**FEATURES**

**EPA TIER 3 AND CARB CERTIFIED FOR NON-ROAD MOBILE APPLICATIONS**

**SOUND ATTENUATED ENCLOSURE**
- The fully weatherproof enclosure incorporates an internally mounted exhaust silencer and is of extremely rugged construction in order to withstand the rough handling common on many construction sites.
- Highly corrosion resistant construction.
  - Body made from sheet steel components pretreated with zinc phosphate prior to polyester powder coating at 200°C (392°F)
  - Black stainless steel padlockable latches.
  - Zinc die cast hinges/grab handles.
- Excellent access for maintenance.
  - Two large doors on each side. Two rear doors for distribution/control panel.
  - Front panel for air discharge box access.
  - Lube oil and cooling water drains piped to exterior of the enclosure.
- Security and safety.
  - Safety glass control panel viewing window in a lockable access door.
  - Cooling fan and battery charging alternator fully guarded.
  - Fuel fill and battery can only be reached through lockable access doors.
- Transportability.
  - Tested and certified single point lifting eye.
  - Lifting points on baseframe.

**ROBUST DESIGN FOR RENTAL ENVIRONMENT**
- Packages designed to survive in rugged environments.
- Single wall fuel tank base with 24 hour minimum fuel supply.

**DISTRIBUTION PANEL**
- Switchable voltage from 480/277V 3-phase to 240/139V 3-phase (can be dialled down to 208/120V 3-phase) 240/120V single phase.*

**REAR CUSTOMER ACCESS**
- Separate control panel and distribution panel access doors.
- Hinged door over main bus connectors.
- Emergency stop on panel.
- Remote start/stop contacts.

**ENVIRONMENTALLY FRIENDLY DESIGN**
- EPA Tier 3 off-highway compliant engine.

**OPTIONS**
- AH1L – Anti-condensation heater 110-120 volt AC
- WHL – Coolant heater 110-120 volt AC
- PBC3UL – UL Listed 5A Battery charger
- CSA-CSA Certification
- FCUL2 – UL double walled fuel tank base
- Tandem axle trailers with hydraulic or electric brakes

* Refer to distribution panel specifications for details.
STANDARD FEATURES

1. ENGINE
Heavy duty industrial EPA Tier 3 compliant diesel engine.

1.1 Governor
Electronic, compliant with BS5514, Class A1.

1.2 Electrical System
12 volt DC. Energized to run shutdown solenoid. Oil pressure and coolant temperature/level shutdown switches and gauge sensors.

1.3 Derates
Genset power derates will be required in accordance with engine manufacturers above 45° C (113° F).

2. COOLING RADIATOR
Radiator and cooling fan complete with protection guards, designed to cool the engine in ambient temperatures up to 43° C (109° F).

3. ENGINE FILTRATION SYSTEM
Cartridge type dry air filters with restriction indicator. Racor fuel filter in addition to engine filter. Cartridge type fuel filters and full flow lube oil filters. All filters have replaceable elements.

4. EXHAUST SYSTEM
Critical silencer with flexible connector with vertical discharge.

5. ELECTRICAL SYSTEM
12 volt system with 65A battery charging alternator, and starter motor on engine single 12V Cat brand maintenance free battery, battery rack, and cables on the generator set baseframe. Optional battery charger mounted on control panel.

6. GENERATOR
Screen protected and drip-proof, self exciting, self-regulating brushless generator with fully interconnected damper windings, IC06 cooling system and sealed-for-life bearings. Switchable voltage output.

6.1 Insulation System
The insulation system is Class H. Windings are impregnated in a triple dip thermo-setting moisture, oil and acid resisting polyester varnish. Heavy coat of anti-tracking varnish for additional protection against moisture or condensation.

6.2 Electrical Characteristics
Electrical design in accordance with BS5000 Part 99, IEC60034-1, EN61000-6, NEMA MG-1.22.

6.3 Automatic Voltage Regulator (AVR)
The fully sealed R438 automatic voltage regulator maintains the voltage within the limits of ± 0.5% at steady state from no load to full load.

Nominal adjustment is by means of a trimmer incorporated in the AVR. The panel door incorporates an additional voltage adjustment potentiometer.

6.3.1 Permanent Magnet Generator
Providing 350% short circuit capabilities, enhanced motor starting and non-linear loading performance.

6.4 Waveform Distortion, THF and TIF Factors
The total distortion of the voltage waveform with open circuit between phases or phase and neutral is in the order of 1.8. On a 3-phase balanced harmonic-free load the total distortion is < 4%. Machines are designed to have a THF less than 2% and a TIF less than 50. A 2/3 pitch factor is standard on all stator windings.

6.5 Radio Interference
Suppression is in line with the provisions of EN61000-6.

7. MOUNTING ARRANGEMENT

7.1 Baseframe
The complete generator set is mounted on a heavy duty fabricated steel baseframe. The baseframe includes an integral fuel tank and incorporating specially designed lifting points.

7.2 Coupling
The engine and generator are directly coupled by means of an SAE flange so that there is no possibility of misalignment after prolonged use. The engine flywheel is flexibly coupled to the generator rotor and a full torsional analysis has been carried out to guarantee no harmful vibration will occur in the assembly.

7.3 Anti-Vibration Mounting Pads
Captive anti-vibration pads are affixed between engine(generator feet and the baseframe ensuring complete vibration isolation of the rotating assemblies.

7.4 Safety Guards
The fan, fan drive and battery charging generator drive are fully guarded for personnel protection. Heat guards protect personnel from the exhaust pipe. All guards are to OSHA standards.

8. FUEL SYSTEM
Fuel feed and return lines to the engine are terminated at the baseframe mounted 24 hour extended capacity fuel tank. 3-way valves to allow connection of auxiliary fuel tank.

9. CONTROL SYSTEM

9.1 Control Panel
Set mounted autostart panel in a vibration isolated NEMA 1 sheet steel enclosure with a hinged lockable door.

9.2 DC and AC Wiring Harnesses
DC and AC wiring harnesses utilizing industrial type multi-pin connectors to permit fast fault finding.

10. DISTRIBUTION PANEL

10.1 Circuit Breaker
3-pole UL CSA listed molded case circuit breaker mounted on the generator set in a vibration isolated NEMA 1 distribution panel.

10.2 Multiple Power Receptacles
Receptacles accept industry standard male plugs. Each receptacle is protected by a miniature circuit breaker which also acts as an on/off switch.

11. DOCUMENTATION
A full set of operation and maintenance manuals, circuit wiring diagrams, and instruction leaflets are provided.

12. SOUND ATTENUATED ENCLOSURES
A noise reducing enclosure surrounds the entire generator set. Combined with a critical engine silencer this provides an overall noise reduction from 65 to 68 dBA at 23 feet through the range.

13. FACTORY TESTS
The generator set is load tested before dispatch. All protective devices, control functions and site load conditions are simulated and the generator and its systems checked, proved and then passed for dispatch. A test certificate can be provided upon request.

14. EQUIPMENT FINISH
All sheet metal components including the enclosure and the base tank are fully degreased, phosphated and chromated for anti-corrosive protection prior to painting with polyester powder. The powder is cured at a temperature of 200° C (392° F) to ensure maximum scuff resistance and durability. All fasteners are electroplated. The engine and generator are thoroughly cleaned and finished in temperature controlled ovens with industrial high gloss polyurethane paint.

15. STANDARDS
The equipment meets the following standards: BS4999, BS5000, BS5514, IEC60034, EN61000-6, NEMA MG-1.22.

16. WARRANTY
Full manufacturer’s warranty.
### Generator Set Technical Data – 1800 rpm/60 Hz

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Rating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kW (kVA)</td>
<td>60 (75)</td>
<td>54 (68.8)</td>
</tr>
<tr>
<td><strong>Lubricating System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil type required: API CH-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total oil capacity</td>
<td>8.4 (2.2)</td>
<td>8.4 (2.2)</td>
</tr>
<tr>
<td>Oil pan</td>
<td>6.9 (1.8)</td>
<td>6.9 (1.8)</td>
</tr>
<tr>
<td><strong>Fuel System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended fuel: #2 diesel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator set fuel consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% load L/hr (gal/hr)</td>
<td>19.5 (5.2)</td>
<td>18.7 (4.9)</td>
</tr>
<tr>
<td>75% load L/hr (gal/hr)</td>
<td>16.9 (4.5)</td>
<td>16.0 (4.2)</td>
</tr>
<tr>
<td>50% load L/hr (gal/hr)</td>
<td>13.1 (3.5)</td>
<td>12.4 (3.3)</td>
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<tr>
<td>Fuel tank capacity L (U.S. gal)</td>
<td>595 (157.2)</td>
<td>595 (157.2)</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiator system capacity including engine L (U.S. gal)</td>
<td>13.0 (3.4)</td>
<td>13.0 (3.4)</td>
</tr>
<tr>
<td><strong>Air Requirements</strong></td>
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<tr>
<td>Combustion air flow m³/min (cfm)</td>
<td>5.9 (208)</td>
<td>5.9 (208)</td>
</tr>
<tr>
<td>Maximum air cleaner restriction kPa (in H₂O)</td>
<td>8.0 (32.1)</td>
<td>8.0 (32.1)</td>
</tr>
<tr>
<td>Radiator cooling air m³/min (cfm)</td>
<td>101.4 (3,581)</td>
<td>101.4 (3,581)</td>
</tr>
<tr>
<td>Generator cooling air m³/min (cfm)</td>
<td>19.2 (678)</td>
<td>19.2 (678)</td>
</tr>
<tr>
<td><strong>Exhaust System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust flow at rated kW m³/min (cfm)</td>
<td>14.7 (519)</td>
<td>14.4 (509)</td>
</tr>
<tr>
<td>Exhaust temperature at rated kW – dry exhaust °C (°F)</td>
<td>547 (1,017)</td>
<td>525 (977)</td>
</tr>
<tr>
<td><strong>Generator Set Noise Rating</strong> [with enclosure at 7 meters (23 feet)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dBA</td>
<td>63.1</td>
<td>63.1</td>
</tr>
</tbody>
</table>

### SPECIFICATIONS

**GENERATOR**

- **Voltage regulation**: ± 0.5% at steady state from no load to full load
- **Frequency**: ± 0.25% for constant load from no load to 100% load
- **Waveform distortion**: THD < 4%, at no load
- **Radio interference**: Compliance with EN61000-6
- **Overspeed limit**: 2250 rpm
- **Insulation**: Class H
- **Temperature rise**: Within Class H limits
- **Available voltages**: Switchable output: 480/277 volt, 240/139 volt 3-phase to 240/120 volt single phase
- **Deration**: Consult factory for available outputs
- **Ratings**: At 30° C (86° F), 152.4 m (500 ft) 60% humidity, 0.8 pf

**ENGINE**

- **Manufacturer**: Caterpillar
- **Model**: C 4.4
- **Type**: 4-cycle
- **Aspiration**: Turbocharged
- **Cylinder configuration**: In-line 4
- **Displacement – L (cu in)**: 4.4 (269)
- **Bore – mm (in)**: 105 (4.13)
- **Stroke – mm (in)**: 127 (5.00)
- **Compression ratio**: 16:2:1
- **Governor Type**: Electronic
- **Class**: ISO 8528 G1/G2
- **Piston speed – m/sec (ft/sec)**: 7.62 (25.0)
- **Engine speed – rpm**: 1800
- **Maximum power at rated rpm – kW (hp)**:
  - **Standby**: 72.8 (98.0)
  - **Prime**: 60.2 (89.0)
- **BMEP – kPa (psi)**:
  - **Standby**: 1103 (160.0)
  - **Prime**: 1003 (145.5)
CONTROL PANEL

A NEMA 1 steel enclosure with hinged lockable door with viewing window.

B Manual run/off.

C Panel light ON/OFF switch.

D Separate pre-heat pushbutton.

E Red emergency stop pushbutton.

F Lamp test/reset pushbutton.

G AC instrumentation: 1-voltmeter, 1-ammeter, 1-frequency meter.

H Engine gauges for: oil pressure, coolant temperature, battery volts, fuel level.

I Fuel level display with momentary activation pushbutton.

J Hours run meter.

K Voltage adjust potentiometer.

L Frequency adjust potentiometer.

M 1 — 7 Position voltmeter phase selector switch.

N 1 — 4 Position ammeter phase selector switch.

OTHER FEATURES

- Shutdowns: high coolant temperature/low coolant level, low oil pressure, overcrank, overspeed.
- Low fuel level/fuel tank leak alarm.
- Printed circuit board control logic.
- Autostart standard.
- Cycle cranking with 3 adjustable time crank/rest periods.
- Battery charger, 5 Amp constant voltage, UL listed (optional).

DISTRIBUTION PANEL

1 1 — 3 Pole MCCB with solid neutral (4 Wire). UL/CSA listed with shunt trip. Integral trip unit for thermal and magnetic overload protection on MCCB.

2 Main bus connection studs enclosed with hinged transparent cover for easy access and operator safety.

3 Cover for bus studs includes safety lockout feature to keep unit from operating with door open.

### TABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Length mm (in)</th>
<th>Width mm (in)</th>
<th>Height mm (in)</th>
<th>With Lube Oil and Coolant kg (lb)</th>
<th>With Fuel, Lube Oil and Coolant kg (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XO60</td>
<td>2900 (114.2)</td>
<td>1130 (44.5)</td>
<td>1800 (70.9)</td>
<td>2010 (4431)</td>
<td>2575 (5677)</td>
</tr>
<tr>
<td>XO60 with trailer</td>
<td>4650 (183.1)</td>
<td>1943 (76.5)</td>
<td>2163 (85.3)</td>
<td>2601 (5734)</td>
<td>3166 (6980)</td>
</tr>
</tbody>
</table>

### OTHER DEFINITIONS

**Standby** – Applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The generator on the generator set is peak prime rated (as defined in ISO8528-3) at 30° C (86° F).

**Prime** – Applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and the generator set can supply 10% overload power for 1 hour in 12 hours.