

Operator's manual

Portable Generator GV 2500A



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Errors excepted. The machine on the cover may have special equipment (options).

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Original operator's manual

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1. Foreword

This operator's manual contains important information and procedures for the safe, proper and economic operation of this Wacker Neuson machine. Carefully reading, understanding and observing is an aid to avoiding hazards, repair costs and downtime, and therefore to increasing the availability and service life of the machine.

This operator's manual is not a manual for extensive maintenance or repair work. Such work should be carried out by Wacker Neuson service or by technically trained personnel. The Wacker Neuson machine should be operated and maintained in accordance with this operator's manual. An improper operation or improper maintenance can pose dangers. Therefore, the operator's manual should be constantly available at the location of the machine.

Defective machine parts must be exchanged immediately!

If you have any questions concerning the operation or maintenance, a Wacker Neuson contact person is always available.

2. Introduction

2.1 Means of representation for this operator's manual

Warning symbols

This operator's manual contains safety information of the categories: DANGER, WARNING, CAUTION, NOTICE.

They should be followed to prevent danger to life and limb of the operator or damage to equipment and exclude improper service.



DANGER

This warning notice indicates immediate hazards that result in serious injury or even death.

- Danger can be avoided by the following the actions mentioned.
-



WARNING

This warning notice indicates possible hazards that can result in serious injury or even death.

- Danger can be avoided by the following the actions mentioned.
-



CAUTION

This warning notice indicates possible hazards that can result in minor injury.

- Danger can be avoided by the following the actions mentioned.
-

Notes

Note: Complementary information will be displayed here.



Instructions

- This symbol indicates there is something for you to do.
- 1. Numbered instructions indicate that you have to carry out something in a defined sequence.
 - This symbol is used for lists.

2.2 Wacker Neuson representative

Depending on your country, your Wacker Neuson representative is your Wacker Neuson service, your Wacker Neuson affiliate or your Wacker Neuson dealer. You can find the addresses in the Internet at www.wackerneuson.com. The address of the manufacturer is located at the beginning of this operator's manual.

2.3 Described machine types

This operator's manual is valid for different machine types from a product range. Therefore some figures can differ from the actual appearance of your machine. It is also possible that the descriptions include components which are not a part of your machine. Details for the described machine types can be found in the chapter *Technical data*.

2.4 Identification of the machine

Nameplate data

The nameplate lists information that uniquely identifies your machine. This information is needed to order spare parts and when requesting additional technical information.

- Enter the information of your machine into the following table:

Designation	Your information
Group and type	
Construction year	
Code no.	
Serial no.	

3. Safety Regulations

3.1 Description and purpose of the machine

This machine is a portable power source. The portable generator from Wacker Neuson consists of a steel pipe frame, which includes a fuel tank, a gasoline engine, a control panel and an electrical alternator. The control panel contains controls and bushings. When the engine is running, the generator converts the mechanical energy into electrical energy. The operator connects electric loads to the mains sockets.

This machine is used for the electric power supply of connected electric loads. See the product specifications for output voltage and frequency of the generator as well as the maximum power limitation of this generator.

This machine was designed and built exclusively for the aforementioned purpose. Use of the machine for any other purpose could permanently damage the machine or cause serious injury to the operator or other persons in the vicinity. Machine damage due to misuse is not covered by the warranty.

The following practices are considered misuse:

- Connection to an electric load whose voltage and frequency are not compatible with the generator output
- Overloading the generator with a load that takes too much power during continuous operation or when starting
- Operating the generator in a manner that is inconsistent with the national, statewide and local standards and regulations
- Use of the machine as a ladder, support or working surface
- Operation of the machine to carry or transport people or equipment
- Operation of the machine outside of the plant specifications
- Operation of the machine contrary to warning notices attached to the machine and contained in the operator's manual.

This machine was designed and built according to the latest global safety standards. In order to eliminate dangers as much as possible, it was technically designed with great care and contains protective side plates and warning labels for an increased safety of the operator. Additional risks may exist despite these protective measures. These are designated as residual risks. Possible residual risks with this machine:

- Heat, noise, exhaust and carbon monoxide from the engine
- Risk of fire due to incorrect refueling procedure
- Gasoline or gasoline vapors
- Electric shock and arc discharge
- Injury due to incorrect hoisting technology

For your own protection and the protection of other people, make sure that the safety instructions in this manual have been closely read and understood before starting the machine.



3.2 Operational safety



DANGER

Carbon monoxide.

The application of a generator in buildings can
LEAD TO DEATH WITHIN MINUTES.

The exhaust fumes from the generator contain carbon monoxide (CO). This is an invisible odorless poison. If the exhaust fumes of the generator can be smelled, CO is being inhaled. Even if no exhaust fumes can be smelled, CO could still be being inhaled.

- NEVER use the generator in buildings, garages, crawl spaces or other partially enclosed areas. Carbon monoxide can build up to deadly levels in these areas. A fan or open window does NOT provide sufficient fresh air.
 - ONLY use generators outdoors and far away from windows, doors and aeration. These openings can draw in generator exhaust fumes.
 - CO can penetrate into a home, even if a generator is used properly. ALWAYS use a battery-powered or battery-backup CO alarm in the home.
 - IMMEDIATELY get to fresh air if you feel unwell, dizzy or weak after using the generator. Consult a physician. It could be carbon monoxide poisoning.
-



WARNING

Electric shock or risk of fire or explosion. Incorrect connection of the generator to a building's mains supply can lead to current being lead from the generator back into the power supply system. This can cause electric shock, serious injury or death of the worker in the public utility company!

- The following connection prerequisites are to be met.
-

Connection prerequisites

The following prerequisites are to be met to connect the generator to the building's mains supply.

- The generator must meet the prerequisites with regard to performance, voltage and frequency of the equipment.
- The generator must be disconnected from the electric power supply.
- Connections from the generator to the power supply system of a building must be established by a licensed electrician.
- The electrical connections must meet all laws and electrical regulations.



WARNING

Prerequisites for safe operation are familiarity with the machine and proper training. Machines that are incorrectly operated or that are operated by untrained personnel may pose a danger. Read through the operating instructions in this manual and in the engine manual to make yourself familiar with the job and the proper use of the operator's controls. Inexperienced operators must be instructed by personnel who are familiar with the machine before they are allowed to operate the machine.

3.3 Operator qualifications

Only trained personnel may start, operate and switch off the machine. The personnel must also have the following qualifications:

- be trained in the correct operation of the machine
- be familiar with the necessary safety devices

Access to the machine and operation of the machine is not permitted for:

- Children
- People under the influence of alcohol, drugs or medication

Personal Protective Equipment (PPE)

The following personal protective clothing (PPE) is to be worn when operating this machine:

- Close-fitting work clothes that do not impede movement
- Safety glasses with protective sides
- Ear protection
- Work shoes or boots with toe protection
- NEVER use generator near open containers of fuel, paint or other flammable liquids.
- NEVER touch the generator or tools connected to it if you have wet hands.
- NEVER use damaged power cables. Electric shock and major machine damage could occur.
- NEVER place power cable below the generator or on vibrating or hot parts.
- NEVER cover hot or running generator.



- NEVER overload generator. The total amperage of the parts connected to the generator may not exceed the output limit.
- NEVER operate the machine in snow, rain or standing water.
- NEVER allow untrained personnel to operate or maintain the generator. Familiarize yourself with the operation and shutdown before starting the generator.
- ALWAYS store the machine properly when not in use. Store the machine in a clean dry place and keep it out of reach of children.
- ALWAYS make sure that the machine is stable and cannot tip, roll, slide or fall during operation.
- ALWAYS transport the generator in an horizontal position.
- ALWAYS keep at least one meter distance from facilities, buildings or other machines while operating the machine.
- ALWAYS keep the area immediately around and under the machine clean, tidy and free of grime and flammable materials. Check that there is also no grime above the machine that could fall onto or into the machine or the exhaust area.
- ALWAYS keep all tools, power cables and other loose objects away from the generator before starting.
- Do NOT ground this generator.
- If more than one electric device is connected to the generator, the additional connected electric equipment must be connected to the generator via an isolating transformer or a suitable FI switch (PRCD), whereby each additional electric device must be operated via a separate isolating transformer or PRCD.

Generator vibration

Generators vibrate during normal operation. Check during and after use of the generator whether the generator or the extension cord and power cable show damage due to vibration.

- Repair any damage as needed or replace the parts affected.
- Do not use any plugs or cables that show signs of damage, such as damaged or cracked insulation or blades.

3.4 Safety when using combustion engines

**WARNING**

Combustion engines pose a particular danger during operation and when refueling. Failure to follow the warning notices and safety standards can lead to serious injury or death.

- Read and always observe the warning notices in the operator's manual of the engine and the safety instructions below.
-

**DANGER****Carbon monoxide.**

Use of the generator in buildings can LEAD TO DEATH WITHIN MINUTES. The exhaust fumes from the generator contain carbon monoxide (CO). This is an invisible odorless poison. If the exhaust fumes of the generator can be smelled, CO is being inhaled. Even if no exhaust fumes can be smelled, CO could still be being inhaled.

Operational safety

When running the engine:

- Keep the area around the exhaust pipe free of flammable materials.
- Inspect the fuel lines and fuel tank for leaks and cracks before starting the engine. Do not operate the machine if there are leaks or if the fuel lines are loose.

When running the engine:

- Do not smoke while operating the machine.
- Do not operate the engine near sparks or open flames.
- Do not touch the engine or the muffler while the engine is running or shortly after switching the engine off.
- Do not operate the machine with a loose or missing fuel cap.
- Do not start the engine if fuel has been spilled or there is an odor of gas. Move the machine away from the spilled fuel and wipe away the spilled fuel before starting.

Safety when refueling

When refueling the machine:

- Immediately wipe away any spilled fuel.
- Fill the fuel tank in a well-ventilated area.
- Reattach the fuel tank cap after refueling.
- Do not smoke.
- Do not refuel hot or running engines.
- Do not refuel the engine near sparks or open flames.
- Do not refuel the machine while it is on plastic-coated surfaces of pick-ups. Static electricity can ignite the fuel or fuel vapors.

3.5 Service safety



WARNING

Carelessly maintained machines can pose dangers! Regular maintenance and occasional repairs are necessary to ensure the safe and correct functioning over longer time periods. If problems should occur with the generator or while the machine is being maintained, always attach a "DO NOT START" sign to the control panel in order to alert others of this.

Personal Protective Equipment (PPE)

Wear the following personal protective equipment during maintenance or repair work:

- Close-fitting work clothes that do not impede movement
- Safety glasses with protective sides
- Ear protection
- Work shoes or boots with toe protection

Additional notes before operating the machine:

- Tie up long hair
- Take off all jewelry (including rings)
- Do NOT use any gasoline or other types of fuel or flammable solvents to clean the machine parts, especially not in closed areas. The vapors from fuels and solvents may explode
- NEVER operate equipment without protective devices or with damaged protective devices
- NEVER modify the machine without written approval from the manufacturer
- NEVER allow water to collect at the bottom of the generator. If water should collect, remove the generator and allow it to dry thoroughly before maintaining
- NEVER maintain the machine with wet clothing or wet skin

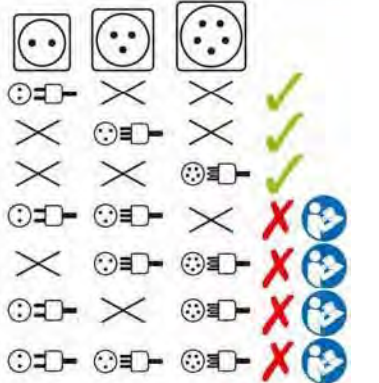
-
- NEVER have the machine serviced by untrained personnel. Electric elements of this machine should only be maintained by qualified electricians
 - ALWAYS keep the machine clean and ensure that the labels are legible. Replace all missing and hard-to-read labels. The labels contain important operating instructions and warn against dangers
 - ALWAYS reattach protective devices and safety equipment to the unit after repair and maintenance
 - ALWAYS allow the engine to cool completely before transport
 - ALWAYS watch out for the rotating parts of the generator and engine and keep hands, feet and loose clothing parts away from these rotating parts
 - ALWAYS switch the engine off before maintenance. Disconnect the negative connection of the battery on machines with electric starters
 - ALWAYS keep fuel lines in a good condition and connected correctly. Leaking fuel and gases are highly explosive
 - If spare parts are required for this machine, only use parts from Wacker Neuson or parts that match the original exactly in terms of dimensions, model, intensity and material

4. Safety and information labels

There are labels on your equipment that contain important information and safety instructions.

- Keep all labels legible.
- Replace missing or illegible labels.
The item numbers on the labels can be found in the parts book.

Item	Label	Description
1		Guaranteed sound power level.
2		<p>DANGER! Danger of suffocation.</p> <ul style="list-style-type: none"> ▪ Engines give off carbon monoxide. ▪ Do not run the machine indoors or in enclosed areas. ▪ NEVER operate in houses or garages, EVEN IF doors and windows are open. ▪ Only use OUTDOORS and away from windows, doors and aeration. ▪ Read through the operator's manual. ▪ No sparks, flames or burning objects are permitted near the machine. ▪ Stop the engine before refueling.
3		Warning against hot surface.
4		<p>Warning against hot surface. PE = Potential grounding - Connect cable from grounding rod here (where required). WARNING! Electric shock will cause serious injury or death.</p>

Item	Label	Description
5		<p>When connecting more than one piece of electric equipment,</p> <ul style="list-style-type: none"> ▪ Special precautions must be taken. ▪ Read through the operator's manual.



5. Standard package

The standard package includes:

- Equipment.
- Operator's manual.
- Parts book.

6. Lifting and transporting

Lifting the machine

This compact generator is heavy enough to cause injury in the event of incorrect hoisting technology. Observe the following instructions to lift the generator:

- Do not try to lift the generator without help. Use suitable lifting bars e. g. loops, chains, twisting hooks, ramps or car jacks.
- Make sure that the lifting bars are firmly attached and have sufficient carrying capacity to safely lift or hold the generator.
- Pay attention to surrounding persons when lifting the generator.

Transporting the machine

Observe the following instructions when the generator is transported from and to the construction site.

- Allow the engine to cool off before refueling the generator.
- Empty the fuel tank.
- Close the fuel cock.
- Firmly fasten the generator to the transport vehicle so that it does not slide or tip over.
- Do not refuel the generator in or on the transport vehicle. Transport the generator to the work location first and refuel the fuel tank there.
- Do not operate the genset in / on transport vehicle

7. Operation

7.1 Prepare the machine for first-time application

Prepare the machine for first-time application:

1. Ensure that all loose packaging material has been removed from the machine.
2. Check the machine and its components for damage. Do not operate the machine if you find visible damage! Ask the Wacker Neuson dealer for advice at once.
3. Check whether all of the parts belonging to the machine have been delivered and whether all loose parts and fasteners are present.
4. Now attach components that are not yet fastened.
5. Fill fluids as needed, including fuel, engine oil and battery acid.
6. Bring the machine to its site of operation.



DANGER

Carbon monoxide.

The application of a generator in buildings can LEAD TO DEATH WITHIN MINUTES. The exhaust fumes from the generator contain carbon monoxide (CO). This is an invisible odorless poison. If the exhaust fumes of the generator can be smelled, CO is being inhaled. Even if no exhaust fumes can be smelled, CO could still be being inhaled.

- NEVER use the generator in buildings, garages, crawl spaces or other partially enclosed areas. Carbon monoxide can build up to deadly levels in these areas. A fan or open window does NOT provide sufficient fresh air.
- ONLY use generators outdoors and far away from windows, doors and aeration. These openings can draw in generator exhaust fumes.
- CO can penetrate into a home, even if a generator is used properly. ALWAYS use a battery-powered or battery-backup CO alarm in the home.
- IMMEDIATELY get to fresh air if you feel unwell, dizzy or weak after using the generator. Consult a physician. It could be carbon monoxide poisoning.

Use of gasoline / ethanol mixtures

This portable generator may not be used with gasoline / ethanol mixtures with more than 10% ethanol content.

7.2 Use and input current

This generator is intended for the operation of single-phase 50 Hz electrical equipment for 230 V.

NOTE: Do not exceed the performance limit of the generator, as this may lead to damage of the generator or the tools.

See Technical Data.

Check the nameplates or labels of the tools and electric equipment to be connected to ensure that the current values conform with those of the generator. Always inquire with the manufacturer if equipment is lacking the wattage.

Some electrical equipment requires more power to start than to operate. The generator must be able to provide this power. Some equipment actually requires more current than specified on the nameplate.

The "General power requirements for starting" information only applies as a general guideline to assist you in determining the input current. In the event of questions, the nearest Wacker Neuson service station will be able to assist you.

NOTE: Do not exceed the specified current limit at any plug receptacle.

NOTE: If a tool or electrical equipment should not reach the full RPM a few seconds after starting, switch it off immediately in order to prevent damage.

General power requirements for starting

- White light bulbs and electric goods, such as irons and hot plates, use a resistor heating element and require the same amount of power during startup that is listed on the nameplate.
- When starting, neon and mercury lamps require 1.2-2 times the specified wattage.
- Many electric motors and power tools use a large amount of power when starting. The electrical supply required during start-up depends on the type of motor and the intended application.
- When starting, most power tools require 1.2-3 times the specified wattage.
- Connection units, such as submersible pumps and air compressors, require a large amount of power when starting, even up to 3-5 times the specified wattage.

If the wattage of a tool or electrical equipment is not specified, this can be calculated by multiplying the voltage requirements with the amperage requirements.

Single-phase: VOLTS x AMPS = WATTS

Three-phase: VOLTS x AMPS x 1.732 x 0.8 = WATTS



7.3 Performance loss with high altitude application

Generators run differently due to altitude and temperature differences. Unmodified internal combustion engines have reduced performance at high altitudes due to the lower air pressure. This means less performance and therefore a reduced power exploitation. As soon as temperatures increase, an engine runs less economically and electrical components have more resistance.

For every 300 meters above high altitudes of 1500 meters above sea level, the performance of the generator is reduced by 3.5%. For outside temperatures above 40 degrees Celsius, the generator performance is reduced by 3% for every additional 5 degrees. The tables shown help with the high altitude and outside temperature performance devaluation. In order to determine the true generator performance, it may be necessary to consider both the high altitude and temperature devaluation factors.

Outside temperature °C	Devaluation	Factor
45	3 %	0.97
50	6 %	0.94
55	9 %	0.91
60	12 %	0.88

High altitude m	Devaluation	Factor
1800	3.5%	0.965
2100	7%	0.93
2400	10.5%	0.895
2700	14%	0.86
3000	17.5%	0.825
3300	21%	0.79
4000	24.5%	0.755

7.4 Ground



CAUTION

The mid-point (neutral) conductor of this equipment is not grounded. **Do not drive the PE rod into the ground under normal operating conditions.**

Refer to the local regulations if the equipment is intended to power a building or similar system.



For generator sets that are to supply a facility in a TT network, or if residual current protection is required in the TT network, or if this equipment must be used for additional protection due to conditions or regulations, only 30 mA residual current protective switches may be used as protective devices. The 30 mA residual current protective switch must be installed ON the generator set itself, but at least on the nearest possible position in relation to the generator set. Only with this type of installation is it allowed and necessary to establish the ground connection of the generator framework via the point provided on the frame (see ground symbol 5019).

7.5 Heavy duty operation

Do not operate this generator for longer than 20-30 minutes under maximum electrical load rating. For continuous operation, do not exceed the continuous (prime) power output of the generator. See technical data of the generator in this operator's manual.

7.6 Installation

Set up the generator so it is protected from rain, snow or other forms of moisture. The ground must be solid and level in order to prevent slipping or displacement. Do not direct the engine exhaust to an area with people.

Both the work area as well as the components must be protected from all forms of moisture.

7.7 Use of extension cables

A loss of power takes place when connecting electrical equipment or a tool to the generator with an extension cable — the longer the cable, the greater the loss of power. This means that less voltage is conveyed to the electrical equipment and the input current is increased or the performance is reduced. A larger extension cable diameter reduces the loss of voltage.

NOTE: Operation of electrical equipment under low voltage may lead to overheating.

The table serves as a guideline for selecting the correct cable size.

Only strong, rubber-covered cables can be used that correspond to regulation IEC 245-4.



WARNING

Damaged cables may cause electric shock, which can lead to serious injury or death. NEVER use worn, bare or frayed cables. Replace damaged cables immediately.

Never exceed the cable's rated power.

Contact the cable manufacturer if you have questions about using the cable.

Select the cable size from the table *Minimum cross-section of extension cables* or calculate the minimum cross-section using the graph *Minimum cross-section of extension cables*. The X-axis of the graph stands for the values A x m (ampere x meter). The Y-axis stands for the cross-section in mm². Multiply the steady state (operating) current for the load in ampere (A) with the desired length of the extension cable in meters (m). Now look for your result on the X-axis. Go along the graph until you have found the point for your field of application. Now read the recommended minimum cable length on the Y-axis.

Example

For example, if there is a triple-phase application with 400 V of steady state (operating) current available for the load at 15 A and the desired extension cable length is 100 m, then:

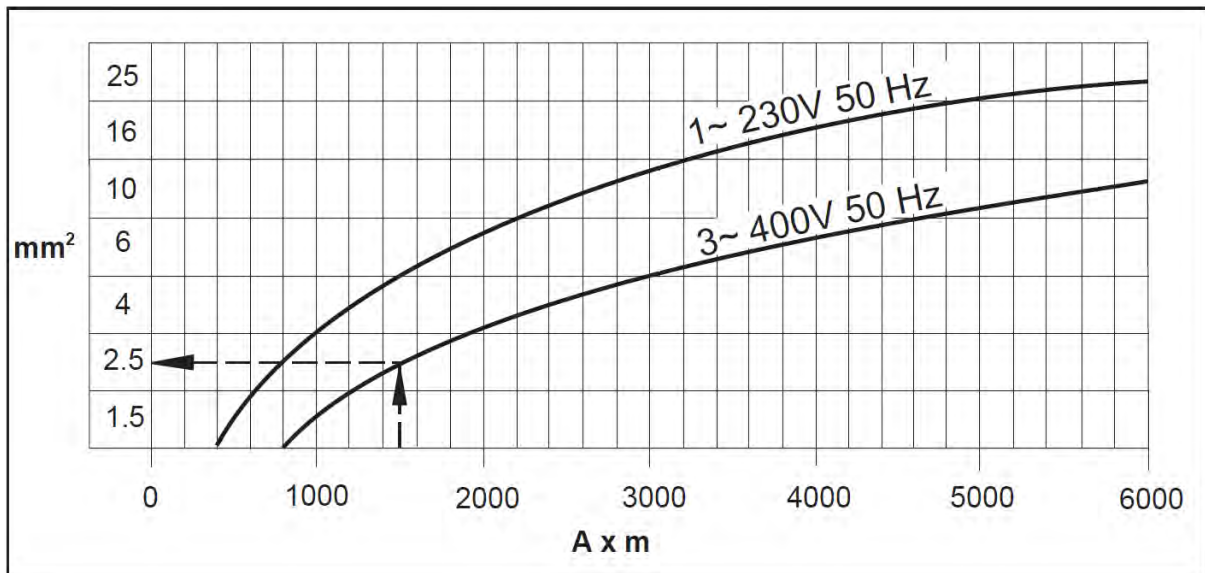
$$15 \text{ A} \times 100 \text{ m} = 1500 \text{ A} \times \text{m}.$$

$$1500 \text{ A} \times \text{m} = 2.5 \text{ mm}^2.$$

Table for extension cable minimum size

Ampere - performance variable	Extension cable minimum size							
	230V/1~/50Hz				400V/3~/50Hz			
	Length in m				Length in m			
	25	50	100	200	25	50	100	200
Cross-section surface in mm ²								
2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
4	1.5	1.5	1.5	2.5	1.5	1.5	1.5	1.5
6	1.5	1.5	1.5	4	1.5	1.5	1.5	2.5
8	1.5	1.5	2.5	6	1.5	1.5	1.5	2.5
10	1.5	1.5	4	6	1.5	1.5	1.5	4
15	1.5	2.5	4	10	1.5	1.5	2.5	6
20	1.5	4	6	16	1.5	1.5	4	6
30	2.5	4	10	25	1.5	2.5	6	10
40	4	6	16	---	1.5	4	6	---

Diagram for extension cable minimum size



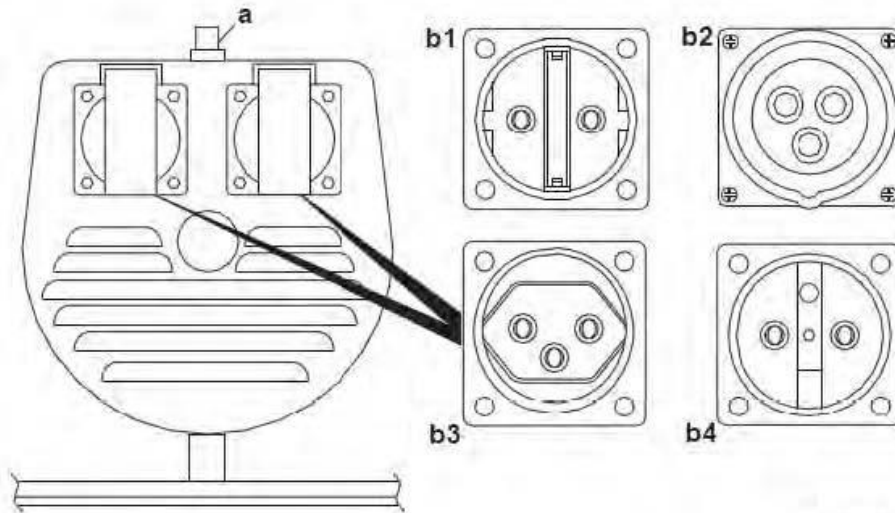
7.8 Control panel

See image below

The circuit breaker protects the generator from significant overloads or short circuits. If the circuit breaker reacts, shut down the engine immediately and determine the cause by starting the engine again. Check the electrical equipment and tools connected to the generator and make sure that their input current does not exceed the performance limit of the generator or the power limitations of the plug receptacle.

The button will pop out if the circuit breaker responds. Push the button to reactivate the circuit breaker.

Comment: The protective covers are only missing in the enlarged plug receptacles for reasons of identification. Never remove the protective cover.



No.	Description	No.	Description
a	Main safety cutout - 10 A		
b1	Schuko IP44 (CEE 7) plug receptacle 230 V, 16 A	b2	CEE plug receptacle IP44 2P+E 230 V, 16 A
b3	Switzerland IP44 plug receptacle 230 V, 16 A	b4	French IP44 plug receptacle 230 V, 16 A

7.9 Before starting



DANGER

Carbon monoxide.

The application of a generator in buildings can LEAD TO DEATH WITHIN MINUTES. The exhaust fumes from the generator contain carbon monoxide (CO). This is an invisible odorless poison. If the exhaust fumes of the generator can be smelled, CO is being inhaled. Even if no exhaust fumes can be smelled, CO could still be being inhaled.

1. Read and understand the safety and operator's manual at the start of these operating instructions.
2. Read and understand all statements of the safety and warning signs.
3. Check:
 - Engine oil level.
 - Fuel level.
 - State of the air cleaner.
 - Tight fit of the outer bracket.
 - State of the fuel lines.

7.10 Starting

See image: *wc_gr001279*

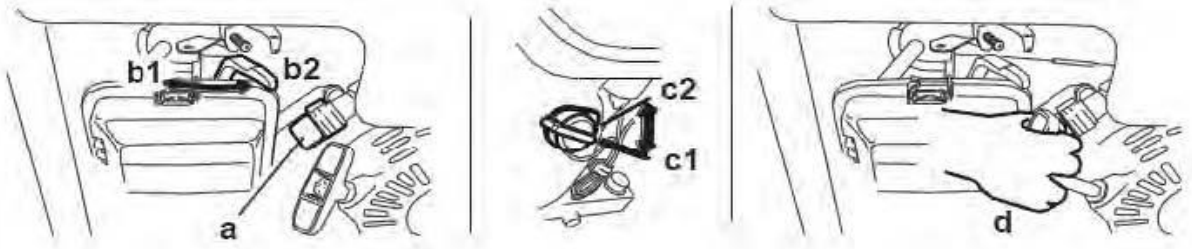
1. Disconnect all connections from the generator.
2. Open fuel shut-off valve **(a)**.

Comment: *Close the choke if the engine is cold (b1). Open the choke if the engine is warm (b2).*

3. Put the engine switch in the "ON" position **(c1)**.
4. Pull the starter rope **(d)**.

Comment: *Do not start the engine if the oil level is low. In this case, check the engine oil level and top off if necessary.*

5. Open the choke while the engine is warming up **(b2)**.
6. Allow the engine to warm up for a few minutes before connecting electrical equipment.



wc_gr001279

7.11 Stopping

See image: wc_gr001279

1. Switch off all electrical equipment and tools and disconnect from the generator.
2. Let the engine run without load for 2-3 minutes to cool it down.
3. Put the engine switch in the "OFF" position (**c2**).
4. Close the fuel shut-off valve.

Comment: To turn off quickly in cases of emergency, put the engine switch in the "OFF" position (**c2**).

7.12 Emergency stop procedure

Procedure

In the case of an accident or a failure of the machine during operation, the following procedure is to be applied:

1. Stop the engine.
2. Shut off the fuel supply.
3. Disconnect the tools from the machine.
4. Let the machine cool.
5. Please contact the machine rental or machine owner for additional manuals.

8. Maintenance

8.1 Period maintenance schedule

The following table contains the basic maintenance jobs for the machine. Jobs selected with a check mark can be performed by the operator. The jobs marked with a small box require special training and special equipment.

	Daily before Operation	After the first month or 20 hours	Every 3 months or 50 hours	Every 6 months or 100 hours	Every year or 300 hours
Check the fuel level.	✓				
Check the engine oil level.	✓				
Check the air cleaner.	✓				
Check external fastening parts.	✓				
Clean air cleaner elements.*			✓		
Check shockmount for damage.				✓	
Change the engine oil.*		▪		▪	
Check and clean spark plug.				▪	
Replace the spark plug.					▪
Clean the sediment cup.				▪	
Clean spark arrester.				▪	
Check and adjust valve clearance.					▪
Clean fuel tank and filter.*				▪	
Check the fuel line. Replace when necessary.					▪

* Clean more often in dusty areas.

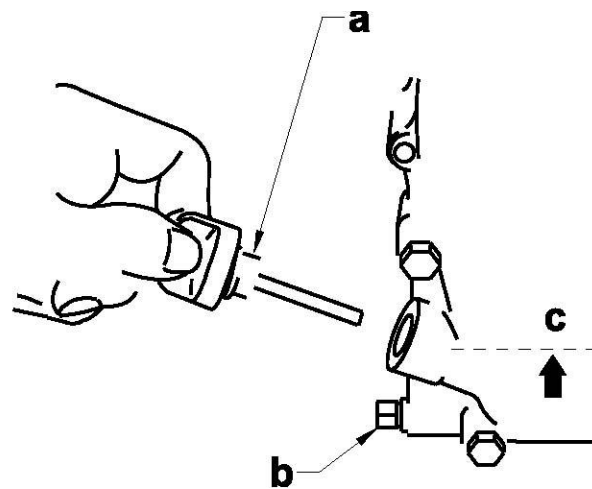
8.2 Engine oil

See image: *wc_gr000022*

1. Drain the engine oil when the engine is warm.
2. Remove the sealing plug **(a)** and the drain plug **(b)** to drain the oil.

Comment: For environmental reasons, a bin should be placed under machine to catch the fluid and a waterproof sheet should also be placed under the machine to protect the ground. The fluid must be disposed according to the relevant regulations.

3. Reinsert the drain plug.
4. Fill the engine crankcase with the recommended engine oil up to the oil level marking **(c)**. For the oil quantity and type, see *Technical Data*.
5. Screw the sealing plug back in.



wc_gr000022

8.3 Air cleaner maintenance

See image: *wc_gr0001287*

This engine is outfitted with a single-element air cleaner.

Frequent cleaning of the air cleaner prevents carburetor malfunctions.

NOTE: NEVER run the engine without an air cleaner, as this can result in major engine damage.

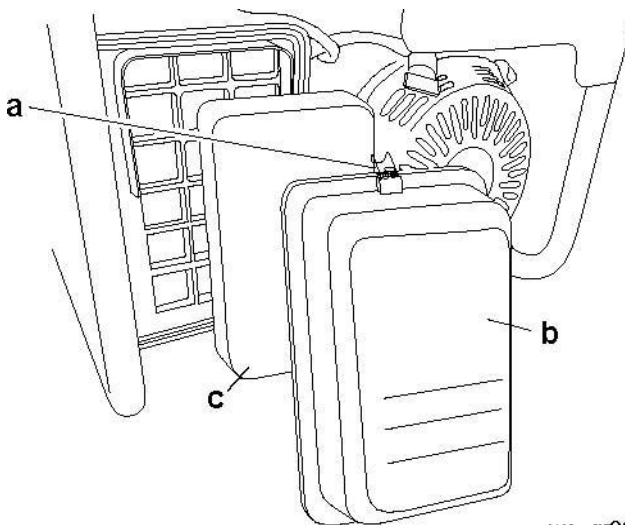


WARNING

NEVER clean air cleaner with gasoline or other solvents with a low combustion point, as this can result in fire or explosions.

Maintenance:

1. Loosen the locks **(a)** on the upper and lower sides of the air cleaner (filter) cover **(b)**.
2. Check the filter element **(c)**. Replace if damaged.
3. Clean filter element in warm water and mild laundry soap. Wash out with clean water thoroughly. Allow element to dry thoroughly. Impregnate the element in clean engine oil and press out the excessive oil.
4. Reattach the element and air cleaner (filter) cover.



wc_gr0001287

8.4 Spark plug

See image: wc_gr000028

Clean or replace the spark plug as needed. See engine manual.



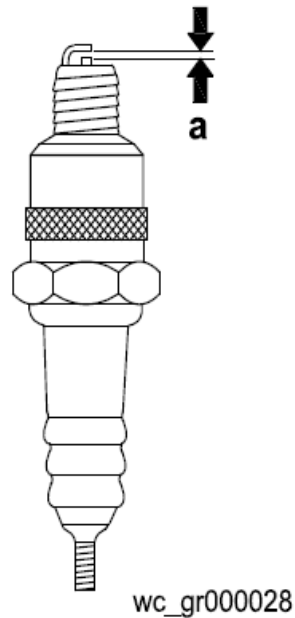
WARNING

The exhaust will become very hot during operation and also remains hot for a while after the engine is switched off. Never touch a hot exhaust.

Comment: See the technical data for the recommended spark plug and spark plug air gap.

1. Remove and check the spark plug.
2. Replace the spark plug if the isolator is cracked or split.
3. Clean spark plug electrodes with a wire brush.
4. Adjust the spark plug air gap (**a**).
5. Screw in and tighten the spark plug.

NOTE: A loose spark plug can become very hot and lead to engine damage.



8.5 Setting the engine speed

See image: wc_gr001288

Generators require a non-adjustable engine speed in order to maintain the correct voltage. The engine speed is controlled by a governor that automatically adjusts to the changing loads of the engine in order to maintain a constant RPM. There is no gas regulator.

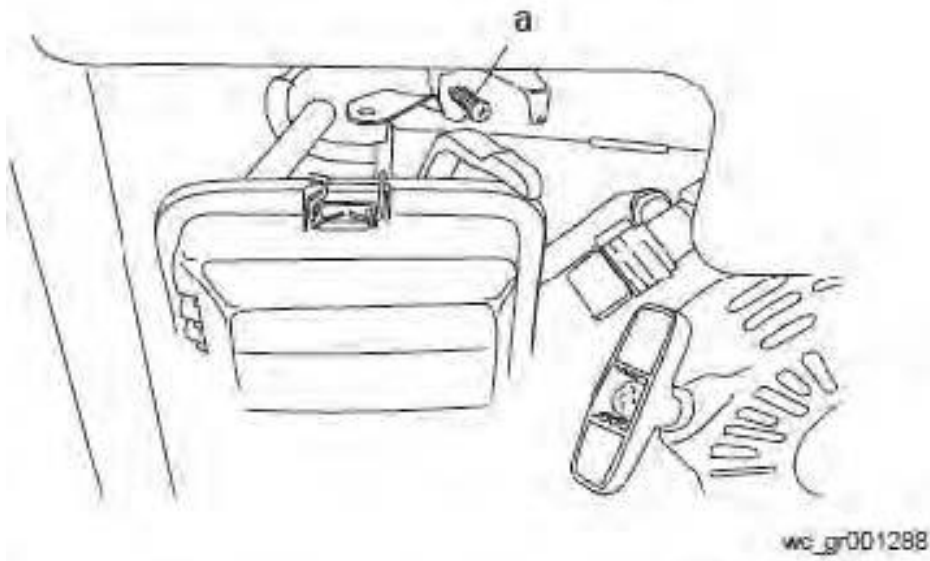
To set the correct engine speed:

Unscrew the RPM adjusting screw **(a)** in and out until a speed of 3150 RPM is reached at zero load.

NOTE: Tools and other electrical equipment can be damaged if the engine speed is set too high or too low.

Use the technical data to set engine speed without load or idle.

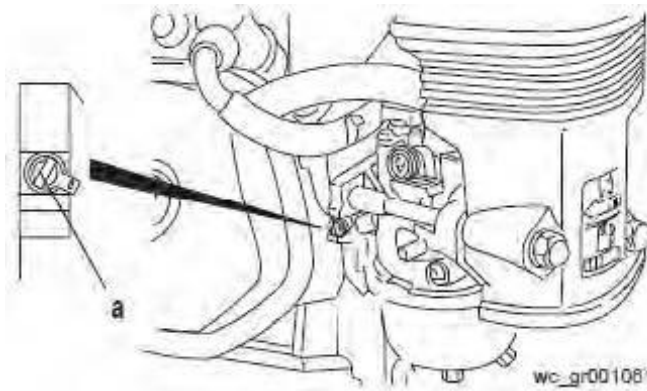
1. Start the engine and allow it to warm up to the normal operating temperature.
2. Screw in the choke coil stop screw **(a)** to increase the speed. Unscrew the choke coil stop screw to reduce the speed. Ensure that the throttle lever is touching the choke coil stop screw before measuring the RPM.



8.6 Carburetor setting

See image: wc_gr000106

The fuel adjusting screw (a) is provided with a limiter cap according to the environmental pollution provisions. The mixture is set at the plant in order to prevent an enrichment of the air/fuel mixture. No adjustment should be necessary. The limiter cap may not be removed, as the adjusting screw will break otherwise.



8.7 Long-term storage

Before long-term storage (more than 30 days):

1. Put engine fuel shut-off valve in the closed position.
2. Disconnect fuel line from the carburetor. Place the open end of the line in an appropriate bin and open the fuel shut-off valve to empty the tank.



WARNING

Gasoline is highly flammable. Drain the fuel tank in a well-vented area and away from flames or sparks.

3. Open the drain plug on the carburetor and drain any remaining fuel from the carburetor.
4. Change the engine oil.
5. Remove the spark plug and pour about 30 ml of clean engine oil in the cylinder. Turn the engine over a few times to spread the oil on the inner walls of the cylinder.
6. Pull the starter rope slowly until you notice resistance and put the handle in this position. This ensures that the intake and exhaust valves are closed.
7. Store the generator in a dry and clean place.

9. Basic troubleshooting

Problem / symptom	Cause / remedy
Check the following if the engine does not start:	<ul style="list-style-type: none"> ▪ Engine switch is in the "Start" position. ▪ Fuel cock is open. ▪ Fuel is replenished. ▪ Choke lever is in the correct position. The choke should be closed when starting a cold engine. ▪ No electric equipment is connected to the generator. ▪ Spark plug is in good condition. ▪ Spark plug cap is firmly seated. ▪ Engine oil level is sufficient.
Check the following if the engine starts, but the generator does not deliver any power to plug receptacles:	<ul style="list-style-type: none"> ▪ Fuse switch is closed. ▪ Wiring from the generator to the plug receptacles is secured.
Check the following if the engine starts, but runs irregularly:	<ul style="list-style-type: none"> ▪ Air cleaner condition. ▪ Condition of the spark plug and spark plug cap. ▪ How new the fuel is.

10. Disposal

10.1 Disposal of waste electrical and electronic equipment

Professional disposal of this machine avoids negative effects on human health and the environment, helps with the targeted treatment of pollutants and makes it possible to recycle valuable raw materials.

For customers in EU countries

This machine is subject to the European directive for old electrical and electronic equipment (Waste Electrical and Electronic Equipment (WEEE)), as well as the corresponding national laws. The WEEE directive provides the framework for an EU-wide treatment of old electrical equipment.



The machine is marked with the following symbol of a crossed-out garbage bin. This means that you do not dispose of the battery in normal household waste but that it must be disposed of in a separate, environmentally friendly collection facility.

This unit is provided as a professional electrical tool exclusively for commercial use (a so-called B2B device according to the WEEE directive). Unlike equipment mostly used in private households (so-called B2C devices), this machine may therefore not be disposed of in some EU countries, such as in Germany, at the collection points of public waste management organizations (e.g. municipal collection stations). If there are any doubts, information regarding the different methods of disposal for B2B electronic devices for each country can be obtained from the sales location, so that the disposal takes place in accordance with the valid statutory provisions. There are also some notes to follow in the sales contract or in the general Terms and Conditions of the sales location.

For customers in other countries

It is recommended that you do not dispose of the machine in normal household waste but rather in a separate, environmentally friendly collection facility. National laws also may, under certain circumstances, prescribe the separate disposal of electrical and electronic products. Correct disposal of this machine in accordance with current national guidelines must be assured.

11. Technical data

11.1 GV 2500

Designation	Unit	GV 2500A	GV 2500A
Item number		5000009345	5000009350
Limited-time running Power (LTP)	kW	2.1	2.1
Continuous Operating Power (COP)	kW	2.1	2.1
PRime Power (PRP)	kW	2.0	2.0
Length	mm	623	623
Width	mm	409	409
Height	mm	500	500
Weight	kg	41	41
Operating weight	kg	46	46
Generator model		NSM K80C	NSM K80C
Insulation class		H	H
Output current 1~	A	10.0	10.0
Output frequency	Hz	50	50
Power factor	cos φ	0.9	0.9
Nominal speed	rpm	3000	3000
Phases	~	1	1
Type of mains		Protective breaker	Protective breaker
Total harmonic distortion (THD)	%	≤6	≤6
Start-up behavior (ICC)	In	3-4	3-4
Tank capacity	l	11	11
Main fuse	A	12	12
Available voltages 1~	V	230	230
Plug receptacles		Model F: 230V 16A 1~ CEE7/4	Model E: 230V 16A 1~ CEE7/5

Designation	Unit	GV 2500A	GV 2500A
Plug receptacles	Quantity	2	2
Design class		G1	G1
Protection rating		IP23	IP23
Operating temperature range	°C	-15 - +40	-15 - +40
Max. operating height	m NN	1500	1500
Sound pressure level LpA * Standards	dB(A)	68.0	68.0
		DIN EN ISO 11201	
Measured sound power level Lwa Guaranteed Standards	dB(A)	95	95
	dB(A)	96	96
		2000/14/EC	
* Measured at 7meter's distance.			

11.2 Combustion engine

Designation		
Manufacturer		Honda
Type of engine		GX160H1-VPM6
Combustion method		Four-stroke
Cooling		Air cooling
Cylinders		1
Displacement	cm ³	163
Max. slanting position	°	25
Fuel type		Gasoline
Fuel consumption	l/h	0.9
Mixture preparation		Carburetor
Tank capacity	l	11.0
Oil specification		SAE 10W-40
Max. oil filling	l	0.6
Max. performance RPM Standards	kW	2.9
	rpm	3600
		SAE J1349
Rated power Nominal speed Standards	kW	2.5
	rpm	3000
		SAE J1349
Exhaust limit values		EU Stage V
Spark plug type		NGK BPR-6 ES
Spark plug air gap	mm	0.7
Starter type		Recoil starter

12. Glossary

Class rating

The class rating according to DIN EN 61140 specifies the safety measures for electrical equipment to avoid electrocution. There are four class ratings:

Class rating	Meaning
0	No special protection apart from the basic insulation. No grounded conductor. Plug connection without grounded conductor contact.
I	Connection of all conductive housing components to the grounded conductor. Plug connection with grounded conductor contact.
II	Reinforced or double insulation (protective insulation). No connection to the grounded conductor. Plug connection without grounded conductor contact.
III	Machines are operated on protective low voltage (< 50 V). Connection to the grounded conductor is not necessary. Plug connection without grounded conductor contact.



Protection class IP

The protection class according to DIN EN 60529 indicates the suitability of electrical equipment for use in certain ambient conditions as well as the protection against risks.

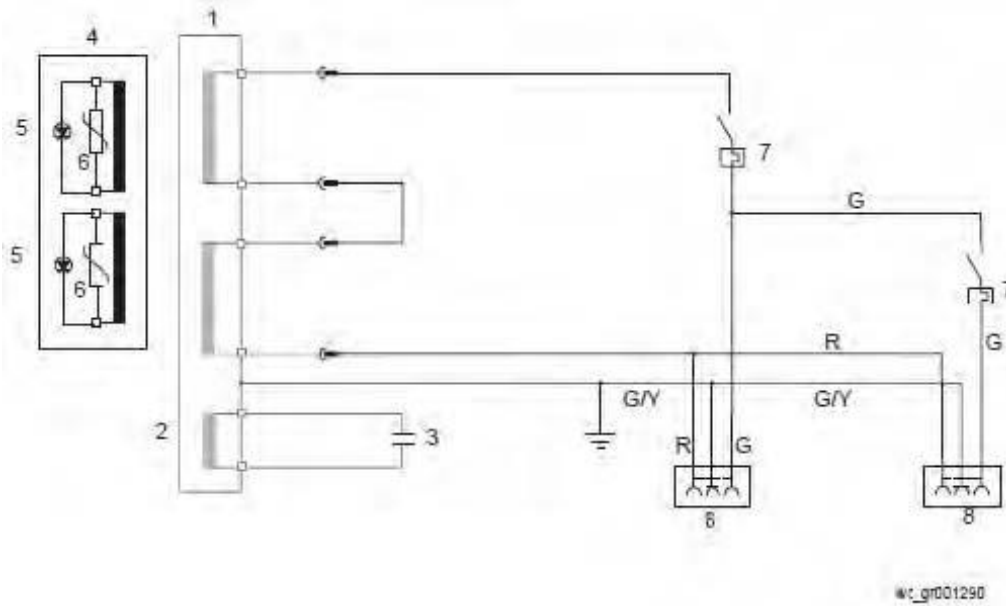
The protection class is specified by an IP code according to DIN EN 60529.

Code	Meaning 1st number: Protection against touching hazardous parts. Protection against permeating foreign objects.
0	Not protected against contact. Not protected against foreign bodies.
1	Protected against contact with the back of the hand. Protected against large foreign objects with diameter > 50 mm (1.9 in).
2	Protected against contact with one finger. Protected against medium-sized foreign objects (diameter > 12.5 mm (0.5 in)).
3	Protected against touch with a tool (diameter > 2.5 mm (0.01 in)). Protected against small foreign objects with (diameter > 2.5 mm (0.01 in)).
4	Protected against touch with a wire (diameter > 1 mm (0.03 in)). Protected against granular foreign objects (diameter > 1 mm (0.03 in)).
5	Protected against contact. Protected against dust depositing inside.
6	Completely protected against any contact. Protected from dust.

Code	Meaning 2nd number: Protection against permeating water
0	Not protected against permeating water.
1	Protected against water dropping vertically.
2	Protected against diagonally falling water (15° angle).
3	Protected against spray (60° angle).
4	Protected against spraying water from all directions.
5	Protected against water jets (nozzle) from any angle.
6	Protected against strong water jets (overflow).
7	Protected from temporary immersion in water.
8	Protected from ongoing immersion in water.

13. Diagram

13.1 GV 2500A - Wiring diagram



Ref.	Description	Ref.	Description
1	Main stator windings	5	Diode
2	Auxiliary winding	6	Surge absorber
3	Capacitor	7	Circuit breaker
4	Rotor windings	8	Plug receptacle 230V, 16A

Color chart					
B	Black	V	Purple	Or	Orange
G	Green	W	White	Pr	Purple
L	Blue	Y	Yellow	Sh	Casing
P	Pink	Br	Brown	LL	Light blue
R	Red	Cl	Clear	G/Y	Green/Yellow
T	Light brown	Gr	Gray		



EC declaration of conformity

Manufacturer

PR INDUSTRIAL S.R.L. – LOC. IL PIANO – 53031 CASOLE D'ELSA (SI) - ITALY

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product

Product	GV 2500A	
Product type	Generator	
Product function	Electricity generation	
Item number	5000009345	5000009350
Net installed power	2,1 kW	
Measured sound power level	95 dB(A)	
Guaranteed sound power level	96 dB(A)	

Conformity assessment procedure

According to 2000/14/EC, enclosure VIII.

Notified body

ICEPI, ISTITUTO DI CERTIFICAZIONE EUROPEA PRODOTTI INDUSTRIALI S.P.A.

Via Paolo Belizzi 29/33, 29122 - PIACENZA (PC), Italy (#0066)

Directives

We hereby declare that this product meets the relevant provisions and requirements of the following directives:

2006/42/EC – 2014/30/EU – 2014/35/EU - 2000/14/EC – 2011/65/EU and subsequent modification and integrations

Harmonised standards:

EN ISO 3744:2010 – ISO 8528 – 13:2016 – EN 55012:2007/A1:2009

Holder of the technical documentation, authorised to establish the technical file

Paolo Campinoti,

PR Industrial s.r.l. – Loc. Il Piano – 53031 Casole d' Elsa (SI) – Italy

Casole d'Elsa, 01/07/2021

Paolo Campinoti
CEO

Original Declaration of conformity

