

# DG Portable Petrol Generators



DG1200E/3000P/E 5000P/6500E/7500P



DG3800PT/ 6500PT/9000PT



DG4000PSi



DG7500PS

# Installation & Operating Manual

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Congratulations on selecting a Dayliff DG Generator. They are manufactured to the highest standards and if installed and operated correctly will give many years of efficient and trouble free service. Careful reading of this Installation Manual is therefore important, though should there be any queries they should be referred to the equipment supplier.

# **1. GENERATOR SPECIFICATIONS**



The Dayliff range of portable petrol generators are dependable quality products specially designed for mains standby and remote site power supply applications. Particular features are:-

- Reliable and economic air cooled OHV petrol engines equipped with large size exhausts and air cleaners for low noise operation.
- High efficiency square core alternators providing consistent AC power output.
- DC output option for powering DC appliances.
- Option of strong tubular frame, trolley mount (T-suffix), canopied (S-suffix) and Economy (E-suffix) low-cost models suited for less severe applications.
- Integrated control panel with selection of different controls for operational convenience.
- Fuseless type over current protection.
- Oil alert system to stop engine in the event of low oil level (not DG1200E).
- High capacity fuel tank for extended operation.

Also available is the high specification DG4000PSi model that includes inverter technology with the following features:-

- High specification petrol engine incorporating automatic speed control that adjusts engine speed to load leading to reduced operating fuel consumption, reduced emissions and quieter operation.
- Square core alternator fitted with a digital inverter that gives regulated 50Hz frequency and perfect sine wave output suitable for all types of sensitive electronic equipment.

Dayliff DG generators are of compact design and their advanced features, reliability and economy of operation make them the ideal solution for all small scale power supply requirements.

	Output			Fuel	Opera-				
Model	Rated (kVA)	Max (kVA)	Model	Capacity (cc)	Max Power (HP)	capacity (litres)	Period (Hrs)	Starter	
DG 1200E	0.9	1.0	156F,4T	98	3.5	5.5	7.0	Recoil	
DG 3000P	2.3	2.5	GK210,4T	212	7	15	7.7	Recoil	
DG 3000E	2.5	2.8	170,4T	220	7	12	7.0	Recoil	
DG 3800PT**	3.2	3.5	GK225,4T	223	7.5	17	6.6	Recoil	
DG 4000PSi***	3.6	4.0	GK225,Vi	223	7.5	10	5.0	Electric/Recoil	
DG 5000P	4	4.5	GK420,4T	420	16	25	7.8	Electric/Recoil	
DG 6500E	5	5.5	LV420,4T	420	16	25	7.1	Recoil	
DG 6500PT**	5	5.5	GK420, 4T	420	16	28	7.8	Electric/Recoil	
DG 7500PS*	5.5	6	GK420, 4T	420	16	15	4.0	Electric/Recoil	
DG 7500P	6	6.5	GK420, 4T	420	16	25	6.5	Electric/Recoil	
DG 9000PT**	6.5	7.0	GK460, 4T	459	18	28	6.2	Electric/Recoil	

#### **SPECIFICATIONS**

\*Acoustic Set with AMF, noise level: 70dBA@7m, \*\* T Suffix indicates Trolley Mount, \*\*\*I denotes inverter set

**DERATING:** Given outputs are sea level ratings. Sets should be derated at 1% for every 100m higher than 100m above sea level, and 2% for every 5°C temperature above 20°C for naturally aspirated engines

#### **ELECTRICAL DATA**

Alternator: Self exciting, 2 pole Voltage Regulator: AVR Speed: 3000rpm **Power Output:** 50Hz, 240V, single phase **Power Factor:** 1 **Direct Current:** 12V/8.3A

### **GENERAL DATA**

Model	Hour Meter	Voltmeter	Breaker on Indicator	Oil Alert System	AC Power Output	L (mm)	W (mm)	H (mm)	Weight (kg)
DG1200E	Х	$\checkmark$	Х	Х	1 No. Plug Socket	460	366	370	25
DG3000P	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	2 No. Plug Socket	590	433	460	41
DG3000E	Х	$\checkmark$	$\checkmark$	$\checkmark$	1 No. Plug Socket	600	440	430	39.3
DG3800PT**	Digital Multimeter-Volts,Hz & Hours		$\checkmark$	$\checkmark$	1 No. Plug Socket+1 No. CEE Socket	630	470	530	50
DG4000PSi***	Х	Х	Х	$\checkmark$	2 No. Plug Socket	685	460	525	42
DG5000P	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		685	512	550	74.4
DG6500E	Digital Multimeter-Volts,Hz & Hours		$\checkmark$	$\checkmark$		685	512	550	72.6
DG6500PT**			$\checkmark$	$\checkmark$		720	530	610	76
DG7500PS*	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	1 No. Plug Socket+1 No. CEE Socket	1000	520	740	126
DG7500P	$\checkmark$	$\sim$	$\checkmark$	$\sim$		685	512	550	85
DG9000PT**	Digital Multimeter-Volts,Hz & Hours		$\checkmark$	$\checkmark$		720	530	610	85



# 2. SAFETY WARNINGS

$\bigcirc$	Instruction Manual	Read and carefully understand the Instruction Manual before use.
0	Garashing Barashing	Avoid proximity to fire when refueling highly inflammable!
$\bigcirc$		Ensure good ventilation around the generator and do not operate indoors. Exhaust gases are very poisonous
$\bigcirc$	Thur	Do not use generator on a slope. Fuel spillage may occur and cause a fire.
$\bigcirc$		Do not restrict the exhaust silencer. There is a danger of overheating and fire.
$\bigcirc$		Do not connect generators together. Generator damage will occur.
$\bigcirc$		Ensure a competent trained person is used in case of overhaul.

## 3. CONTROLS

All generators are fitted with the following:-

- 2no. 3 pin AC outlets, +ve and -ve DC connections. DG950 with one outlet.
- Engine on/off switch.
- Magnetic circuit breaker electric cutout.
- Voltmeter (not DG950)

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# 4. ELECTRICAL CONECTIONS



If the generator is to be connected for standby power use ensure a qualified electrician is employed. The generator must be isolated from the utility power when connected or serious damage will result to the generator and house power circuits.

- Ensure total load does not exceed the generator rating. Maximum power output must only be used briefly or generator damage will occur.
- Ensure total load does not exceed the generator rating. Maximum power output must only be used briefly or generator damage will occur.
- DC output to be used for charging automotive and solar 12V batteries only. Ensure correct polarity when connecting cables, i.e +ve to +ve and -ve to -ve generator to battery terminals.
- Ensure the generator is properly earthed. Consult a qualified electrician if in doubt.

## 5. GENERATOR OPERATION



Always start generator before applying load by switching the circuit breaker and stop the generator after disconnecting load. Starting and stopping under load will damage the generator and powered accessories.

- CHECK ENGINE OIL. Operating without oil will cause severe engine damage and invalidate the warranty.
- To start ensure ignition 'ON', fuel valve 'ON' and choke 'ON'. Then either pull starter cord (manual start) or turn key (electric start). For electric start do not turn the engine on for more than 5 seconds. If ti fails to start release the switch and wait 15 seconds before re-trying. Switch off choke when engine has started.
- Check output voltage is 240V on the voltmeter. If not adjust engine speed. If the speed setting is correct and the voltage is low then the generator is overloaded and load must be reduced.
- If more than an appliance is connected apply load progressively with greatest load first.
- Close fuel valve whenever generator is not operating.
- DG950 generators use two-stroke engines and oil must be pre-mixed with petrol at the ratio of 50:1. Use fuel tank cap as an oil measure adding one inverted capfull for each litre of fuel. Engine damage will occur without pre-mixed oil.

## 6. ROUTINE MAINTENANCE

For Diesel engines see separate engine manual. The below instructions apply to petrol versions only.

## **ENGINE OIL**

• Check engine oil daily. If low refill with SAE30.

• Change engine oil after first month or after 20hrs operation and thereafter every 3 months or 50 hours of operation, in both cases whichever is sooner.

### **AIR CLEANER**

Check the air cleaner every 3 months or after 50 hours operations, whichever is the sooner. Clean by blowing away accumulated dust and soaking in kerosene.

### SPARK PLUG

A correctly set spark plug in good condition is essential for efficient engine operation. Check the plug every 3 months or after 50 hours operation, clean with a wire brush and set the electrode gap to 0.7-0.8mm. If general conduction is unsatisfactory it should be changed with a NGK (BPR5ES) or similar.

#### 7. TROUBLE SHOOTING **POSSIBLE CAUSE** SOLUTION PROBLEM Carburettor is blocked Clean carburettor Spark plug is wet / dirty Clean and adjust plug Air cleaner dirty Clean air cleaner Reduce oil to suitable level Too much engine oil Engine does Oil sensor is activated. Add oil not start (Oil sensor prevents engine Insufficient engine oil from running if oil level is low) Check fuel cock open No fuel Clean if fuel filter blocked Charge/replace battery Battery flat (Electric start) Oil leakage from muffler or Engine has tipped over Right engine oil to drain air cleaner Reduce generator load No Electrical Circuit breaker tripped Check for short circuit in load output Loose connection in output cable

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PROBLEM	POSSIBLE CAUSE	SOLUTION
Low Electrical	Low output voltage	Check engine speed
output	Excessive electrical load	Reduce generator load

## i) General Liability

- In lieu of any warranty, condition or liability implied by law, the liability of Davis & Shirtliff (hereafter called the Company) in respect of any defect or failure of equipment supplied is limited to making good by replacement or repair (at the Company's discretion) defects which under proper use appear therein and arise solely from faulty design, materials or workmanship within a specified period. This period commences immediately after the equipment has been delivered to the customer and at its termination all liability ceases. Also the warranty period will be assessed on the basis of the date that the Company is informed of the failure.
- The warranty applies solely to equipment supplied and no claim for consequential damages, however arising, will be entertained. Also the warranty specifically excluded defects caused by fair wear and tear, the effects of careless handling, lack of maintenance, faulty installation, incompetence on part of the equipment user, Acts of God or any other cause beyond the Company's reasonable control. Also, any repair or attempt at repair carried out by any other party invalidates all warranties.

## ii) Standard Warranty

If equipment failure occurs in the normal course of service having been competently installed and when operating within its specified duty limits warranty will be provided as follows:-

• Up to 1 year - The item will be replaced or repaired at no charge.

The warranty on equipment supplied or installed by others is conditional upon the defective unit **being promptly returned free to a Davis & Shirtliff office** and collected thereafter when repaired. No element of site repair is included in the warranty and any site attendance costs will be payable in full at standard charegeout rates. Also proof of purchase including the purchase invoice must be provided for a warranty claim to be considered.

## DAYLIFF is a brand of Davis & Shirtliff

for enquiries contact

Davis & Shirtliff, Ltd.

P.O. Box 41762 - 00100, Nairobi, Kenya Tel: 6968000/ 0711 079 000

or visit

## www.dayliff.com

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