**Features**

**EPA Tier 4 and CARB Certified for Non-Road Mobile Applications**

**Sound Attenuated Enclosure**
- The fully weatherproof enclosures incorporate internally mounted exhaust silencers.
- 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 a rugged environment.

**Distribution Panel**
- Switchable voltage from 480/277V 3-phase to 240/139V 3-phase (adjustable to 208/120V 3-phase), 240/120V single phase.*

**Rear Customer Access**
- Access through two doors.
- Separate control panel access.
- Separate connection console.
- Hinged door over main connectors.
- Emergency stop on panel.

**Environmentally Friendly Design**
- EPA Tier 4 off-highway compliant engine.
- UL single walled fuel tank base with 24 hour minimum fuel supply.

**Options**
- AH1H – Anti-condensation heater 110-120 volt AC
- WHH – Coolant heater 110-120 volt AC
- LOLR – Lube oil make-up system with REN automatic leveller
- Double wall fuel tanks
- Battery charger
- Hydraulic or Electrical Brake Trailer
- PFT – 0.8 pF test

* Refer to distribution panel specifications for details.

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**Standby Prime**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Standby kW (kVA)</th>
<th>Prime kW (kVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>208/120V</td>
<td>30 (37.5)</td>
<td>27 (33.8)</td>
</tr>
<tr>
<td>480/277V</td>
<td>30 (37.5)</td>
<td>27 (33.8)</td>
</tr>
<tr>
<td>240/120V</td>
<td>26.5 (26.5)</td>
<td>24 (24)</td>
</tr>
</tbody>
</table>

Shown with optional trailer.
STANDARD FEATURES

1. ENGINE
Heavy duty industrial EPA Tier 4 compliant diesel engine.
1.1 Governor
Electronic
1.2 Electrical System
12 volt DC. Energized to run shutdown solenoid. Oil pressure and coolant temperature/level shutdown switches and gauge senders.
1.3 Derates
Generators power derates will be required in accordance with engine manufacturers above 30° C (86° F).

2. COOLING RADIATOR
Radiator and cooling fan complete with protection guards, designed to cool the engine in ambient temperatures up to 49° C (120° F).

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

4. EXHAUST SYSTEM
Critical silencer with flexible connector. All internal pipework lagged.

5. ELECTRICAL SYSTEM
12 volt system with battery charging alternator, and starter motor on engine, battery rack mounted on the generator set baseframe and optional battery charger mounted on control panel. Battery rack will accept a variety of battery sizes. Includes Cat maintenance free 880CCA Battery.

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.

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 R250 is a fully sealed automatic voltage regulator, which 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.

6.4 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 a UL listed closed top fuel tank and incorporates 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.

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 and enabling the machine to be placed on an uneven surface without detrimental effects.

7.4 Safety Guards
The fan, fan drive and battery charging alternator drive are fully guarded for personnel protection. Heat guards protect personnel from the exhaust pipe. All guards are 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 Circuit Breaker

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

11. 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.

12. 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.

13. 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.

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

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

<table>
<thead>
<tr>
<th>Power Rating</th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>kW (kVA)</td>
<td>30 (37.5)</td>
<td>27 (33.8)</td>
</tr>
</tbody>
</table>

#### Lubricating System
- Total oil capacity: L (U.S. gal) 10.0 (2.8) / L (U.S. gal) 8.9 (2.4)
- Oil pan: 8.9 (2.4)

#### Fuel System
- Generator set fuel consumption:
  - 100% load: L/hr (gal/hr) 10.0 (2.6) / 8.8 (2.3)
  - 75% load: L/hr (gal/hr) 7.2 (1.9) / 6.5 (1.7)
  - 50% load: L/hr (gal/hr) 5.1 (1.4) / 4.8 (1.3)
- Fuel tank capacity: L (U.S. gal) 291 (77)

#### Running Time
- at 100% load: Hours 29+ / 33+

#### Cooling System
- Radiator system capacity including engine:
  - L (U.S. gal) 12.7 (3.4) / 38.2 (2,172) / 34.7 (1,973)
- Heat rejected to coolant at rated power kW (Btu/min) 38.2 (2,172) / 34.7 (1,973)

#### Air Requirements
- Combustion air flow: m³/min (cfm) 2.5 (88) / 2.5 (88)
- Radiator cooling air: m³/min (cfm) 81.6 (2,882) / 81.6 (2,882)
- Generator cooling air: m³/min (cfm) 19.2 (678) / 19.2 (678)

#### Generator Set Noise Rating*
- dBA (with enclosure at 7 meters): 60.3 / 60.3

*Specs subject to change without notice.

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### 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%
- **Radio interference**: Compliance with EN61000-6
- **Combustion air flow**: TIF < 50, THF < 2%
- **Overspeed limit**: 2250 rpm
- **Insulation**: Within Class H limits
- **Temperature rise**: Switchable voltage output:
  - 480/277 volt, 240/139 volt 3-phase to 240/120 volt single phase
- **Derating**: 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**: C2.2
- **Type**: 4-cycle
- **Aspiration**: ATAAC
- **Cylinder configuration**: In-line 4
- **Displacement – L (cu in)**: 2.2 (135)
- **Bore – mm (in)**: 84 (33)
- **Stroke – mm (in)**: 100 (3.9)
- **Compression ratio**: 23:3
- **Governor**: Electronic
- **Piston speed – m/sec (ft/sec)**: 6.0 (19.7)
- **Engine speed – rpm**: 1800
- **Maximum power at rated rpm – kW (hp)**:
  - **Standby**: 36.4 (49)
  - **Prime**: 32.8 (44)
- **BMEP – kPa (psi)**:
  - **Standby**: 1095 (158.8)
  - **Prime**: 987 (143.1)
- **Regenerative power – kW (hp)**: 7.2 (9.7)
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.

4 2 — Single phase — California style Twistlocks, 50 Amps @ 208 Volt phase to phase, 120 Volt phase to neutral (adjustable to 240/139) or 240/120 single phase when operating in single phase voltage position.
5 2 — Single phase — GFCI Duplex receptacles, 20 Amps @ 120 Volts.***
6 Individual circuit breaker protection for receptacles. Also act as on/off switches.
7 2 — 3-phase NEMA locking receptacles, 20 Amps at 208/120V
8 Two wire remote start connection terminals.
9 1 — 30A, 125V single phase NEMA locking inlet receptacle

*** Receptacles not for use with unit operating at 480/277V or 240/139V 3 phase.
STANDBY 30 kW
PRIME 27 kW
60 Hz

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.

TOP VIEW

SIDE VIEW

RATING DEFINITIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Weight With Lube Oil and Coolant (kg)</th>
<th>Weight With Fuel, Lube Oil and Coolant (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XQ30</td>
<td>2328 (91.7)</td>
<td>1161 (45.7)</td>
<td>1577 (62.1)</td>
<td>1500 (3,307)</td>
<td>1748 (3,854)</td>
</tr>
<tr>
<td>XQ30 with trailer</td>
<td>3764 (148.2)</td>
<td>1943.4 (76.5)</td>
<td>2065.4 (81.3)</td>
<td>1908 (4,206)</td>
<td>2156 (4,753)</td>
</tr>
</tbody>
</table>