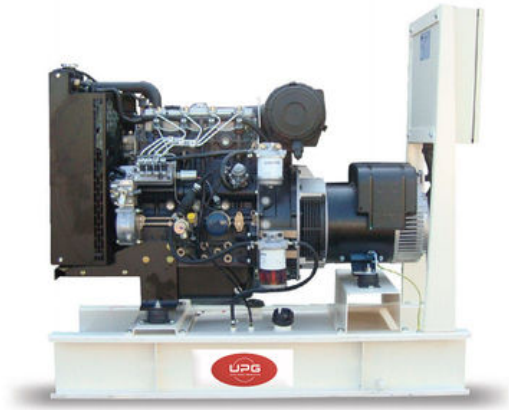


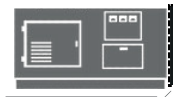
# DATA SHEET SPECIFICATION

## UPG-P20

60 Hz



Genset Model	UPG-P20
Engine Model	Perkins 403 D/A-22G1
Alternator Model	TAL 040 F
Controller Model	DSE 4520



### 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	20.0 kVA	16.0 kw	22.3 kva	17.8 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-P20
Base frame	Heavy duty fabricated steel
Circuit breaker	ABB 3 pole MCB.(4 pole is optional)
Engine speed	1500 RPM(50HZ)
Fuel tank capacity	57 L
Air inlet	Mounted air filter
Induction system	Naturally Aspirated
Combustion system	Indirect Injection
Fuel system	Rotary type pump
Fuel filter	Split element
cooling system	Water-cooled
Electric Equipment	12 v starter motor and 12 v DC alternator and 12 v shut off selenoid

Dimension			
Closed type(mm)		Open type(mm)	
Length	1870	Length	1600
Width	760	Width	700
Height	1320	Height	1000
Weight(kg)	657	Weight(kg)	500

### Engine Data

Model	Perkins 403 D/A-22G1	
No of cylinder & arrangement	4 vertical in-line	
Compression ratio	23.3:1	
Aspiration	Naturally Aspirated	
Bore and stroke	84 x 100 mm	
Rotation	Anti-clockwise viewed from flywheel	
Governor type	Mechanical	
Radiator cooling air flow(m <sup>3</sup> /sec)	0.59	
	50 Hz	
	Prime	Stand by
Gross engine power kw(hp)	18.7 (25.1)	20.6 (27.6)
at 50% Load(l/hr)	2.9	-
at 75% Load(l/hr)	4.0	-
at 100% Load(l/hr)	5.3	6.1
Total lubrication system capacity(L)	10.6	10.6
Total Coolant capacity(L)	7	7
Combustion Air Flow(mi/sec)	1.46	1.46

### Alternator Data

Make	Leroy Somer TAL / Equivalent
Model	TAL 040 F
Insulation class	H
No of bearing	1
Total harmonic content	at no load<3.5%, on load<5%
Winding pitch	2/3
Ingress Protection	IP23
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 time of printing and may be altered subsequently.



## Enclosure

- Full length extra wide doors on each side
- Radiator fill access plate
- Vertical hinged side door 180° opening rotation
- Back door option also available
- 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

### 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
- Dragging points at base frame

### SOUND PRESSURE LEVEL

- 75 dBA at 3 meters (standard)
- IP Rating IP54

### 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

## 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	10.2
Exhaust gas flow m <sup>3</sup> /min	50 Hz
Prime	3.64
Standby	3.94
Exhaust gas temperature °C	50 Hz
Prime	445
Stand by	505

## AUTOMATIC VOLTAGE REGULATOR (AVR)

The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at ±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 it's systems are checked before dispatch.

## DOCUMENTATIONS

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

## QUALITY STANDARDS

Compliance with : BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528 standards.

## 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.