DIESEL ENGINE-GENERATOR SET
500-XC6DT2

500 kWe / 60 Hz / Standby
208 - 4160V

STANDARD FEATURES

// EPA Tier 2 Certified
// Engine-Generator Set Tested to ISO 8528-5 for Transient Response
// UL2200, CSA Listing Offered
// Accepts Rated Load in One Step Per NFPA 110
// All engine-generator sets are prototype and factory tested
// MTU Onsite Energy is a single source supplier
// Global Product Support
// 2 Year Standard Warranty
// Series 60 (6063HK36) Diesel Engine
  - 14.0 Liter Displacement
  - Electronic Unit Pump Injection
  - 4-Cycle
// Complete Range of Accessories
// Permanent Magnet Generator (PMG)
  - Brushless, Rotating Field
  - 300% Short Circuit Capability
  - 2/3 Pitch Windings
  - Standard for 570 frame and larger
  - Optional for 430 frame and smaller
// Digital Control Panel(s)
  - UL Recognized, NFPA 110
  - Complete System Metering
  - LCD Display
// Cooling System
  - Integral Set-Mounted
  - Engine Driven Fan
## STANDARD EQUIPMENT

### Engine

- Air Cleaners
- Oil Pump
- Full Flow Oil Filter
- Jacket Water Pump
- Thermostat
- Exhaust Manifold – Dry
- Blower Fan & Fan Drive
- Radiator - Unit Mounted
- Electric Starting Motor - 24V
- Governor – Electronic Isochronous
- Base - Structural Steel
- SAE Flywheel & Bell Housing
- Charging Alternator - 24V
- Battery Box & Cables
- Flexible Fuel Connectors
- Flexible Exhaust Connection
- EPA Certified Engine

### Generator

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
- Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
- Self-Ventilated and Drip-Proof
- Superior Voltage Waveform
- Digital, Solid State, Volts-per-Hertz Regulator
- No Load to Full Load Regulation
- Brushless Alternator with Brushless Pilot Exciter
- 4 Pole, Rotating Field
- 130°C Standby Temperature Rise
- 1 Bearing, Sealed
- Flexible Coupling
- Full Amortisseur Windings
- 125% Rotor Balancing
- 3-Phase Voltage Sensing
- ±0.25% Voltage Regulation
- 100% of Rated Load – One Step
- 3% Maximum Harmonic Content

### Digital Control Panel(s)

- Digital Metering
- Engine Parameters
- Generator Protection Functions
- Engine Protection
- SAE J1939 Engine ECU Communications
- Windows-Based Software
- Multilingual Capability
- Remote Communications to our RDP-110 Remote Annunciator
- 16 Programmable Contact Inputs
- 7 Contact Outputs
- UL Recognized, CE Approved
- Event Recording
- IP 54 Front Panel Rating with Integrated Gasket
- NFPA110 Level Compatible
**APPLICATION DATA**

### Engine

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>Detroit Diesel</td>
</tr>
<tr>
<td>Model</td>
<td>Series 60 (6063HK36)</td>
</tr>
<tr>
<td>Type</td>
<td>4-Cycle</td>
</tr>
<tr>
<td>Arrangement</td>
<td>6-Inline</td>
</tr>
<tr>
<td>Displacement: L (in³)</td>
<td>14.0 (855)</td>
</tr>
<tr>
<td>Bore: cm (in)</td>
<td>13.3 (5.24)</td>
</tr>
<tr>
<td>Stroke: cm (in)</td>
<td>16.8 (6.61)</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>15:1</td>
</tr>
<tr>
<td>Rated RPM</td>
<td>1,800</td>
</tr>
<tr>
<td>Engine Governor</td>
<td>DDEC</td>
</tr>
<tr>
<td>Maximum Power: Standby: kWm (bhp)</td>
<td>567 (760)</td>
</tr>
<tr>
<td>Speed Regulation</td>
<td>±0.25%</td>
</tr>
<tr>
<td>Air Cleaner</td>
<td>Dry</td>
</tr>
</tbody>
</table>

### Fuel Consumption

- At 100% of Power Rating: L/hr (gal/hr) 134.8 (35.6)
- At 75% of Power Rating: L/hr (gal/hr) 101.4 (26.8)
- At 50% of Power Rating: L/hr (gal/hr) 70.8 (18.7)

### Cooling - Radiator System (Standby)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Capacity of Radiator: °C (°F)</td>
<td>50 (122)</td>
</tr>
<tr>
<td>Maximum Restriction of Cooling Air, Intake, and Discharge Side of Rad.: kPa (in. H₂O)</td>
<td>0.12 (0.5)</td>
</tr>
<tr>
<td>Water Pump Capacity: L/min (gpm)</td>
<td>420 (111)</td>
</tr>
<tr>
<td>Heat Rejection to Coolant: kW (BTUM)</td>
<td>170 (9,650)</td>
</tr>
<tr>
<td>Heat Rejection to Air to Air: kW (BTUM)</td>
<td>144 (8,200)</td>
</tr>
<tr>
<td>Heat Radiated to Ambient: kW (BTUM)</td>
<td>113 (6,421)</td>
</tr>
</tbody>
</table>

### Liquid Capacity (Lubrication)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Oil System: L (gal)</td>
<td>36 (9.5)</td>
</tr>
<tr>
<td>Engine Jacket Water Capacity: L (gal)</td>
<td>23 (6)</td>
</tr>
<tr>
<td>System Coolant Capacity: L (gal)</td>
<td>102 (27)</td>
</tr>
</tbody>
</table>

### Electrical

- Electric Volts DC: 24
- Cold Cranking Amps Under -17.8°C (0°F): 950

### Fuel System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Supply Connection Size</td>
<td>3/4” NPT</td>
</tr>
<tr>
<td>Fuel Return Connection Size</td>
<td>1/2” NPT</td>
</tr>
<tr>
<td>Maximum Fuel Lift: m (ft)</td>
<td>2.1 (7)</td>
</tr>
<tr>
<td>Recommended Fuel</td>
<td>Diesel #2</td>
</tr>
<tr>
<td>Total Fuel Flow: L/hr (gal/hr)</td>
<td>399 (105.3)</td>
</tr>
</tbody>
</table>

### Air Requirements

- Aspirating: *m³/min (SCFM): 43 (1,514)
- Air Flow Required for Rad.: 733 (25,873)
- Air Flow Required for Heat Exchanger/Remote Rad. based on 25°F Rise: *m³/min (SCFM): 413 (14,482)
* Air density = 1.184 kg/m³ (0.0739 lbm/ft³)

### Exhaust System

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Temp. (Stack): °C (°F)</td>
<td>554 (1,030)</td>
</tr>
<tr>
<td>Gas Volume at Stack Temp: m³/min (CFM)</td>
<td>120 (4,227)</td>
</tr>
<tr>
<td>Maximum Allowable Back Pressure: kPa (in. H₂O)</td>
<td>10.2 (40.8)</td>
</tr>
</tbody>
</table>
WEIGHTS AND DIMENSIONS

**System**
- OPU

**Dimensions (L x W x H)**
- 3,560 x 1,450 x 2,180 mm (140 x 57 x 85.6 in)

**Weight (less tank)**
- 3,316 kg (7,311 lb)

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific engine-generator set.

SOUND DATA

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Standby Full Load (dBA)</th>
<th>Standby No Load (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPU w/Critical Grade Muffler</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Sound Attenuated Enclosure</td>
<td>C/F</td>
<td>C/F</td>
</tr>
</tbody>
</table>

Sound data is provided at 7 m (23 ft).

EMISSIONS DATA

<table>
<thead>
<tr>
<th>NOx + NMHC</th>
<th>CO</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.65</td>
<td>0.51</td>
<td>0.06</td>
</tr>
</tbody>
</table>

All units are in g/hp-hr and are EPA D2 cycle values.

Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

RATING DEFINITIONS AND CONDITIONS

- **Standby ratings** apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.

- **Deration Factor:**
  - **Altitude:** 1% per 305 m (1,000 ft) above 183 m (600 ft) with a maximum of 1,830 m (6,000 ft) altitude. Consult your local MTU Onsite Energy Power Generation Distributor for other altitudes.
  - **Temperature:** 1% per 5.5°C (10°F) above 25°C (77°F).

Materials and specifications subject to change without notice.

C/F = Consult Factory/MTU Onsite Energy Distributor