MODEL : AY - 6000 INVERT E



Generator Set Specifications

Specification	AY - 6000 INVERT E
Model	AY 6000 INVERT E
AYERBE part number	5430425
Equipment type	Portable petrol inverter generator
Rated output (COP)	5,500 W
Maximum output (S2, 5 min)	6,000 W
Voltage / Frequency	230 V / 50 Hz
Number of phases	Single phase
Power factor	Cos phi 1
Rated current	23.9 A
Class to ISO 8528-13	Quality grade A, performance class G2
AC sockets	1 Schuko 230 V 16 A and 1 CEE 230 V 32 A
DC output	12 V DC socket and 5 V USB socket
Protection	AC 16 A protector and DC 9 A protector
ATS connection	YES
Parallel operation	YES
Remote control	YES, 2 remotes included
Digital display	YES, with warning indicators
Soundproof canopy	YES
Starting system	Electric push button, remote and manual recoil start
Transport	Wheel kit and handle
IP rating	IP 23M
Sound power level	89 dB(A) LwA
Sound pressure level	64 dB(A) LpA at 7 m
Net weight	56 kg

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Engine Specifications

Engine	
Manufacturer	KIOTSU
Displacement	322 cm³
Type	Single cylinder, OHV, 4-stroke
Cooling	Air
Aspiration	Natural
Speed governor	Mechanical
Fuel	Unleaded petrol
Starting system	Electric with built-in battery, remote and manual recoil
Engine oil type	SAE 10W-40
Oil capacity	0.80 L
Engine protection	Automatic low-oil shutdown



The engine of this set

- The 322 cm³ shown on the rating plate is the displacement that matches 5,500 W rated: about 17 watts per cubic centimetre, the usual ratio in the industry.
- It is the largest engine in the AYERBE inverter range, almost 50 % bigger than the one in the AY-4500.
- Natural aspiration and a mechanical governor are the marks of a straightforward industrial engine, with no management electronics that depend on specific diagnostic equipment.

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Alternator Specifications

Alternator	
Make	AYERBE
Model	6000
Type	Inverter
Excitation system	Inverter
Voltage / Frequency	230 V / 50 Hz
Voltage tolerance	+ - 1%
Insulation class	Class H
IP rating	IP 23M
Coating type	Vacuum impregnated
Waveform	Pure sine wave
Suitable for sensitive electronics	YES

What this means in practice

COP and S2 output

The rating plate declares two outputs to ISO 8528. The 5,500 W is continuous output, which the set sustains indefinitely. The 6,000 W is S2 temporary duty, available for five minutes, which is what covers starting surges.

Class A and G2 performance

ISO 8528-13 places the set in the highest quality grade and in performance class G2, the one required where voltage and frequency variation must be kept within tight limits.

± 1 % tolerance

Output voltage stays between 227.7 and 232.3 V regardless of the load connected. A conventional alternator with electronic regulation typically works to tolerances of ± 5 to ± 10 %.

Parallel operation

Two sets coupled through the panel connector add their output and feed a single installation. It is the way to reach 11,000 W rated without giving up the portability of each machine on its own.

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Dimensions and Weight

Dimensions	
Length (L)	638 mm
Height (H)	502 mm
Width (W)	545 mm
Net weight	56 kg
Power per kg	107 W/kg
Transport	Wheels and handle



Fuel and running time

Fuel	
Fuel tank capacity	13.5 L
Fuel type	Unleaded petrol
Consumption at 75 % load	1.8 L/h
Running time at 75 % load	7 hours
Estimated running time at 50 %	≈ 9 h 30 min
Estimated running time at 25 %	≈ 13 hours

Altitude and operating temperature

- As with any naturally aspirated petrol engine, power drops by roughly 3.5 % for every 300 m of altitude above sea level.
- At altitude, harder starting, higher fuel consumption and spark plug fouling may also appear.
- High ambient temperature also reduces available output, because hot air is less dense.
- Both effects should be taken into account when sizing the load: a set that is only just adequate at sea level may fall short on a mountain site or in high summer.

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Control Panel and Connections



1	Digital display with warning indicators
2	ENGINE START / STOP button
3	Battery switch
4	12 V DC socket
5	DC 9 A protector
6	5 V USB socket
7	ATS connection for automatic transfer
8	AC 16 A protector
9	Ignition control OFF / RUN
10	Parallel operation connector
11	GND earthing terminal
12	Schuko socket 230 V, 16 A
13	CEE socket 230 V, 32 A, single phase

What the indicators mean

Indicator	Meaning
Output	Shows that the generator is running normally and the sockets are live.
Overload	Shows that the permissible load has been exceeded. Remove appliances and reconnect them one at a time.
Low oil	Shows that the oil level has fallen below the safe limit. The engine shuts down automatically and will not restart until the level is restored.

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Starting, display, ATS and parallel operation

- The set can be started in three ways: electrically, by pressing the ENGINE START / STOP button; remotely, with the remote control; and manually, with the recoil starter. The OFF / RUN rotary control enables the set before starting.
- It is supplied with two key fob remote controls that start and stop the engine without approaching the machine. They are particularly useful when the generator has to stay outside the working area because of the exhaust gases.
- The battery is built in and recharges while the engine is running. If it is flat, the manual recoil starter still allows the set to be started.
- The digital display shows the state of the set and warns through indicators for output, overload and oil level. It includes an hour counter, which is the reference for the maintenance schedule.
- The ATS connection allows the generator to be integrated with an automatic transfer panel, so that it starts on its own when it detects a power cut. The ATS panel must be connected and is sold separately. It is the feature that sets this machine apart from a conventional portable generator.
- The 32 A CEE socket delivers the full rated output through a single outlet. A Schuko socket is limited to 16 A, about 3,680 W, so without that industrial socket the 5,500 W of the set could not be used by a single appliance.
- The 5 V USB socket powers phones, radios and site equipment directly, with no need for an intermediate charger.
- The parallel operation connector allows two generators to be coupled to add their output. The cables must never be disconnected while the sets are working in parallel.



ENGINE START / STOP button



Remote control (2 included)



Manual recoil starter

Starting and stopping sequence

Step	Operation
Before starting	Place the set outdoors on a level surface. Check the oil and fuel levels.
Preparation	Disconnect all appliances. Set the battery switch to ON and the rotary control to RUN.
Starting	Press ENGINE START / STOP or use the remote control. With a flat battery, pull the recoil starter.
Connecting the load	Wait for the output indicator to light up and connect appliances one at a time, starting with the highest consumption.
Stopping	Disconnect the appliances and stop the engine with ENGINE START / STOP or the remote control.
After stopping	Turn the rotary control to OFF.

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Performance: permissible loads

Indicative guide to what the set can power with 5,500 W rated and 6,000 W peak.

Application	Typical consumption	Suitability
LED, halogen or site lighting	up to 5,000 W	YES
Household during a power cut	2,000 – 4,500 W	YES
Drill, angle grinder, circular saw	700 – 1,500 W	YES
Microwave, coffee maker and fridge together	2,000 – 3,000 W	YES
Professional pressure washer	2,200 – 3,500 W	YES
Caravan air conditioner	1,500 – 2,500 W	YES
Electric oven and ceramic hob	3,000 – 4,500 W	YES
Compressor or well pump	up to 1,500 W	YES
Electric breaker hammer	1,500 – 2,000 W	YES
Stick welding set	4,000 – 5,000 W	AT THE LIMIT
Direct-on-line induction motor	over 1,800 W	NO

Starting surge

- Loads with an induction motor (compressors, pumps, pressure washers, air conditioners) draw between 3 and 4 times their rated power at the instant of starting. With 6,000 W of peak output available, the practical limit is around motors of 1,500 to 1,800 W.
- Resistive and electronic loads (lighting, heating, chargers, IT equipment) have no appreciable starting surge and can use the full rated output.
- Coupling two sets in parallel doubles the peak available, which allows starting loads that a single generator would not move.

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Maintenance Schedule

Interval	Operation
Before each use	Check the engine oil level and the condition of the air filter. Inspect the set for leaks or damage.
First running-in hours	Change the engine oil as stated in the equipment manual.
Periodically	Clean the air filter. Clean and adjust the spark plug. Clean the spark arrestor.
Annually	Change the oil. Replace the air filter and the spark plug. Check the fuel system.
Battery	It recharges while the engine is running. Charge it fully at least once a month if the set is used infrequently.
Long term storage	Drain the tank and carburettor or add fuel stabiliser. Store in a dry, frost free place.

Indicative schedule. The exact intervals are those in the equipment manual; the hour counter on the display is the reference for following them.

Maintenance data

Maintenance	
Engine oil	SAE 10W-40
Oil capacity	0.80 L
Fuel	Unleaded petrol
Fuel tank capacity	13.5 L
Engine protection	Automatic low-oil shutdown
Battery	Built-in, recharged while the engine runs
Interval reference	Display hour counter

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Safety Instructions

- Never operate indoors, in garages, basements or any enclosed space. Exhaust gases contain carbon monoxide, which is odourless and lethal.
- Keep a minimum clearance of 1.5 m from any flammable material and leave space clear on all sides for ventilation.
- Refuel with the engine stopped and cold, outdoors and away from any source of ignition.
- Check the earthing requirements of the installation before connecting the set to site distribution boards or to installations fitted with an RCD.
- Connection to the fixed installation of a building must always be made through a suitable transfer panel, never by plugging the generator into a household socket.
- Do not operate or store the set in rain, snow or damp conditions.
- Connect appliances one at a time, starting with the highest consumption, and let the engine stabilise between each one.
- Never disconnect the coupling cables while the sets are working in parallel.
- Do not alter the factory-set rev limiter: it voids the warranty and may damage the set and the connected appliances.

Safety labels on the set



- The DANGER label warns that the exhaust contains carbon monoxide: the set must not be used inside a home or garage, even with doors and windows open, but only outdoors and away from windows, doors and vents.
- The exhaust outlet is at the rear, in the centre of the grille. The WARNING label marks the hot surfaces in that area: do not touch it while the engine is running or just after stopping.
- Point the rear of the set away from people, buildings and flammable materials.

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