

# Diesel Generator Set X2.5 Series

7.5 - 20 kVA, 6 - 16 kWe Prime  
CPCB IV+ Emission Compliant



## Latest Technology and Unmatched Performance

- The Cummins® X2.5 series rugged engine and world class Stamford alternator powered diesel generator set
- Advanced in-cylinder technology to meet stringent emission norms without any after-treatment device
- Best in class transient response
- High altitude capabilities
- Superior finish and aesthetics
- Compact in size with optimum power to weight ratio

## Environment Friendly Power

- Class defining and technologically advanced engine to meet stringent exhaust emission norms as per the latest MoEF notification
- The Cummins® diesel generator sets are available with the lowest noise levels in its range

## Lowest Operating Cost and Comprehensive Warranty

- Highly reliable and durable product
- Maximum efficiency even at part loads, offering the advantage of lowest operating costs
- 500 Hours/18 months service interval
- Industry acknowledged best-in-class comprehensive warranty on the entire package including rubber components

## Single Source Power Assurance

- All the major components - the engine, alternator, control system and canopy are designed, manufactured, and tested by Cummins India
- Best and largest customer support network in India, capable of providing round-the-clock service and spares support

## Engine

- Cummins® X2.5 series, 3 cylinder, In-line 4 stroke, radiator cooled engine
- Robust and efficient air handling system with
  - Dry type, replaceable paper element air cleaner with restriction indicator
  - Optimized turbocharger for increased altitude capabilities
- Optimized fuel consumption with Inline fuel pump with A1 class mechanical governing
- Spin on fuel filter
- Cooling system is designed and tested for 45°C ambient conditions
- Full flow spin on lube oil filter
- First fill of lube oil and coolant
- Electrical starter motor with soft start engagement feature
- Battery charging alternator
- 1 X 12 V DC battery



## Alternator

- STAMFORD S0L1 and S0L2 alternator frames from Cummins Generator Technologies
- Brushless type, Screen protected, Revolving field, Self-excited alternator conforming to IS/IEC 60034-1
- Better motor starting capability
- Best in class efficiency
- Compact design with sealed bearings for longer life and lesser maintenance
- Impregnation on all wound components for better mechanical strength

## Control Panel

Control panel is powder coated for weather-proof and long-lasting finish. The control panel consists of the following parts:

- PS0600 Controller
- Bus bars with suitable capacity with incoming/outgoing terminals
- Indicating lamps for 'Load ON' and 'Set Running' Instrument fuses duly wired and ferruled
- MCCB of suitable rating with short circuit protections
- AC/DC separation inside control panel for safety

## PS0600 Features



- Cummins® PowerStart™ PS0600 control is a microprocessor based generator set monitoring, metering and control system with LCD display designed to meet the demands of today's engine driven generator set
- AMF Functionality
- Intuitive operator interface which includes LED backlit 128X64 pixel graphic display with tactile feel soft-switches & generator set status LED lamps
- Remote start-stop
- Audible & Visual warning for Inducement
- Engine Metering: Oil pressure, Engine temperature, Starting battery voltage, Engine running hours
- AC Alternator Metering: L-L Voltage and L-N Voltage, Current (phase and total), kVA (phase and total) and Frequency. kWh, Total & per phase (kw & kVA), PF, Utility Voltage and Freq
- Engine Protection: Low lube oil pressure, High/Low coolant temperature, Battery High/Low/Weak Volts, Fail to Crank/Start, Sensor failure, Cranking lockout, Low fuel level
- AC Alternator Protection: Over/Under Voltage, Over/Under Frequency, Loss of AC sensing. Overspeed, Over Current, kW Overload
- Data Logging: Engine hours, Control hours and upto 5 recent fault codes
- Configurable glow plug control
- 12 Volt DC operation
- Sleep mode
- Modbus interface (RS485 RTU)
- In Power compatible (PC based service tool)
- Certifications - meets the requirement of relevant ISO, EN, Mil Std. and CE standards
- Maintenance due alarm based on Engine Run Time and due date
- Exerciser scheduler

## Silencer

- Critical Grade Silencer suitably optimized to meet stringent sound emission standards laid down by MoEF/CPCB

## Mounting Arrangement

- Engine and alternator are mounted on a common MS fabricated base frame with AVM pads
- Skid mounted radiator
- Base frame with integral fuel tank is provided with drain plug, air vent, inlet and outlet connection and provision for cleaning

## Optional

- Engine: Cold Start Kit
- Alternator : PMG and Space Heater
- Canopy: Inside bolt design
- Remote monitoring system

### Acoustic Enclosure

- Specially designed to meet stringent MoEF/ CPCB norms of 75 dBA@1mtr at 75% load under free field conditions
  - The acoustic enclosure is made CRCA sheets in Munsell green shade and a structural/sheet metal base frame painted in black
  - 11 tank pretreatment process and UV resistant powder coating of all parts to withstand extreme environment
  - High quality noise absorbent and fire-retardant grade acoustic Insulation material (P.U Foam) complying to IS 8183
  - Top lifting for easy handling at customer site
- Designed to have optimum serviceability
  - Air inlet louvers specially designed to operate at rated load
  - 11 tank pretreatment process and UV resistant Powder Coating of all parts to withstand extreme environment
  - Fluid drains for lube oil and fuel
  - External Fuel filling arrangement outside the enclosure

### Technical Data

| Generator Set Specification             |               |               |               |               |
|---|---------------|---------------|---------------|---------------|
| Model                                   | CI 7.5D5P     | CI 10D5P      | CI 15D5P      | CI 20D5P      |
| Duty                                    | Prime         | Prime         | Prime         | Prime         |
| Power Rating kVA / kWe                  | 7.5/6         | 10/8          | 15/12         | 20/16         |
| No. of Phases                           | 3 Phase       | 3 Phase       | 3 Phase       | 3Phase        |
| Output Voltage and Frequency (V and Hz) | 415 V, 50 Hz  | 415 V, 50 Hz  | 415 V, 50 Hz  | 415 V, 50 Hz  |
| Power Factor                            | 0.8 (lagging) | 0.8 (lagging) | 0.8 (lagging) | 0.8 (lagging) |
| Current (3 phase/ 1 phase) (A)          | 10            | 14            | 21            | 28            |
| RPM                                     | 1500          | 1500          | 1500          | 1500          |

| Engine Specification                           |                                   |                    |                    |                    |
|--|-----------------------------------|--------------------|--------------------|--------------------|
| Make   | Cummins®                          |                    |                    |                    |
| Model  | X2.5-G5                           | X2.5-G5            | X2.5-G6            | X2.5-G6            |
| Required Certified Power for Rated kVA (hp)    | 16.8                              | 16.8               | 25.2               | 25.2               |
| Cooling  | Liquid Cooled (EG Compleat 50:50) |                    |                    |                    |
| Aspiration                                     | Turbocharged                      |                    |                    |                    |
| No. of cylinders                               | 3, In-line                        | 3, In-line         | 3, In-line         | 3, In-line         |
| Bore (mm) x Stroke (mm)                        | 91.4 X 127                        | 91.4 X 127         | 91.4 X 127         | 91.4 X 127         |
| Compression ratio                              | 18.5:1                            | 18.5:1             | 18.5:1             | 18.5:1             |
| Displacement (litre)                           | 2.5                               | 2.5                | 2.5                | 2.5                |
| Fuel   | High Speed Diesel                 | High Speed Diesel  | High Speed Diesel  | High Speed Diesel  |
| Performance class of generator set             | ISO 8528-5 G2                     | ISO 8528-5 G2      | ISO 8528-5 G2      | ISO 8528-5 G2      |
| Starting system                                | 12 V DC Electrical                | 12 V DC Electrical | 12 V DC Electrical | 12 V DC Electrical |
| Lube oil specification                         | CI4+                              | CI4+               | CI4+               | CI4+               |
| Lube oil sump capacity, High-Low level (litre) | 4 – 3                             | 4 – 3              | 4 – 3              | 4 – 3              |
| Total lubrication system capacity (Litre)      | 8.5                               | 8.5                | 8.5                | 8.5                |
| Total coolant capacity (litre)                 | 5.5                               | 5.5                | 5.5                | 5.5                |
| Exhaust pipe size (inch)                       | 2                                 | 2                  | 2                  | 2                  |
| Total wet weight (Engine+Radiator)* (kg)       | 271                               | 271                | 271                | 271                |
| Length X Width X Height (Coolpac) (mm)         | 718 x 651 x 883                   | 718 x 651 x 883    | 718 x 651 x 883    | 718 x 651 x 883    |
| Mean Piston speed (m/s)                        | 6.3                               | 6.3                | 6.3                | 6.3                |
| Combustion air intake @100% load (±5%) (cfm)   | 41.4                              | 41.4               | 50.2               | 50.2               |
| Exhaust Temperature (°C)                       | 380                               | 380                | 500                | 500                |

| Alternator Specification                          |  |                |                |                |
|---|--|----------------|----------------|----------------|
| Make  | STAMFORD (CGT)   | STAMFORD (CGT) | STAMFORD (CGT) | STAMFORD (CGT) |
| Alternator Frame                                  | S0L1-D   | S0L1-H         | S0L1-P         | S0L2-M         |
| Enclosure   | IP23   | IP23           | IP23           | IP23           |
| Voltage regulation (Max.)                         | ±1%  | ±1%            | ±1%            | ±1%            |
| Class of Insulation                               | H Class  | H Class        | H Class        | H Class        |
| Winding Pitch                                     | 2/3  | 2/3            | 2/3            | 2/3            |
| Stator Winding                                    | Double layer lap   |                |                |                |
| Rotor   | Dynamically Balanced                                       |                |                |                |
| Waveform distortion/<br>Total Harmonic Distortion | No load < 1.5 %, Non distorting balanced linear load < 5 % |                |                |                |
| Maximum Unbalanced<br>Load across phases*         | less than or equal to 25%                                  |                |                |                |
| Telephonic Harmonic factor                        | < 2%   |                |                |                |

| Rating Definitions   | Conformance Standards   |
|--|---|
| <p>Prime Power (PRP):<br/>Applicable for supplying power to<br/>varying electrical load for unlimited hours.<br/>Prime Power (PRP) is in accordance with<br/>ISO 8528.</p> | <ul style="list-style-type: none"> <li>• IS/IEC 60034-1</li> <li>• ISO 1460</li> <li>• ISO 8528</li> <li>• ISO 3046</li> <li>• ISO 9001</li> <li>• ISO 13018</li> </ul> |

| Typical Enclosed Genset Dimensions |              |             |            |             |                  |                                     |
|------------------------------------|--------------|-------------|------------|-------------|------------------|-------------------------------------|
| Genset Model                       | Rating (kVA) | Length (mm) | Width (mm) | Height (mm) | Wet Weight" (kg) | Standard Fuel tank Capacity (litre) |
| CI 7.5D5P                          | 7.5          | 2090        | 875        | 1150        | 772              | 85                                  |
| CI 10D5P                           | 10           | 2090        | 875        | 1150        | 780              | 85                                  |
| CI 15D5P                           | 15           | 2190        | 875        | 1150        | 789              | 90                                  |
| CI 20D5P                           | 20           | 2190        | 875        | 1150        | 820              | 90                                  |

" Approximate Weight

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