

## **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

| Genset Model        | SMM 12.5  |
|---------------------|---|
| Rating              | 12.5KVA/10KWe   |
| A.C. Generator      | 1P-240V/3P- 415V, 0.8PF, 50Hz                                 |
| Engine Model        | 2185GN  |
| Type                | 2 Cylinder, Inline, DI, NA, Radiator - water Cooled, 1500 RPM |
| Bhp/displacement    | 18Bhp/1.365 Lits  |
| Starting & Battery  | 12V DC Electric, 1No. 75AH                                    |
| Oil Sump Capacity   | 5 Lits  |
| Fuel Day Tank Cap.  | 100 Lits  |
| Dimension (Approx.) | 1000 (W)x2000(L)x1550(H)                                      |
| Gross Weight        | 1000 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.