

## **DG SET SPECIFICATION & SCOPE**

The standard scope of **SUPERNOVA** DG Set includes Design, Manufacturing, testing and Supply of 1500RPM, 50Hz, 0.8 PF Diesel Generating Set/s capable of generating rated power at standard reference conditions and complete with accessories as per below specification.

**SUPERNOVA** Genset is **Ready-To-Use** type, powered by heavy duty, rugged, reliable fuel efficient, 4-stroke industrial engine. It shall generally comprise of.....

- A.C. Generator
- DG Control, Monitor relay & Power panel.
- Day Fuel storage Tank.
- Cushy foot mounts.
- Exhaust Silencer with bellow.
- Starting Battery & its cable

<b>Genset Model</b>	<b>SMM 25</b>
Rating	25KVA/20KWe
A.C. Generator	3P,415V, 0.8PF, 50Hz
Engine Model	4375GM
Type	4 Cylinder, Inline, DI, NA, Radiator - water Cooled, 1500 RPM
Bhp/displacement	37 Bhp/2.73 Lits
Starting & Battery	12V DC Electric, 1No. 120AH
Oil Sump Capacity	9.4 Lits
Fuel Day Tank Cap.	100 Lits
Dimension (Approx.)	1000 (W)x2200(L)x1580(H)
Gross Weight	1210 Kgs.

Each DG Set shall be complete with the following:

### **1.0 DIESEL ENGINE:**

The Engine shall be capable of developing required power at 1500 rpm & compact with large reserve power and stable in operation with excellent speed regulation confirming to Governing performance in accordance with class-A1 as per BS-5514.

The engine selected above meets the Emission standards.

The engine shall be complete with the following:

- Flywheel, Lift Eyelets, Crank Case Ventilation & Engine Mountings
- Engine driven Lub. Oil Pump, Strainer, Oil Filters, Oil Dip- Stick & Drain Plug.
- Fuel Injection Pump, Speed Governor, Fuel Filters and Fuel Pipes.
- Air Filters & Exhaust arrangement.
- Radiator, Engine driven Coolant Pump, Thermo-state, Engine driven Radiator Fan, and Integral piping.
- DC Electric Starter Motor, Battery Charging DC Alternator, Switches/Sensors & its Engine wiring.

## **2.0 A.C. GENERATOR:**

A.C. Generator of above rating shall be Stamford or equiv. make Industrial, Brushless, Synchronous, self excited, self regulated type having voltage regulation of +/-1%. A.C. Generator shall be with Class of Insulation 'H', Screen Protected drip proof having enclosure as per IP-21/23 and horizontal foot mounted single bearing type confirming to BS-5000, IS4722.

## **3.0 CONTROL PANEL:**

The following Control shall be fabricated from CRCA sheet Metal & shall be powder coated after process of degreasing & de- rusting. The doors & covers are provided with Neoprene Gasket to ensure dust & vermin proof. The panel shall be provided for power output terminations facility. The standard Control Panel shall comprise of Control, Monitoring & Protection facility using quality instruments & Switch gears & neatly wired with flexible copper cable with ferrule numbers for easy identification & maintenance.

### **3.1 MANUALLY OPERATED CONTROL PANEL is fitted with:**

- Engine Monitoring & Safety Unit for
  - Monitoring of Speed (RPM), Battery Volts & Engine Hour run.
  - Protection for Low Lub. Oil, High Coolant Temp. & Over Speed.
  - Monitoring of AC Volt & Frequency.
  - Alarm indications for Low Lub. Oil pressure, High Coolant Temp., Low fuel Level.
  - Start/Stop Push Button.
  - Lub. Oil Pressure Gauge, Coolant Temp. Gauge.
- Amp Meter with selector switch
- Incoming Breaker (2/3-Pole MCB/MCCB) of suitable rating with Thermal/Static release for Gen-set power.
- Set of Current Transformers for metering (Class 1.0)
- Set of copper flexible power cable
- Aux relays & terminals

**OPTIONAL** - AUTO MAINS FAILURE (AMF) CONTROL PANEL WITH ATS

## **4.0 ACOUSTIC ENCLOSURE (Optional for Export):**

**Supernova** Acoustic Enclosure, is a result of in-depth R & D, evolved out of several design & prototype test witnesses, proven in field for its quality performance. Supernova Acoustic Enclosure is thoughtfully crafted art-piece and the design is with natural air circulation without loss of any power for ventilation fan.

Supernova Acoustic Enclosures meet **latest CPCB norms & are certified by National Aerospace Lab.** and the noise measured is within 75 dbA at 1mtr. distance under free field condition. The enclosure shall be...

- Made out of finest quality CRCA Sheet Steel. Each fabricated component undergoes rigorous pre treatment procedure for degreasing, de-rusting, phosphating, activations passivation & de-moisturizing and finally painted using power coats of pure polyster chips meant for long life.
- Modular, bolted type in construction and shall have easy access for maintenance.
- The doors are provided with airtight neoprene rubber gasket and heavy-duty lock & hinges.
- The sound absorption material selected is high quality Fire-proof.
- Provided with Lub. oil drain, oil breather & Radiator water over flow drain, Lifting and Air inlet & outlet Arrangement.
- Provided with Interior lighting, body earthing & Out side emergency stop PB.

#### **5.0 ACCESSORIES/PERIPHERALS:**

- Fuel storage Day Tank (in base) with filling, drain & breather arrangement. The fuel tank shall also be fitted with level gauge.
- Anti Vibration Mounts.
- Exhaust Flexible bellow & Silencer.
- Lead Acid dry uncharged Battery/s, its stand & Battery Leads.

#### **6.0 DOCUMENTS:**

- Genset Test Certificate
- Engine Operation Maintenance & Parts Manual
- Alternator Operation, Maintenance & Spare Part Manual
- Alternator Test Certificate
- Control Panel Test Certificate
- Set of Control Panel Drawings.