**Diesel Generator Set Specifications Sheet - 500 kVA**

**Generator Specifications:**
- Genset Manufacturer: Greaves Power
- Genset Rating: Prime Power
- Genset Output (KVA / KWe): 500 / 400
- Genset Model: GPWII-500
- Engine: 12V14TAG23
- No. of Cylinders / Cylinder arrangement: 12 / V-type
- Displacement (L): 16.8
- Bore & Stroke (mm): 115 X 135
- Compression ratio: 17
- Rated RPM: 1500
- Governor: Type / Class of Governing - Electronic/G3
- Frequency regulation, No load to full load: Isochronous
- Over speed trip (rpm): 1650
- Air cleaner type / Qty: Dry / 02
- Exhaust system
- Maximum allowable back pressure, kPa: 7

**Engine Electrical system:**
- Charging alternator Voltage / Current (DC): 24V / 44Amps
- Starter Motor rated voltage (DC): 24
- Battery Voltage (DC) / Capacity (AH): 24V, 2*180AH

**Fuel System:**
- Recommended Fuel: HSD
- Fuel tank capacity (Ltr): 990
- Fuel consumption - LPH at % load:
  - 100%: 107.9
  - 75%: 82.5
  - 50%: 66.2
  - 25%: 32.2

**Lubricating Oil system:**
- Lube oil sump capacity: 50
- Oil change period (Hrs): 500
- Oil consumption (% of SEC): Less than 0.2%
- Oil filter quantity (Nos./type): 01 / spin on type
- Recommended Oil Grade: 15W/40 Greaves Maxtherm API C14
- Oil Cooler: Water cooled

**Cooling System:**
- Cooling system is designed for max ambient temp, Deg. C at rated load: 50
- Radiator System capacity, including engine, (L): 120 Ltr
- Water pump type: Centrifugal, Gear Driven

**Alternator Specification:**
- Voltage: 380-440 V
- Frequency: 50Hz
- Current @ 0.8 PF (Amps): 695.6
- Type: 4 Pole, Rotating field
- Exciter Type: Brushless (Permanent magnet optional)
- Leads: Quantity, type: 6, fixed, 12, re connectable (Optional)
- Voltage regulator: Solid State
- Insulation: Class H
- Temperature rise: 125 Deg. C (Class H)
- Bearing: Quantity, type: 1, Sealed
- Coupling: Flexible disc closed coupled
- Voltage regulation : No load to full load: 2 Phase sensing, ±1%
- One step load acceptance: 100% of rating
- Unbalance load capability: 25% of rated current

**Standard scope of supply:**
- Engine with direct injection, water cooled engine, 12 cylinder, V-type, 4 stroke, rated at 1500 RPM, conforming to ISO 3046 / BS 5514 has the following specifications:
  - Mechanical FIP
  - Electronic governor
  - Turbocharger, pulse tuned exhaust manifold, stainless steel exhaust flexible connection
  - Radiator Cooled, with turbocharged after cooled
  - Plate type lube oil cooler
  - Filter –fuel, lube oil
  - Dry type replaceable paper element air cleaner
  - Flywheel housing and flywheel to suit single bearing alternator
  - Starting motor – Electric, battery charging alternator
  - First fill lube oil and coolant

- Alternator: Crompton Greaves (optional-Stamford/ equivalent)
  - Brushless alternator
  - Self-excited, self-regulated
  - Class ‘H’ insulation limited to temperature rise of class H
  - Sallente pole revolving field
  - Single bearing
  - Automatic voltage regulator

- Acoustic enclosure – Engine alternator assembly mounted on AVM with Silencer and S.S exhaust bellow suitably optimized to meet stringent sound emission standards as laid down by MOEP / CPCB
  - Base rail with draw-out type fuel tank is provided with a drain plug, air Vent, inlet and outlet connections, level indicator, manhole etc.
  - Sub-base fuel tank with 11 hours capacity at 75% load
  - 24 V dry, batteries with connecting leads and terminals
  - 90% gloss RAL9003 white pure polyester powder coated, base in black colour.

- Control panel: RAL 9003 White Powder coated control panel manufactured with CRCA sheet provides:
  - Water and lube oil drain outlets located on the outer surface- Leading to ease of maintenance and cleanliness.
  - MCCB of suitable rating with short circuit protection
  - Controller which displays voltage, current, KW, PF, Frequency, KWh.
  - Indicating lamps for “Load On” and “Set Running”
  - Current transformers of suitable ratings
  - Aluminium busbars of suitable capacity with incoming and Outgoing terminations
  - Control fuses duly wired and ferruled

- Power cables: Unnyvin copper conductor cables between Alternator & Control panel inside the canopy.

**Literature:**
- Operation Manual
- General maintenance & installation Guideline
- Foundation Drawing
- Parts manual
### Generator Controller (GCU 6120-MKII)

<table>
<thead>
<tr>
<th>CONTROLLER TYPE</th>
<th>FEATURES</th>
<th>DISPLAY PARAMETER</th>
<th>AUDIO VISUAL WARNING</th>
<th>SHUT DOWN WITH AUDIO VISUAL ANNUNCIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCU 6120-MKII for Genset Controller</td>
<td>Compact and microprocessor based fully configurable control Unit.</td>
<td>Engine Oil pressure</td>
<td>Low Oil pressure</td>
<td>Low Oil Pressure</td>
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<td></td>
<td>4 line LCD display</td>
<td>Coolant temperature</td>
<td>High Coolant temperature</td>
<td>High Coolant temperature</td>
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<td></td>
<td>The unique integrated DG set controller</td>
<td>Fuel level indication %</td>
<td>Low Battery Voltage</td>
<td>Engine Over speed</td>
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<tr>
<td></td>
<td>Incorporate both engine and alternator parameter in one console</td>
<td>Battery voltage</td>
<td>Low fuel Level</td>
<td>Engine under speed</td>
</tr>
<tr>
<td></td>
<td>Fully configurable digital output</td>
<td>Engine rpm</td>
<td>High canopy temperature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All parameter are settable and password protected</td>
<td>DG set Running Hours</td>
<td>Low fuel level</td>
<td></td>
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<tr>
<td></td>
<td>AMF Ready</td>
<td>Generator Volts – Phase – Neutral &amp; Phase – Phase</td>
<td>Under voltage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remote start</td>
<td>Generator Current (Amps)</td>
<td>Over voltage</td>
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<td></td>
<td></td>
<td>Power factor</td>
<td>Over frequency</td>
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<td>KW</td>
<td>Under frequency</td>
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<td>KWH</td>
<td>Under frequency</td>
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<td>KW</td>
<td>Low coolant level</td>
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<td>High Canopy Temperature</td>
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</tbody>
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### Optional Items:

**Cooling System:** Heater Kit for -20 Deg. C Operation / Heater Kit for -30 deg.Cel

**Electrical Systems:** Alternator Space Heater / Higher Rating Battery / Battery Charger / Battery Heater / Copper Bus Bar / Sealable kWh / Earth Fault Relay / Remote Annunciator / Remote monitoring / RTD/BTD Temperature Scanner

**AMF &Synchronizing System:** AMF panel / AMF with Auto-synchronization (Deep Sea / Woodward)

**Open Unit (For Export)**: Exhaust silencer-Hospital/Residential Grade, Stainless Steel, flexible pipe.

**Fuel System:** Flexible Fuel Lines / SS fuel lines / Fuel Pressure Gauge/fuel Flow Meter

**Enclosed Unit:** Sound Enclosure – Super silent / External 990 Lt. Fuel Tank

**Miscellaneous:** Air Cleaner (Heavy Duty)/Air Cleaner Restriction Indicator Digital / Closed crankcase ventilation

### Typical Enclosed GENSET Dimensions & weight

<table>
<thead>
<tr>
<th>Model</th>
<th>Rating</th>
<th>Length(mm)</th>
<th>Width(mm)</th>
<th>Height(mm)</th>
<th>Dry Weight(kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPWII-500</td>
<td>500</td>
<td>5600</td>
<td>2000</td>
<td>2300</td>
<td>5610</td>
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