bubbles from concrete when casting concrete.

NOISE

The typical A-weighted noise level determined according to EN60745:

Model: VR001C, VR002C

Sound power level (L_{WA}): 98.4 dB (A)

Sound pressure level (L_{pA}): 87.4 dB (A)

Uncertainty (K): 3 dB (A)

Model: VR003C, VR004C

Sound power level (L_{WA}): 97.6 dB (A)

Sound pressure level (L_{pA}): 86.6 dB (A)

Uncertainty (K): 3 dB (A)

NOTE: The declared noise emission value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared noise emission value(s) may also be used in a preliminary assessment of exposure.

⚠ WARNING: Wear ear protection.

⚠ WARNING: The noise emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.

⚠ WARNING: Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

VIBRATION

The vibration total value (tri-axial vector sum) determined according to EN60745:

Model: VR001C, VR002C

Work mode: operation without load

Vibration emission (ah): 1.9 m/s² (Hose)

Vibration emission (ah): 0.7 m/s² (Inverter case)

Uncertainty (K): 1.5 m/s²

Model: VR003C, VR004C

Work mode: operation without load

Vibration emission (ah): 3.1 m/s² (Hose)

Vibration emission (ah): 1.7 m/s² (Inverter case)

Uncertainty (K): 1.5 m/s²

NOTE: The declared vibration emission value has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared vibration emission value may also be used in a preliminary assessment of exposure.

⚠ WARNING: The vibration emission during actual use of the power tool can differ from the declared emission value depending on the ways in which the tool is used especially what kind of workpiece is processed.

⚠ WARNING: Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

EC Declaration of conformity

For European countries only

The EC declaration of conformity is included as Annex A to this instruction manual.

GENERAL POWER TOOL SAFETY WARNINGS

⚠ WARNING: Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious 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.

Work area safety

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

Electrical Safety

4. 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.
5. 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 earthed or grounded.
6. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
7. 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.
8. 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.
9. If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of a GFCI reduces the risk of electric shock.

Personal Safety

10. 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.
11. Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
12. Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, 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.
13. 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.
14. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
15. Dress properly. Do not wear loose clothing or Jewelry. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, Jewelry or long hair can be caught in moving parts.
16. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

Power tool use and care

17. 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.
18. Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
19. Disconnect the plug from the power source and/or the battery pack 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.
20. 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.

21. 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.
22. Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
23. 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.
26. When battery pack 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.
27. 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.

Battery tool use and care

24. Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
25. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
28. 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.
29. Follow instruction for lubricating and changing accessories.
30. Keep handles dry, clean and free from oil and grease.

Service

PRODUCT SAFETY WARNINGS

1. This product is a vibrator for compacting concrete. Do not use the vibrator for any other purpose.
2. Be sure to read and understand this instruction manual carefully before using the product so that it can be operated safely and efficiently. Improper machine use may result in injury or machine failure. Keep this manual for further reference.
3. This product should be used by connecting it to the Makita portable power pack "PDC01" or "PDC1200." Also, read the instruction manuals for the portable power pack and the battery charger.
4. Never use this product while connected to any other power supply device. Doing so may result in damage to the circuit board or burnout of the motor. The damage or motor burnout may destroy the insulation and cause electric shock.
5. Do not use any battery other than the dedicated battery specified by Makita for the portable power pack. Also, do not use batteries that have been modified (including batteries that have been disassembled and the cells or other internal parts replaced).
6. Do not charge the battery with anything other than the included charger.
7. The term "battery cartridge" in this manual is hereinafter referred to as "battery."
8. Handle and maintain this product appropriately to ensure safe operation.
9. When you lend this product to another person, be sure to provide them the manuals and to fully explain to them the safe and appropriate use of the product.
10. The specifications in this document are subject to change without notice due to modification.
11. This product complies with these EMC standards: EN61000-6-2 / EN61000-6-4.
This product does not comply with these EMC standards: EN61000-6-3 / EN55014-1.
12. When using this product near other electronic devices, it may cause radio interference.
At that time, users of this product may need to take appropriate measures.

Concrete vibrator safety warnings

1. Put on a safety helmet, anti-vibration gloves, safety boots, hearing protection, face protection (safety glasses and mask), and safety harness before using the vibrator.



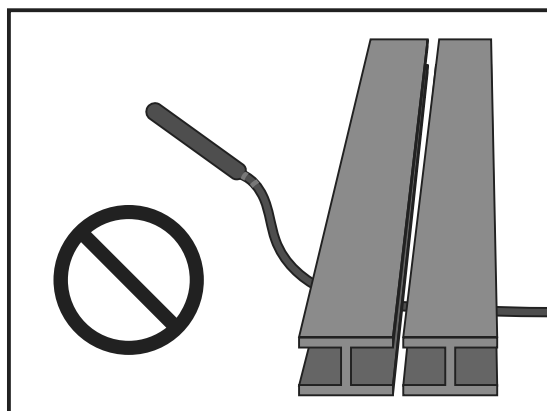
2. When working, wear long sleeves and long pants and keep skin exposure to a minimum to avoid skin damage caused by flying concrete adhering to the skin.
3. When using the vibrator near feet or in places that are not very deep, concrete may be splattered around. Use face protection (safety glasses and mask) to protect your eyes and mouth. Please wear hearing protector when working in noisy places.
4. Ensure a footboard is placed when work on bad footing area such as on a rebar.
5. Since this product has a long hose, there is a risk of injury by stumbling or making a false step if the hose gets caught on rebar during work or moving, or movement is limited by putting something on the hose. Also, if the product is left in an area where people pass by when work is suspended, it may catch someone's foot and cause someone to fall or be injured. Be careful when handling hoses and cables.
6. Long time use of vibrator or operating the vibrator with unnatural posture may put a strain on a body. Be sure to take appropriate breaks to avoid fatigue or injury. Also, if you feel pain or numbness in your hands, arms, shoulders, or back while using the product, stop using it immediately and receive appropriate treatment.
7. The business operator making use of this concrete vibrator has to manage working hours and must make efforts to prevent worker's health impairment comes from vibration.

Refer to the "VIBRATION TOTAL VALUE" section for the details about the vibration strength of the vibrator. Observe the relevant legal requirements and guidelines of the country where the vibrator is used.

8. When temporarily stopping work, store the product in a safe place. If it is placed in an aisle, it may catch your foot and cause you to fall or get injured. If any abnormality or malfunction occurs, immediately turn off all power supplies, discontinue use, and detach the portable power pack. For inspection and repair, contact your local Makita Authorized Service Center.
9. The head assembly of this product is cooled by insertion into ready-mixed concrete. Thus, do not use it outside the ready-mixed concrete (i.e. in the air). There is a possibility that the motor could burn out.



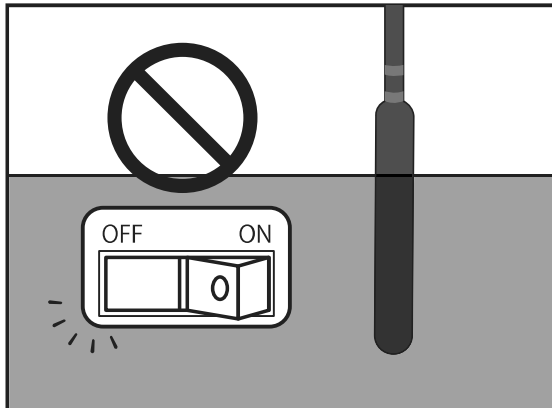
10. Do not operate the head assembly in the air. When operating it in the air, the vibrator reaches 100°C (212°F) or higher in a few minutes, and you may get burned upon touching it.
11. The head assembly becomes hot during operation. After use, be careful not to touch it. There is a risk of being burned.
12. Do not place or drop any heavy objects on the cable or hose. It may damage the cable and cause a malfunction.



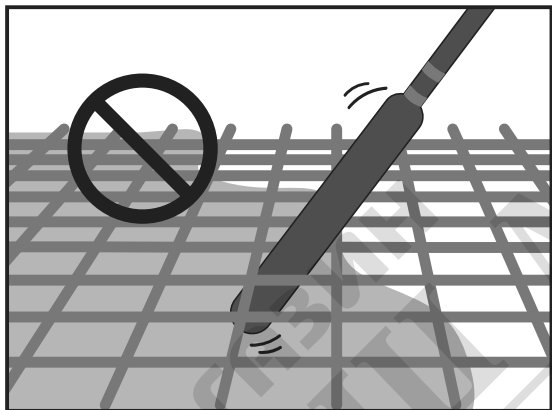
13. Do not swing the head assembly by holding the hose or cable. There is a possibility that this could cause injury or damages to objects nearby.

14. The power switch should be turned ON/OFF only when the head assembly is not inserted in the ready-mixed concrete.

If the power is turned OFF while the vibrator is in the ready-mixed concrete, you may not be able to remove the head assembly. Forcibly pulling it out may cause injury.



15. Do not set the vibrator down and switch it on. The head assembly may whip around out of control and cause an accident.
16. Do not pry or twist the vibrator among the rebar or the formwork with the head assembly. Otherwise the head assembly may become abraded and burns the motor.



17. When using a vibrator connected to the portable power pack, be sure to work alone. Two-person operation, where one holds the vibrator and the other holds the portable power pack separately, may cause accidents or injury.
18. When moving or storing the product, be sure to move it with the portable power pack turned off. If the power is left on, it may start up unexpectedly, causing an accident or injury.
19. The head assembly of this product should not be operated on hard surfaces such as hardened concrete or steel plate. There is a possibility that the bearings could burn, and the rotor could break.
20. Do not pull or suspend the cable from anything when placing concrete or moving it, or the plug may be loosened and could cause cable breakage or circuit board failure.
21. The inverter case contains precise electronic devices. Do not drop it, throw it, step on it, or subject it strong shocks.
22. When inserting or removing the connector, be sure to turn the portable power pack to OFF. If the connector is plugged in or unplugged while the power is ON, it may cause a malfunction.

23. To prevent poor contact, clean off any dirt or rust from the plug terminals before inserting them securely into the output socket of the portable power pack. Poor contact with the plug is one of the main causes of failure, such as motor burnout and damage to the circuit board.
24. The portable power pack to be connected to this product uses a lithium-ion battery. Do not give strong shock to the battery, splash water onto the battery, or place the battery near a heat. Doing so may result in malfunction, electric shock, or fire.
25. When an abnormality occurs, please stop operation immediately. Otherwise, it may cause a fire, electric shock, or injury.
26. Do not use the product in the presence of flammable liquids, gases, or dust. Doing so may cause ignition or explosion.
27. Do not attempt to disassemble or modify this product. Doing so may result in electric shock, overheating, rupture, or fire.
28. Do not use the vibrator under the rain.
29. Do not wash the vibrator with water.

Important safety instructions for portable power pack

1. Before using, portable power pack, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) portable power pack.
2. Do not pick up or carry this portable power pack by holding only the cord. Do not pull the cord while you are wearing or using this portable power pack.
3. Before wearing or putting off the portable power pack, remove the socket from the vibrator.
4. When you leave the vibrator, be sure to remove the socket from the vibrator, or remove the portable power pack from your body.
5. Be careful not to trip over the cord during operation.
6. Do not use this portable power pack on an unstable surface, or unstable high places.
7. During operation, keep the cord away from obstacles. The cord caught by obstacles may cause serious injury.
8. Do not insert the adapters into the charger.
9. Inspect the portable power pack including cords and harness before use. If they are damaged, ask your local Makita Authorized Service Center for repair.
10. When attaching the cord to the cord holder, be sure to attach it slowly and securely.
11. Always make sure that the vibrator is switched off and the socket is removed before attempting to perform inspection or maintenance of the vibrator.
12. When wearing the portable power pack, do not put on anything, such as safety harness or shoulder belt, which may interfere the emergency detachment function of the portable power pack.
13. Do not use this portable power pack when you are wearing cordless fan jacket or cordless heated jacket.
14. Do not expose this portable power pack to sparks.
15. When using this portable power pack without wearing it, be sure to lay down the portable power pack.
16. Do not disassemble, repair, or modify the portable power pack.
17. Be careful not to entangle the harness or belt by the vibrator.

[PDC01]

1. Do not use multiple portable power packs by connecting one portable power pack to another portable power pack.
2. Do not install the adapters to the battery ports of this portable power pack.
3. This portable power pack is designed exclusively for use with 18V batteries. Do not use the batteries other than 18V batteries.
4. Do not let water enter into the cover.

[PDC1200]

1. When you stand the portable power pack upright using the battery stand, be sure to place the portable power pack on the flat surface.
2. Use the charger dedicated to the portable power pack only. Do not use other chargers.
3. Do not carry the portable power pack by holding the battery stand or width adjustment belt.
4. Do not put or fix anything between the battery and battery stand.
5. Do not hang anything from the battery stand.

Important safety instructions for battery charger

1. Before using battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) portable power pack.
2. Non-rechargeable batteries cannot be charged with this battery charger.
3. Use a power source with the voltage specified on the nameplate of the charger.
4. Do not charge the battery in presence of flammable liquids or gases.
5. Do not expose charger to rain or snow.
6. Never carry charger by cord or yank it to disconnect from receptacle.
7. After charging or before attempting any maintenance or cleaning, unplug the charger from the power source. Pull by plug rather than cord whenever disconnecting charger.
8. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
9. Do not operate charger with damaged cord or plug. If the cord or plug is damaged, ask Makita authorized service center to replace it in order to avoid a hazard.
10. Do not operate or disassemble charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman. Incorrect use or reassembly may result in a risk of electric shock or fire.
11. When charging the batteries, do so in an indoor environment with an ambient temperature of 10°C (50°F) to 40°C (104°F). Do not charge battery when room temperature is BELOW 10°C (50°F) or ABOVE 40°C (104°F). At cold temperature, charging may not start.
12. Do not attempt to use a step-up transformer, an engine generator or DC power receptacle.
13. The holes of the charger are cooling vents and should not be blocked. Insufficient cooling affects charging time. Periodical inspection of cooling vents is recommended.

⚠ CAUTION: To reduce risk of injury, charge only Makita type rechargeable batteries. Other types of batteries may burst causing personal injury and damage.

Important safety instructions for battery

1. Before using battery, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) portable power pack.
2. Do not disassemble or tamper with the battery. It may result in a fire, excessive heat, or explosion.
3. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
4. Under severe conditions such as high temperature, the battery may leak liquid. Do not carelessly touch the leaked liquid. It may cause irritation or burns. In the unlikely event that battery fluid gets into your eyes or on your skin, immediately rinse with clean water such as tap water, and then seek medical attention.
5. Do not short the battery:
 - (1) Do not touch the terminals with any conductive material.
 - (2) Avoid storing battery in a container with other metal objects such as nails, coins, etc.
 - (3) Do not expose battery to water or rain.A battery short can cause a large current flow, overheating, possible burns and even a breakdown.
6. Do not enter the battery in a conductive material such as water, and do not put a conductive material such as water inside the battery. Doing so may cause a short circuit, which may result in overheating, fire, rupture, or explosion.
7. Do not charge, store and use the vibrator and the portable power pack and the battery in locations where the temperature may reach or exceed 50 °C (122 °F).
8. Do not incinerate the battery even if it is severely damaged or is completely worn out. The battery can explode in a fire.
9. Do not nail, cut, crush, throw, drop the battery, or hit against a hard object to the battery. Such conduct may result in a fire, excessive heat, or explosion.
10. Do not use a battery that has been dropped or damaged in any way.
11. The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements. For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed. For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations. Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.
12. When disposing the battery, remove it from the portable power pack and dispose of it in a safe place. Follow your local regulations relating to disposal of battery.
13. Use the battery only with the products specified by Makita. Installing the battery to non-compliant products may result in a fire, excessive heat, explosion, or leak of electrolyte.
14. If the vibrator is not used for a long period of time, the battery must be removed from the portable power pack.
15. Keep the battery away from children.
16. During and after use, the battery may take on heat which can cause burns or low temperature burns. Pay attention to the handling of hot batteries.
17. Do not touch the terminal of the battery immediately after use as it may get hot enough to cause burns.
18. Do not allow chips, dust, or soil stuck into the terminals, holes, and grooves of the battery. It may result in poor performance or breakdown of the vibrator or battery.
19. Do not contact the terminals of the charging battery with metal or other objects.
20. Do not use the battery near high-voltage electrical power lines. It may result in a malfunction or breakdown of the vibrator or battery.
21. When the battery temperature is high (40 °C (104 °F) or higher), such as after working under the blazing sun, charging may become temporarily Unable. However, this is due to the battery protective function and does not indicate a malfunction. Allow the battery to cool down for a while before recharging.

SAVE THESE INSTRUCTIONS.

CAUTION: Only use genuine Makita batteries.

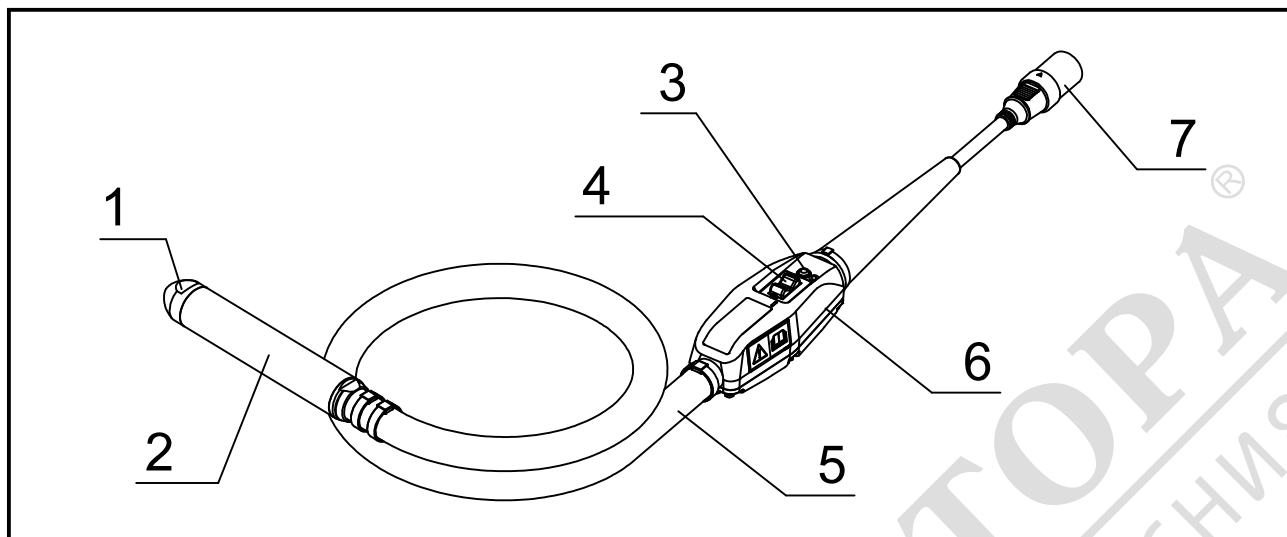
Use of non-genuine Makita batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury and damage. It will also void the Makita warranty for the Makita products.

Tips for maintaining maximum battery life

1. Charge the battery before completely discharged. Always stop tool operation and charge the battery when you notice less tool power.
2. Never recharge a fully charged battery. Overcharging shortens the battery service life.
3. Charge the battery with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cool down before charging it.
4. When not using the battery, remove it from the portable power pack or the charger.
5. Charge the battery if you do not use it for a long period (more than six months).

NAMES OF VIBRATOR PARTS

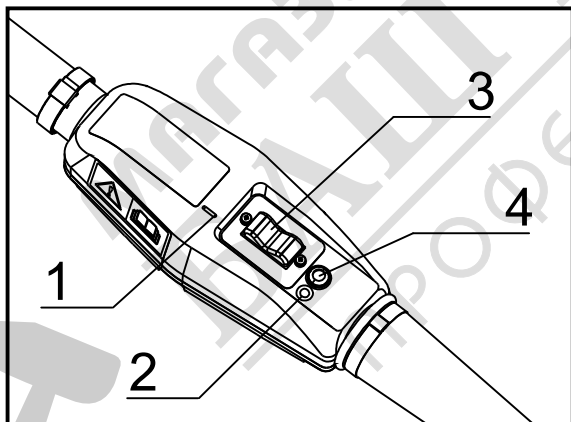
⚠ CAUTION: This product is a dedicated device for the Makita Portable Power Pack “PDC01” and “PDC1200.” Do not use other battery-powered devices. Doing so may result in electric shock, overheating, rupture, or fire.



1	Vibrator cap	5	Hose
2	Head assembly	6	Inverter case
3	LED lamp	7	Connector (plug)
4	Switch	–	–

OPERATIONS

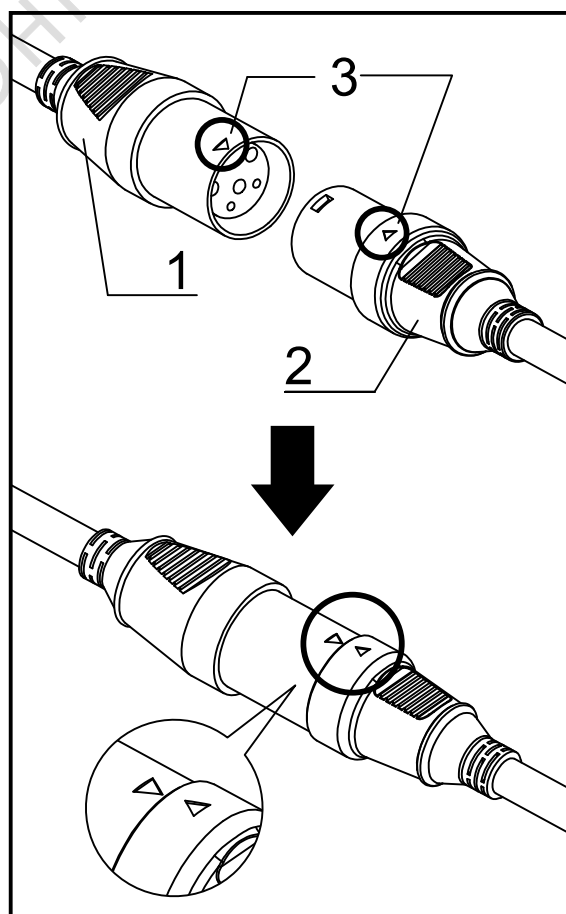
1. Make sure that the vibrator's operation switch is set to OFF.



- 1. "I" mark 2. "O" mark
- 3. Operation switch 4. LED lamp

NOTE: The "O" mark means OFF; the "I" mark means ON.

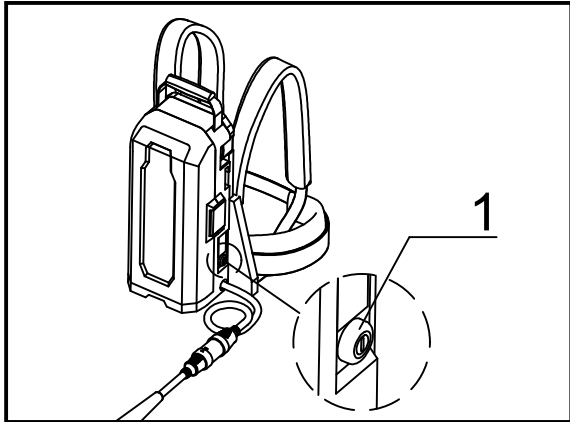
2. Align the arrow mark on the plug of the vibrator with the socket of portable power pack, and insert it all the way in.



- 1. Socket 2. Plug 3. Arrow mark

3. Press the power button on the portable power pack to turn it ON. The main power lamp lights up green. The LED lamp on the vibrator also lights up green.

NOTE: When the LED lamp is blinking red, the erroneous start prevention function is activated. Turning the operation switch to OFF cancels the erroneous start prevention function, and the LED lamp of the vibrator will light up green.



► 1. Main power button

4. Hold the vibrator hose so that the head assembly is suspended in the air.
5. When you are ready, turn the Operation Switch to ON to start the vibrator.

NOTE: Hold the vibrator hose at the point where the vibration to the hand is weak.

6. Insert the vibrator perpendicularly into the concrete with a pitch of effective compacting range.

NOTE: The effective compacting range for the vibrator is an area having a diameter approximately 10 times the diameter of the vibrating part.

7. Guideline of replacing vibrator position is when the concrete stops settling and the mortar floats evenly on the surface and gets shiny.

NOTE: Placing the vibrator at one point for a long time may cause aggregate separation.

NOTE: If separation occurs during concrete placing, fill coarse aggregate evenly and place the concrete again.

NOTE: It is recommended to set the Operation Switch to OFF while the vibrator is not inserted into the concrete. This helps to extend the usage time/product life of the vibrator.

8. When pulling up the vibrator, pull it up slowly so that no holes are left.
9. After the completion of casting, turn the vibrator Operation Switch to OFF to stop the vibrator.
10. Press and hold the power button on the portable power pack to stop the output of power. The power indicator will turn off.
11. Remove the connector that connects the portable power pack and vibrator.

NOTE: When removing the connector, hold the socket and plug and don't pull the power cord itself.

HOW TO CHARGE THE BATTERY

⚠CAUTION: Before charging the battery, be sure to read the instruction manual for the portable power pack and the battery charger.

- To charge, refer to the portable power pack or battery charger instruction manual.

CLEANING AFTER USE

- After use, the vibrator should be cleaned well and the hoses and cables neatly wrapped up.

1. Remove concrete from the head assembly, hose, inverter case, and cables before it hardens.
2. Do not wash the inverter case with water. Wipe off any adhering dirt with a damp cloth. When wiping, wipe with a dry cloth to remove any remaining moisture.
3. If there is dirt or rust on the terminals of the plug or socket, clean them. The poor contact of terminal may cause malfunction.
4. When carrying the portable power pack, remove the socket of the portable power pack and the plug on the vibrator before moving it.
5. When carrying the unit, hold the vibrator and the handle of the portable power pack. Do not lift or pull by either the vibrator or the portable power pack. Doing so may cause the vibrator to wear out or the power cord to break.
6. When carrying the portable power pack, be sure to turn off the portable power pack before moving it. Press and hold the power button to turn off the power.

INSPECTION

- Before carrying the vibrator to the worksite and also after use, be sure to check the following.
- It will greatly help prevent problems during operation.

1. Is there any wear, cracks, or loose components on the vibrator?
2. Is there any wear, damage, or scratches on the hose?
3. Is there any wear or cracks in the cable sheath?
4. Is there any deformation of the inverter case, loose screws, or damage on any part of the inverter such as a cover of the operation switch or LED lamp?
5. Is there any dirt or rust on the terminals of the plug or socket?
6. Is the insulation resistance value correct? (DC500V, 10MΩ or more)
 - (1) Use a 500V insulation resistance tester as the measuring instrument.
 - (2) Measure between the terminals of the plug and the inverter case.

NOTE: Do not measure among the three connectors. It may damage the inverter board.

7. Are there any cracks, dents, or other damage to the portable power pack?
8. Is the battery fully charged?
9. Can the vibrator be started while held in the air by connecting the vibrator to the portable power pack? When doing so, does the LED lamp on the inverter case light up green?
10. Is there any abnormal noise from the vibrator? Does the vibrator operation sound normal during operation? (It is normal if there is regular and continuous sound.)

REPLACEMENT PERIOD FOR CONSUMABLES

- Consumables should be replaced periodically according to the table below.

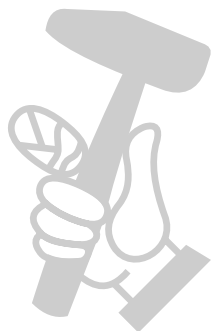
Consumables	Replacement period. (visual and auditory check)	Replacement frequency (in hours)
Head assembly	Determined wear status (visual)	300-500
Vibrator cap		
Bearing	Determined by the noise during operation (auditory)	400-500
Hose	Determined by wear or scratches (visual)	Upon found

- The above replacement time of consumable parts is a rough guide. Because it depends on usage, we recommend replacing consumables earlier than the above.

LED LAMP

- You can check the output status of the inverter by the lighting or blinking of the LED lamp.
- If it flashes, the protection function is activated and the power output is stopped. Be sure to stop operation and remove the cause of the abnormality before restarting operation.

LED lamp status	Output status of the inverter
1. Solid green light	Normal condition. Vibrator can be used.
2. Blinking green light	The vibrator is overloaded. The vibrator can be used, but the vibration frequency has been lowered to prevent failure due to overload. The vibrator will return to its normal state when the overload condition is resolved.
3. Blinking red light	In this state, the erroneous start prevention function is activated. This function prevents the vibrator from starting up unexpectedly when the power is turned on while the vibrator operation switch is in the ON position. Turning the operation switch to OFF restores the vibrator to its normal state.
4. Solid red light	When an abnormality is detected, the output of the inverter is stopped. When the red light turns on, please check the following. <ul style="list-style-type: none"> • Check the remaining capacity of the battery. • Is there any restraint or excessive load caused by rebar, etc.? If no problem is found, turn the switch to OFF to return to the normal state (solid green light). If the red light turns on repeatedly, a malfunction has likely occurred. Inspection and repair are required.
5. No lights on	Because there is a problem on the power supply, the vibrator has been stopped. The battery may be dead, the battery may have been inserted incorrectly, or the battery may be defective. Please check the power supply.



TROUBLESHOOTING

- If any of the following conditions are observed while using the product, stop using the product and check the cause and potential remedies.
- For inspection and repair, contact your local Makita Authorized Service Center.

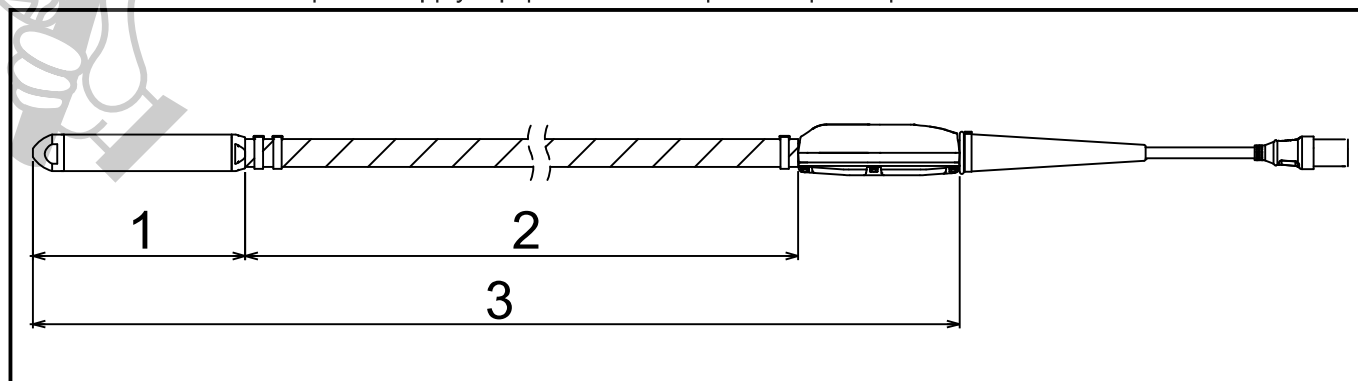
Operation	Symptom 1	Symptom 2	Cause	Remedy
Vibrator operates	Unusual noise from the vibrating part of the vibrator (metallic sound, etc.)		Bearing abnormality (Rough, worn)	Replace the bearings.
	Low vibration	The LED on the inverter case is blinking green .	Bearing abnormality (Rough, worn)	Replace the bearings.
			An overload condition that exceeds the capability of the vibrator.	Reduce the load by pulling the head assembly out of the concrete.
	Stops during operation	The LED on the inverter case is solid red .	The vibrator is significantly overloaded beyond its capacity. The battery power is low and the vibrator's capacity is reduced.	Reduce the load by pulling the head assembly out of the concrete. Then switch on again. If the red light turns on repeatedly, check the battery. If it is fully charged, it should be checked and repaired.
Vibrator does not start	The LED lamp on the inverter case is not lit.	The power indicator of the portable power pack does not light up.	The portable power pack is not turned on.	Turn on the portable power pack.
			The battery is not installed. Or, the remaining battery capacity is not enough.	Install the battery. Or, charge the batteries or replace the batteries with charged ones.
			The portable power pack is malfunctioning.	Inspection and repair are required.
		The power light on the portable power pack is alternating between blinking green and red .	The portable power pack detected an abnormality.	Turn off the portable power pack and turn it on again.
			The portable power pack is malfunctioning.	Inspection and repair are required.
		The power indicator on the portable power pack is solid green .	The plug on the vibrator is not properly connected to the socket on the portable power pack. Or, the cable is disconnected.	Make sure the plug is firmly connected to the socket. In case of disconnection, inspection and repair are required.
			The inverter board on the vibrator is malfunctioning.	Inspection and repair are required.

Operation	Symptom 1	Symptom 2	Cause	Remedy
Vibrator does not start	The LED lamp on the inverter case is not lit.	The power indicator on the portable power pack is <u>blinking green.</u>	Battery power is low. Or, it is not installed correctly.	Check the battery level indicator. If the battery level is sufficient, check how the battery is installed.
			Portable power pack or power cord is hot.	Cool the portable power pack.
			The plug on the vibrator is not properly connected to the socket on the portable power pack. Or, the cable is disconnected.	Make sure the plug is firmly connected to the socket. In case of disconnection, inspection and repair are required.
	The LED lamp on the inverter case is <u>solid red.</u>		The vibrator has stopped because a fault has been detected.	Turn the portable power pack back on. If the LED lamp lights up red repeatedly, inspection and repair are required.
	The LED lamp on the inverter case is <u>blinking red.</u>		The vibrator's erroneous start prevention function is activated.	Turn the vibrator Operation Switch to OFF once and then turn it to ON again.

SPECIFICATIONS

Model	VR001C	VR002C	VR003C	VR004C
Output	250 W		400 W	
Voltage	36 V			
Current	8.7 A		14.0 A	
Frequency	200 Hz			
Total length	1,945 mm (76-9/16")	3,445 mm (135-5/8")	1,977 mm (77-27/32")	3,477 mm (136-7/8")
Head Diameter x Length	43 x 255 mm (1-11/16" x 10-1/32")		52 x 287 mm (2-1/16" x 11-5/16")	
External Hose Diameter x Length	33 x 1,500 mm (1-5/16" x 59-1/16")	33 x 3,000 mm (1-5/16" x 118-1/8")	33 x 1,500 mm (1-5/16" x 59-1/16")	33 x 3,000 mm (1-5/16" x 118-1/8")
Mass	4.8 kg (10.6 lbs)	5.9 kg (13.0 lbs)	5.6 kg (12.4 lbs)	6.7 kg (14.8 lbs)

* Mass does not include power supply equipment such as portable power pack and batteries.



► 1. Head Length 2. External hose length 3. Total length

OPERATING TIME

Model	When using PDC01 (min.)	When using PDC1200 (min.)
VR001C / VR002C	approx. 100	approx. 300
VR003C / VR004C	approx. 60	approx. 200

- * Operating time using PDC01 is based on four BL 1860B batteries installed on the portable power pack.
- * The operating time is a reference value that represents when each vibrator is operated continuously. It depends on the battery charge status and usage environment.

VIBRATION TOTAL VALUE

Model	Vibration total value (m/s ²)
VR001C / VR002C	Less than 2.5
VR003C / VR004C	2.5

- * Vibration total value is a value that uses the measuring instrument based on ISO 5349-1, and it was measured by the method found in ISO 5349-2.

