

# OPERATORS MANUAL WARRANTY CARD

## Diesel power generators:

HDE14000SA-SA3 HDE14000EA-EA3 HDE14000EA3 HDE14000SA

#### DIESEL POWER GENERATOR OPERATORS MANUAL:

#### Introduction

Thank you for purchasing a Hahn&Sohn generator set and congratulations on the right choice!

The generator has been designed and manufactured in accordance with the safety requirements of the European Union. It should be used in accordance with the recommendations of the instruction manual and the health and safety regulations in force at a given workplace. Failure to comply with the above recommendations may result in accidents, injuries, or damage to the device. In case of any doubts, before starting the device, contact Hahn & Sohn GmbH.

Please also refer to the Warranty Card, which contains the scope of the most important obligations of the user. Compliance with the recommendations of the operating manual and compliance with the obligations contained in the Warranty Card will ensure long and failure-free operation of the engine and prevent the loss of the warranty.

Pay particular attention to the following types of messages:



warns of a high probability of an accident, even with a fatal outcome, and of equipment failure in the event of non-compliance with the recommendations!



helpful information or tip

The manual contains information that is current at the time of printing. They may differ slightly from the appearance of the device and its parameters due to the continuous development of the product and the improvements introduced in it. The user is obliged to pay attention to these differences.

#### ORTGINAL MANUAL

version 4.0 / actual for 19.12.2022

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## 1. Safety recommendations

- 1. Before starting the generator, read this manual carefully and keep it for advice or future contact with your dealer.
- 2. Before starting the aggregate, familiarize yourself with the elements of its construction.
- 3. ZIt is forbidden to let children operate the generator. Never allow persons without proper training to operate the machine or persons under the influence of alcohol or other intoxicants.
- 4. No bystanders, especially small children and animals, may be allowed to enter the working area of the device.
- 5. The use of the generator must comply with the safety conditions and the provisions of these operating instructions.
- 6. The relevant national regulations must be observed when working with the device.
- 7. If the operator notices any damage to the device during work, stop work immediately turn off the set. Equipment damage must be reported and the equipment marked as damaged.
- 8. The unit produces dangerous carbon monoxide during operation avoid inhaling it, so as not to be poisoned. Even a small amount of carbon monoxide can be fatal. Do not use the generator in a confined space without adequate ventilation.
- 9. The generator must not be lifted or tilted while it is in operation.
- 10. It is forbidden to put hands, feet or any objects under the rotating parts of the machine.
- 11. During the work all possible precautions should be kept.
- 12. The unit must be switched off before refueling or before any work related to cleaning or maintenance of the device.
- 13. Do not store the machine near sources of heat or sparks, such as a heater, stove, etc.
- 14. Pay particular attention to the equipment being installed. It can also be dangerous. Before connecting the aggregate, read the manual of the machine that the aggregate will power.
- 15. Pay particular attention to the equipment being installed. It can also be dangerous. Before connecting the aggregate, read the manual of the machine that the aggregate will power.
- 16. Persons wishing to borrow the device must read these operating instructions.

- 17. Place the generator on an even surface.
- 18. Do not allow too much fuel in the tank there should be no fuel in the neck of the tank.
- 19. While the generator is in operation, components such as the engine and exhaust muffler become hot and remain hot for a long time after the generator is turned off. Do not touch these parts to avoid burns.
- 20. Allow the engine to cool down before transporting or bringing into rooms to avoid burns and fire.
- 21. The generator is not intended for sensitive electronics such as laptops, TVs, telephones, etc.
- 22. The generator must be grounded before use
- 23. Do not use the device in the rain.



To avoid fire, check the type and model of the generator before refueling, if you fill up with gasoline for the diesel generator, it may be damaged. Make sure you only use diesel fuel (ON). Switch off the generator before refueling. If the generator is spilled with fuel, wipe it thoroughly before restarting it. Keep the generator away from fuels and other flammable materials.



Electric shock possible. Do not remove the generator covers. All work should be performed by qualified persons.



Exhaust gas is harmful to health, be especially careful. Do not run the generator in closed rooms or spaces without proper ventilation. If you must run the generator in an enclosed space, make sure it is well ventilated.



Be careful not to get injured. Do not touch moving parts while the generator is running. If the unit is installed in the machine, make sure that parts, e.g. belts, are covered with a protective cover.



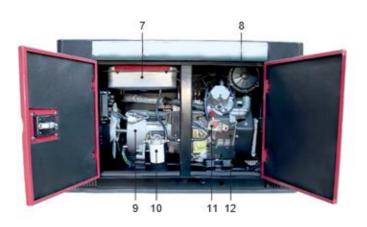
Watch out for hot parts of the generator. The muffler, engine, and generator housing will be very hot during operation and immediately after the generator is turned off. Be careful and do not touch these parts to avoid burns.

## Other safety information:

- Make sure that you are in an environment and conditions that are safe for starting the generator ensure the safety of others people and animals in the immediate vicinity of the operating generator.
- When using the generator, use protective clothing and glasses, follow the health and safety regulations.

# **2. Construction of the generator** (HDE14000SA-SA3)





1	Control dashboard	5	Service door	9	Generator
2	Lifting ear	6	Lifting eyes	10	Fuel filter
3	Fuel filler cap	7	Fuel tank	11	Engine working mode lever
4	Muffler housing	8	Air filter	12	Engine

# Construction of the generator (HDE14000EA-EA3 / HDE14000EA3)



1	Fuel filler cap	5	Acu battery	9	Engine working mode lever
2	Fuel tank	6	Muffler	10	Engine
3	Control dashboard	7	Fuel filter	11	Oil inlet
4	Generator	8	Air filter	12	Oil drain

# **22.1. Construction of the generator - control dashboard** HDE14000SA-SA3, HDE14000EA-EA3

## HDE14000SA-SA3, HDE14000EA-EA3



1	Microprocessor control panel	6	ATS socket	11	230V / 16A socket
2	Voltage mode switch	7	Grounding	12	DC 12V / 8.3A output
3	Starter	8	400V / 16A socket	13	DC fusing
4	General circuit breaker	9	230V / 32A socket		
5	AC sockets circuit breaker	10	AC fusing		

## 2.1. Construction of the generator - control panel





Icon	Button	Functionals
0	Stop / Reset / Back	Stopping the chiller operation in auto and manual modes. A single press will start the stopping process, the unit will turn itself off after cooling down. Pressing the button a second time will turn off the unit immediately. In stop mode, hold the button for more than 3 seconds to to test the panel indicators (lamp test). Reset of all chiller alarms. Back to the main window.
	Start	Starting the aggregate in manual mode. A single press will start the start-up process, the genset will turn on after a while. Pressing the button a second time will start the generator immediately.
	Manual mode	Setting the chiller control module in manual mode
	Auto mode	Setting the chiller control module in automatic mode
	Supply Open / Close	Mains or chiller control - open and closed transfer
	Settings / Confirm	Entering the settings menu     A single press confirms the settings in the main menu
Δ	Up in menu / Increase of value	Scroll through the screens in the menu     Moving the cursor up in a menu     Increasing parameter values in the settings menu
Ø	Down in menu / Decrease of value	Scroll through the screens in the menu     Moving the cursor down in a menu     Decreasing parameter values in the settings menu

## 3. Before starting

For your safety and to ensure the longest possible service life of the generator, it is important to take a few moments to check the general condition of the generator. Make sure that every, even minor, fault is removed before starting it. If there is a problem not described in this manual, contact the Hahn & Sohn GmbH.



Improper service of the unit and neglect of faults can cause the unit to malfunction, which can lead to accidents and damage to the unit. Always perform a visual inspection before each start-up.

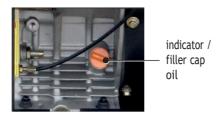
#### Check the general appearance of the generator

- Check the bottom of the generator and the area underneath for signs of oil or fuel leakage.
- Remove excessive dirt.
- Check that there are no signs of damage.
- Check that all covers and covers are correctly fitted.
- Check that all screws are in place and tightened.

#### Oil level control

To check the oil level in the engine:

- 1. Remove the oil filler cap and wipe the dipstick clean.
- 2. Put the indicator on the motor (without screwing in).
- 3. Remove the dipstick and check the oil level. If the oil level is too low, top up the oil to the correct level with the correct oil (details on page 18)





Starting the generator with the wrong oil may shorten the life of the engine or cause serious damage to the engine, which is not covered by the warranty.

When changing the oil, also replace the oil filter (if present).

#### **Grounding the generator**

- 1. Drive a suitable ground wire / pin into the ground near the generator.
- 2. Connect the free end of the wire to the panel (to the grounding output)



The generator must be earthed otherwise it is a risk electric shock.



Connections should be made by a professional service. Incorrect connection may result in electric shock electric and fire.

#### Fuel level control

- 1. Make sure the generator is on level ground.
- 2. Check the fuel level on the gauge. In case of low condition, unscrew the cap.
- Add fuel slowly and carefully. The fuel level should not be above the upper limit.
- 4. After replacing the cap, wipe the fuel thoroughly from the engine.



Fuel is flammable so do not contact fuel with a flame or high temperature source. This situation may cause a fire or explosion.

## **Battery instalation**

The generator requires a battery. Depending on the version of the generator purchased by the Customer, the battery may or may not be included. If the genset is not equipped with a battery, the genset should be equipped with a 12V battery with dimensions as close as possible to 196x133x184 mm with a minimum CCA of 300.



The battery may be smaller and may have a higher CCA.

The space for the battery is located behind the metal plate under the electrical panel. How to install the battery:

- 1. Place the battery in its destination.
- 2. Connect the red end of the cable to the positive end of the battery "+".
- 3. Connect the black end of the cable to the negative end of the battery "-".

## 4. Starting the generator

Before starting the generator, check the oil and fuel levels, and that the generator is equipped with a battery and is properly grounded.

- 1. Check that no device is connected to the generator
- 2. Move the operating mode lever to the "RUN" position

#### Manual mode:

- 3. Turn on the control panel by turning the ignition switch to position "I"
- 4. Switch the main circuit breaker to the "ON" position
- 5. Switch to manual operation with the "Manual" button 🕏 on the panel
- 6. Start the generator with the "Start" button **II** on the panel
- 7. Wait a moment for the generator to reach stable voltage parameters before connecting electrical devices to the generator

#### Automatic mode:

- 3. Connect the ATS / ATS (automatic switch-on system) to the ATS socket
- 4. Turn on the control panel by turning the ignition switch to position "I"
- 5. Switch the main circuit breaker to the "ON" position
- 6. Switch to the auto operating mode with the "Auto" button @ on the panel
- 7. In the event of a power failure, the generator will turn on automatically



operating mode lever located on the engine

### 5. Work of the generator



Connect only undamaged devices. Connecting damaged devices may result in electric shock.



Turn off the device immediately and disconnect any devices that start to malfunction, are slow, or suddenly stop working. Check if the problem arose due to the connection of a faulty device or an overload of the generator.



Use the generator outdoors only.



Leave space around generator for proper ventilation

#### 5.1. Use of alternating current

AC powered electrical equipment may be connected according to their power requirements.

Rated power - the maximum power of the generator produced in a continuous mode

Maximum power - generator power that can be produced for a short time (e.g. temporarily to start devices with an increased inrush current)

The total power demand of the devices connected to the generator should not exceed the rated power of the generator. To calculate the demand for rated power, add the rated powers of the devices. Do not connect devices whose rated power exceeds the rated power of the generator. Select the connected devices so that the sum of their rated power does not exceed the rated power of the generator.

The rated power of the device should be specified in the operating manual, if this information is not provided, multiply the current by the voltage.

Power [W] = Voltage [V] x Current [A]

#### Connecting devices:

- 1. Wait a while before connecting electrical appliances to the generator.
- 2. Make sure the devices are turned off.
- 3. Connect the devices to the appropriate inputs (230V or 400V).
- 3 Switch on the devices, starting with those with the greatest power demand.



Do not connect devices that require electricity with a frequency 60 Hz



Do not connect single-phase and three-phase devices at the same time  $% \left( 1\right) =\left( 1\right) \left( 1\right$ 

#### 5.2 Use of direct current



The DC connection is only intended for recharging car batteries with a voltage of 12V. Do not use the generator to start the car!



Failure to follow procedures could cause the battery to explode and seriously injure people nearby. Keep the battery away from heat, fire, sparks, and flammable materials.

In order to properly connect the battery to the DC socket:

- 1. Connect one of the charging leads to the positive end of the battery and the other lead to the negative end.
- 2. Connect the free end of the positive cable to the positive output on the generator.
- 3. Connect the free end of the negative cable to the negative output on the generator.
- 4. Turn on the generator.
- 5. After charging, disconnect the wires from the generator first, then from the battery.



The batteries generate explosive hydrogen during charging. Batteries contain acid that can cause chemical burns. Do not use fire near the battery while charging and immediately after charging.



Always wear protective glasses and gloves when charging the battery.

If acid contacts your skin, wash it thoroughly with water.



If acid comes into contact with your eyes, rinse them thoroughly with water and see a doctor immediately.

Immediately after swallowing the acid, it is recommended to drink neutral liquids (water, milk), which will dilute the damaging agent. Absolutely not make you vomit!

#### 6. Generator shutdown

#### To turn off the unit:

- 1. Turn off and disconnect all equipment connected to the generator sockets.
- 2. Turn the main switch to the "OFF" position
- 3. Press the "Stop" button on the panel



The power pack will warm up during operation, allow it to cool down before touching it.



Leaving fuel in the tank for long periods of time can cause restart problems.

Do not store the generator with fuel in a tank.

## 7. Periodic inspections and maintenance

Proper maintenance is essential for the safe and trouble-free operation of the equipment.



Never carry out maintenance while the device is in operation or immediately after it. Wait for the device to cool down. Keep fire sources and flammable materials away from the appliance.



Improper maintenance and unresolved problems can cause the battery to fail, which can result in death or serious injury.

#### 7.1 Recommended checks and inspections

Always perform the review after a given period or the number of hours worked		Every usage	Every month or each 20 h	Every 3 months or each 50 h	Half a year or each 100 h	Once a year or each 300 h
Engine oil	Level checking	Х				
Engine oil	Replace with a new one		Х		Х	
Ait filter	Cleaness checking / Replace with a new one		Х		Х	
Fuel filter	Cleaning				Х	
Fuel tank	Fuel level checking	Х				
	Cleaning					Х

## 7.2 Cleaning the generator

Store the generator in a dry and cool place. If the power pack is dirty, clean it with a damp cloth.



Never clean the generator under running water, as water may seep inside and cause a short circuit or corrosion.

Never use gasoline to clean the generator.

#### 7.3. Check the oil level

It is important to always check the oil level in the crankcase before use. To check the oil level:

- 1. Make sure the generator is turned off and is standing on a level surface.
- 2. Unscrew the cap / bayonet.
- 3. Wipe the dipstick with a dry cloth.
- 4. Insert the dipstick inward (do not twist), then remove. The oil should be on the dipstick. If there is no oil on the dipstick or it is at the very end of the dipstick, refill with oil.

#### 7.4. Change \ Topping up the oil

#### To drain the oil:

- 1. Place a container below the generator to drain oil.
- 2. Remove the oil drain plug located below the crankcase.
- 3. Let the oil flow from the generator into the prepared container.
- 4. Close the oil outlet with the drain plug.



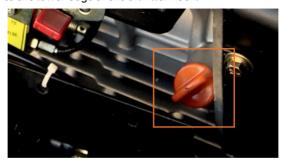
Never throw used oil into the garbage can or pour it on the ground. Discard the oil into an appropriate container. If in doubt, contact the recipient of the waste.



Recommended oil: SAE 15W-40

### To top up the oil:

- 1. Make sure the generator is on level ground
- 2. Remove the oil filler cap
- 3. Using a funnel, add the correct amount of oil to the box. The oil should reach up to the lower edge of the oil filler neck.



#### 7.5. Change the air filter

Routine air cleaner checks are essential for the carburetor to function properly. Check that the filter is not excessively dirty. The filter may need to be cleaned more often when working in a dusty environment.

#### To clean the air filter:

- 1. Remove the air filter cover / housing
- 2. Depending on the unit version, it may be necessary to unscrew the additional wing screw that holds the filter in its housing
- 3. Remove the foam filter
- 4. Clean the filter with warm water and household cleaners, rinse thoroughly and dry the filter. Dip or coat the filter with a little clean engine oil.
- 5. Reinstall the filter into the housing.

## 8. Transport and storage

If transport or long-term storage is planned:

- Allow the generator to cool down completely. A hot generator can burn a person or set fire to other objects.
- Drain fuel tank.
- Turn the fuel injection switch to the "OFF" position.
- Do not block the vents.
- Store the generator in a dry and cool place.

Storage time	Recommended procedure
Less than month	No procedure
1-2 month	Refill with a new fresh fuel
3 month - 1 year	Drain fuel tank
longer than 1 year	Drain fuel tank

### **Draining the fuel tank**

It is recommended that the generator should be stored for a long time with the fuel tank empty.

The fastest way to do this is by following the steps below:

- 1. Prepare a fuel container (preferably a canister) and a funnel.
- 2. Remove the built-in fuel filter after closing the fuel tap (turn the fuel tap to the "OFF" position).
- 3. Place the fuel container with the funnel below the level of the filter and the tank, then unscrew the tap carefully to drain the fuel remaining in the filter, pipes and tank, control the blunt decanting to prevent spilling of fuel around.
- 4. When the fuel is completely drained, reinsert the in-line fuel filter.
- 5. Store the spilled fuel in a suitable place, away from heat, sparks, flames, in a dry, cool place away from direct sunlight.

**9. Troubleshooting**Important: If the problems persist, please contact your dealer.

Symptoms	Cause	Problem solving
	Engine mode lever in the "STOP" position	Move the lever to the "RUN" position
	Lack of fuel	Refuel
	Oil level too low	Top up or change the oil
The engine	The power pack is standing on uneven ground	Place the generator on a level surface
does not start	A spring-loaded decompression lever closed the exhalation valve	Open the top panel. Push the lever down, install the panel. Start the engine
	There is dirty and / or stale fuel in the fuel tank	Replace fuel with fresh one
	The main switch on the control board is in the "OFF" position	Switch the main circuit breaker (fuse) to the "ON" position
	The RESET button is in the "OFF" position	Switch the RESET button to the "ON" position
The engine is running OK.	Błędne podłączenie przewodów	Check if the connection is correct or use different cables
but there is no voltage	Connection of damaged devices.	Disconnect the device and connect another.
in sockets	Loose wiring and / or connection downstream of control panel or at the end of generator	Tighten the wiring nuts
	Carbon brush or AVR is worn or damaged.	Check that they are connected to both ends of the rotor. Replace if necessary.
The generator	The generator is overloaded	Reduce the number of connected devices
works, but it doesn't	A short circuit in one of the devices	Disconnect damaged or short-circuiting devices.
power all sockets	The air filter is dirty	Clean the air filter

Model	HDE14000SA	HDE14000SA3				
Construction type		canopy silenced				
Number of phase (power factor)	~ single-phase (cosφ=1.0)					
Rated frequency		50 Hz				
Rated power	10 kVA / 10 kW	12,5 kVA / 10 kW	12,5 kVA / 10 kW			
Max power	11 kVA / 11 kW	13,8 kVA / 11 kW	13,8 kVA / 11 kW			
Rated current	43,5 A	43,5 A or 18 A	18 A			
Rated voltage	230 V	230 V or 400 V	400 V			
Fuel tank capacity	26 l					
Overall dimensions	1270x670x770 mm					
Net weight	210 kg					
Engine type	DIESEL, s	ingle-cylinder, 4-stroke, air-coole	d, OHV			
Displacement	997 cm <sup>3</sup>					
Net power	15 kW					
Starting type	electric					
Electric instalation	12V					

## **EC Declaration of conformity**

Declaration Number: 01/105737/2021



Declaration is issued by:	Hahn & Sohn GmbH Auf der Schanze 20 93413 Cham
Notified Body:	TÜV Rheinland LGA Products GmbH TillyStraße 2, 90431 Nürnberg, Germany 0197

Equipment: Power generator

Model: HDE14000

OPEN-FRAME

EA / EA3- electric starter, single-phase / electric starter, 3-phase EA-EA3 - electric starter, switchable phase

both single- & 3-phase

CANOPY STIENCED

SA / SA3- electric starter, single-phase / electric starter, 3-phase SA-SA3 - electric starter, switchable phase

both single- & 3-phase

Measured sound power level	96,5 dB/A
Guaranteed sound power level:	97 dB/A

Hahn & Sohn GmbH, Auf der Schanze 20 93413 Cham hereby declare that the equipment to which this declaration relates is in conformity with the following standard(s) or other normative documents

- 2000/14/CE Noise Directive, amended by2005/88/WE (Annex VI)
- 2006/42/CE Directive on Machinery
- 2014/35/CE The Low Voltage Directive
- 2014/30/CE Electromagnetic Compatibility Directive
   2016/1628/CE Emission Directive

In compliance with the above standards, equipment have been placed on the UE markt. EN ISO 3744:2011;ISO8528-1:2005;ISO 8528-5:2005;ISO 8528-13:2016;EN 12601:2011

The technical documentation for the machinery .lng. Richard Janovský is available from:

EC Declaration of conformity expire if the equipment will be amended or use discordantly with operating manual.

1.10.2021, Cham

VEDOUCÍ ODDĚLENÍ TECHNICKÉ POKUMENTACE

> Ing. Richard Janovský VEDOUCÍ ODDĚJENÍ TECHNICKÉ DOKUMENTACE

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#### **WARRANTY CARD**

The device is subject to warranty if it is purchased from Hahn & Sohn GmbH or at the Authorized Regional Representative of Hahn & Sohn GmbH. The warranty is valid for 12 months or 250 operating hours (whichever occurs first) from the time of purchase of the device. The warranty only covers manufacturing and material defects. The warranty does not apply to:

- mechanical damage resulting from improper handling,
- improperly performed repairs or repairs made with the use of nonoriginal spare parts,
- damage resulting from the use of improper oils and fuels,
- consumables such as: oils, filters, belts, batteries, etc.

In the event of a device failure, it must be delivered to the place of purchase or Service Center. The cost of delivering the device to the place of purchase or the Service Center is covered by the Customer. If you have any questions, please contact:

### **Guarantor Service Center:**

Hahn & Sohn GmbH

Auf der Schanze 20 93413 Cham Tel. +490 9944 890 9 896 Mob. +490 163 02 44 737 E-Mail info@hahn-profis.de

Web www.hahn-profis.de

Regular checks and inspections are the condition for continuing the warranty, including:

- engine oil and air filter changes in accordance with the Guarantor's recommendations:
- oil control and refilling every day or max every 8 hours of operation,
- oil and air filter change, first after 20 hours of operation, but not later than 6 months from the date of purchase. Next in the warranty period, every 100 hours, but no later than 6 months from the date of the last service, documented in the authorized service network of the Guarantor.

The guarantor reserves the right to reject the warranty claims if other oils, such as the mineral SAE 15W40, are used during the warranty period. Documentation of the inspections of the above-mentioned together with a record of the type of oils, the service technician's stamp and the date of service should be made each time in the part entitled "Reviews, regulations, inspections" in this operators manual.

Carrying out any repairs during the warranty period outside the authorized service center deprives the buyer of the warranty rights.

## THE USE OF SILICONE AND OTHER ADDITIVES IS PROHIBITED FOR FUELS AND OILS!

In the event of a recognized complaint, the warranty will be extended for repair time. Warranty claims will not be accepted without presenting this warranty card together with the proof of purchase.

Our services and deliveries do not include:

- assembly, commissioning and training in operation and servicing the device.

The guarantor undertakes to remove the failure reported under the guarantee within 30 days from the date of delivery of the device.

Failure to collect the equipment from the guarantor's service within more than three months from the receipt notification may result in charging costs for storage.

The guarantee does not exclude, limit or suspend the rights of the buyer resulting from the provisions on the warranty for defects in the goods sold.

Model name of the device	Serial number of the device		
Quality control / Control No.			
Quality Condon Condon 140.	(Seller signature, date & stample)		

## **REVIEWS, REGULATIONS, REPAIRS**

REVIEWS, REGULATION	UNS, KEPAIK	•
REVIEW DESCRIPTION   WHAT REGULATIONS?   REPAIRS SCOPE OF ACTIVITIES	MOTO HOURS	DATE   SERVICE SIGNATURE



Central distributor & guarantor Hahn & Sohn GmbH Auf der Schanze 20 93413 Cham

tel.: +490 9944 890 9 896 www.hahn-power.de

Warranty & post-warranty service Hahn a syn s.r.o. Lelkova 186/4, 747 21 Kravaře www.hahn-power.cz