

# DATA SHEET SPECIFICATION

## UPG-P45

**50  
Hz**

### POWERED BY



Three phase



water cooled



DIESEL



Battery Charging  
Alternator

### Ratings @ 0.8 PF

VOLTAGE	FREQUENCY	PRIME RATING		STAND-BY RATING	
230/400 v	50 Hz	45.0 kva	36.0 kw	49.6 kva	39.7 kw

#### Prime

These ratings are applicable for supplying continuous electrical power (at variable load). There is no annual hours limitation and this genset can supply 10% overload for 1 hour in 12 hours

#### Stand by

These ratings are applicable for supplying continuous electrical power(at variable load) in the case of emergency power supply. No overload is permitted on the ratings.  
The alternator on this model is peak continuous rates(as defined in ISO 8528-5)

Some of the specifications are not standard on all Genset models.

#### Genset Standard Specification

Model	UPG-P45
Base frame	Heavy duty fabricated steel
Circuit breaker	ABB 3 pole MCB (4 pole is optional)
Engine speed	1500 RPM(50HZ)
Fuel tank capacity(L)	111 - open
	92 - closed
Air inlet	Mounted air filter
Induction system	Turbo charged and air to charge cooled
Combustion system	Direct injection
Fuel system	Rotary type pump
Fuel filter	Next generation
cooling system	Water-cooled
Electric Equipment	12 v starter motor and 12 v DC alternator and 12 v shut off solenoid

**Genset Model****UPG-P45****Engine Model****Perkins 1103A-33TG1****Alternator Model****TAL 042 F****Controller Model****DSE 4520**

#### Dimension

Closed type(mm)		Open type(mm)	
Length	2030	Length	1650
Width	1000	Width	775
Height	1350	Height	800
Weight(kg)	950	Weight(kg)	830

#### Engine Data

Model	Perkins 1103A-33TG1	
No of cylinder & arrangement	3 in-line	
Compression ratio	17.25:1	
Aspiration	Turbo charged	
Bore and stroke(mm)	105 x 127	
Rotation	Anti-clockwise viewed on flywheel	
Governor	Mechanical	
Radiator cooling air flow(m³/min)	12.03m/s	
	<b>50 Hz</b>	
	<b>Prime</b>	<b>Stand by</b>
Gross engine power kw(hp)	42(57)	47(62)
at 50% Load(l/hr)	5.7	-
at 75% Load(l/hr)	8.2	-
at 100% Load(l/hr)	10.7	12.0
Total lubrication system capacity(L)	8.3	8.3
Total Coolant capacity(L)	10	10.2

#### Alternator Data

Make	Leroy Somer TAL / Equivalent
Model	TAL 042 F
Insulation class	H
No of bearing	1
Total harmonic content	at no load<1.5%,at linear load<5%
Winding pitch	2/3
Ingress Protection	IP23
Altitude	≤1000m
Overspeed	2250 R.P.M
AVR Model	R120
Excitation system	SHUNT
Voltage regulation(steady)	±1%
AREP or PMG Excitation System Available as Optional	

All information in this document is substantially correct at the time of printing and may be altered subsequently.



## Enclosure

### SILENT FEATURES:

- Lockable external fuel filling point
- Internal /External fuel connection
- External oil drainage
- External coolant drainage
- Air inlet /outlet louvers
- Sound splitters at radiator side (only for 1000 KVA and above) (For 725-880 KVA vertical air discharge)
- Common earth connection
- 2 layers white color paint
- Cooling fan and battery charging alternator fully guarded
- Engine, radiator, fuel fill and battery can only be reached via lockable access doors

### HIGLY CORROSION RESISTANCE CONSTRUCTION

- Carbon steel locks and hinges
- Body made from galvanized steel components (2.0mm) treated with polyester powder coating

### TRANSPORTABILITY

- Tested and certified single point lifting facility
- Forklift legs available

### SOUND PRESSURE LEVEL

- 80 - 85 dBA at 3 meters (standard)

### SECURITY AND SAFETY:

- Control panel viewing window in a lockable access door
- Emergency stop push button (red) fixed externally for quick access
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors
- Exhaust silencing system totally enclosed for operator safety

### Control Panel Data

Make	Deep Sea
Model	DSE 4520 MKII



## Controller key features

The DSE 4520 is an Auto Start Control Module for single genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be programmed using the front panel or by using the DSE configuration suite PC software.

### Metering and Alarm indications:

- Generator frequency
- Underspeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (Warning or shutdown) - Optional
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal - Optional
- Low DC voltage
- CAN diagnostics and CAN fail/error

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## FUEL SYSTEM

On Generating Sets up to 700 KVA, the baseframe design is incorporated with an integral fuel tank with a capacity of approx. 8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.

Max allowable pressure	50 Hz
Kpa	10
Exhaust gas flow m <sup>3</sup> /min	50 Hz
Prime	7
Standby	7.7
Exhaust gas temperature °C	50 Hz
Prime	492
Stand by	537

## AUTOMATIC VOLTAGE REGULATOR (AVR)

The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 1\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.

## MOTOR STARTING

An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds, when PMG option is fitted.

## COUPLING

The Engine and Alternator are directly coupled by means of an SAE flange. The Engine flywheel is flexibly coupled to the Alternator rotor.

## ANTI-VIBRATION MOUNTING PADS

Anti-Vibration pads are affixed between the Engine / Alternator feet and the Baseframe thus ensuring complete vibration isolation of the rotating assembly.

## SAFETY GUARDS

The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

## FACTORY TESTS

The Generating set is load tested before dispatch. All protective devices control functions and site load conditions are simulated. The generator and its systems are checked before dispatch.

## DOCUMENTATIONS

Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding accompanied with the Generator.

## QUALITY STANDARDS

Following standards: ISO 8528/1, ISO 3046/1, BS 5514/1.

## WARRANTY

All of the Generating Sets are covered under a warranty policy for a period of 12 months. Warranty of the equipment is in line with manufacturers warranty terms & conditions.