STANDBY
2860 ekW 3575 kVA
50 Hz 1000 rpm
Caterpillar is leading the power generation market place with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES
FUEL/EMISSIONS STRATEGY
• Low BSFC

FULL RANGE OF ATTACHMENTS
• Wide range of bolt-on system expansion attachments, factory designed and tested
• Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER
• Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
• Cat® dealers provide extensive post sale support including maintenance and repair agreements
• Cat dealers have over 1,800 dealer branch stores operating in 200 countries.
• The Cat S•O•S™ program effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by products.

3608 DIESEL ENGINE
• Reliable, rugged, durable design
• Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight

CAT® GENERATOR
• Matched to the performance and output characteristics of Cat engines

CAT GENERATOR SET MONITORING SYSTEM (GSM)
• Simple user friendly interface and navigation
• Provides protection, monitoring, and control of the diesel generator set.
• Redundant shutdown protection
<table>
<thead>
<tr>
<th>System</th>
<th>Standard</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Inlet</td>
<td>• Aftercooler, fresh water, corrosion resistant coated (air side)</td>
<td>[ ] Soot Filter</td>
</tr>
<tr>
<td></td>
<td>• Air inlet shutoff</td>
<td>[ ] Air cleaner Louver Assembly</td>
</tr>
<tr>
<td></td>
<td>• Air Cleaner</td>
<td>[ ] Vertical Support Bracket</td>
</tr>
<tr>
<td></td>
<td>• Breather, crankcase, top-mounted</td>
<td>[ ] Heavy Duty Air Cleaner</td>
</tr>
<tr>
<td></td>
<td>• Turbocharger, engine lubricated</td>
<td>[ ] Air Inlet Adapter</td>
</tr>
<tr>
<td></td>
<td>• [ ] Soot Filter</td>
<td>[ ] Boost Control Valve</td>
</tr>
<tr>
<td></td>
<td>• Air Inlet Adapter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• [ ] Air cleaner Louver Assembly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• [ ] Vertical Support Bracket</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• [ ] Heavy Duty Air Cleaner</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• [ ] Air Inlet Adapter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• [ ] Boost Control Valve</td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td>• Engine coolant water drains</td>
<td>[ ] Heat Exchanger for single circuit</td>
</tr>
<tr>
<td></td>
<td>• Front Mounted Turbos</td>
<td>[ ] Heating Aids</td>
</tr>
<tr>
<td></td>
<td>• Three-bundle oil cooler.</td>
<td>[ ] Cooling System Aids</td>
</tr>
<tr>
<td></td>
<td>• Water Temperature Regulator</td>
<td>[ ] Auxiliary Water Pump</td>
</tr>
<tr>
<td></td>
<td>• Jacket Water Thermostats</td>
<td>[ ] Expansion Tank</td>
</tr>
<tr>
<td></td>
<td>[ ] Heat Exchanger for single circuit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Heating Aids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Cooling System Aids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Auxiliary Water Pump</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Expansion Tank</td>
<td></td>
</tr>
<tr>
<td>Exhaust</td>
<td>• 457 mm (18 in) Cat bolt pattern</td>
<td>[ ] Flexible Exhaust Fittings</td>
</tr>
<tr>
<td></td>
<td>• Dry, gas tight, exhaust manifold</td>
<td>[ ] Weld Flange and Related Hardware</td>
</tr>
<tr>
<td></td>
<td>• Includes adapter, flexible exhaust fitting</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>• Simplex or Duplex</td>
<td>[ ] Fuel Priming Pump</td>
</tr>
<tr>
<td></td>
<td>[ ] Duplex Primary Fuel Strainer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Fuel System Connections</td>
<td></td>
</tr>
<tr>
<td>Generator</td>
<td>• Custom Generator Per Generator Data Sheet Completed by Dealer</td>
<td>[ ] 3 Phase, six leads, WYE</td>
</tr>
<tr>
<td></td>
<td>[ ] Class F insulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Bus bar connections</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Winding temperature detectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Anti-condensation space heaters</td>
<td></td>
</tr>
<tr>
<td>Governor</td>
<td>• UG Actuator</td>
<td>[ ] Electronic/ Actuators</td>
</tr>
<tr>
<td></td>
<td>[ ] Digital Programmers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Battery Backup/Power Supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] 230 UA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] 723 Plus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] EGB Actuator</td>
<td></td>
</tr>
<tr>
<td>Lube</td>
<td>• Centrifugal oil filters with single shutoff</td>
<td>[ ] Oil Pan Drain valve</td>
</tr>
<tr>
<td></td>
<td>• Service side engine mounted on cylinder block inspection covers</td>
<td>[ ] Lube ANSI adapter (Emergency Connection)</td>
</tr>
<tr>
<td></td>
<td>• Wet oil sump. Includes engine-driven main lubrication pump, installed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>oil lines, engine-driven oil pump and oil pan.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Oil filler and dipstick</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Valve, oil pressure regulating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Valves, crankcase explosion relief</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Oil Pan Drain valve</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[ ] Lube ANSI adapter (Emergency Connection)</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>• Damper, torsional vibration</td>
<td>[ ] Isolator</td>
</tr>
<tr>
<td></td>
<td>• Engine and Generator Mounting</td>
<td>[ ] Spring type vibration isolator</td>
</tr>
<tr>
<td></td>
<td>[ ] Vertically Restrained</td>
<td>[ ] Non-vertically Restrained</td>
</tr>
<tr>
<td>Starting /</td>
<td>• Vane type air starter</td>
<td>[ ] Pressure Reducing Valve</td>
</tr>
<tr>
<td>Charging</td>
<td>• Two motors, engine mounted at rear, on left side</td>
<td>[ ] Compressed Air Flex Hose</td>
</tr>
<tr>
<td></td>
<td>• Includes air silencer</td>
<td>[ ] Turbine Type Air Starters</td>
</tr>
<tr>
<td></td>
<td>• Line Group for Single Point Custom Connection</td>
<td>[ ] Redundant Air Starters</td>
</tr>
<tr>
<td>General</td>
<td>• Paint, Caterpillar yellow</td>
<td>[ ] Custom Paint Colors</td>
</tr>
<tr>
<td></td>
<td>• Pumps, gear driven: fuel, oil, jacket water, aftercooler/oil cooler water</td>
<td></td>
</tr>
</tbody>
</table>
STANDBY 2860 ekW 3575 kVA
50 Hz 1000 rpm

SPECIFICATIONS

CAT GENERATOR

Excitation ..................................Permanent Magnet
Pitch..............................................Optimum
Number of poles................................6
Number of bearings .........................Two Bearing
Insulation ......................................Normal Class F or H
IP rating ...........................................Drip proof IP23
Over speed capability - % of rated ........125%
Wave form deviation ..........................3 %
Voltage regulator......................... 3 phase sensing with load adjustable module

CAT DIESEL ENGINE

3608, V-8, 4 stroke, water-cooled diesel

Bore ..........................................280 mm (11.0 in)
Stroke .......................................300 mm (11.8 in)
Displacement ...............................18.5L (1127 in³)
Total Displacement .......................148L (9,064 in³)
Compression ratio..........................13:1
Aspiration ......................................TA
Fuel system .................................Direct Unit Injection

Generator Set Monitoring System (GMS)

Features:
• 10 inch (254 mm) color monitor to display all engine parameters and alarm annunciation
• Annunciation of all engine shutdowns, alarms, and status points
• Start/prelube control switch, fuel control switch and emergency stop buttons
• Speed control switch with automatic changing to ball head control when a governor failure occurs, if ball head control is available. Contacts are available for customer use.
• Selection of local/remote control of engine
• Selection of idle/rated control of engine.
• Equipped for remote communication
• Four 4-20mA outputs (programmable)
• Relay contract signals to the remote monitoring system (summary shutdown, summary alarm, local operation/remote, engine running, PLC failure, fuel control and idle/rated).
## TECHNICAL DATA

<table>
<thead>
<tr>
<th>Open Generator Set - 1000 rpm/50 Hz</th>
<th>NOTES</th>
<th>STANDBY 2860 ekW 3575 kVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RATING</strong></td>
<td></td>
<td><strong>50 Hz 1000 rpm</strong></td>
</tr>
<tr>
<td>Engine Power</td>
<td>(2)</td>
<td>2980 bkW</td>
</tr>
<tr>
<td>Generator Power</td>
<td>(2)</td>
<td>2860 ekW</td>
</tr>
<tr>
<td>Engine efficiency (ISO 3046/1)</td>
<td>(1)</td>
<td>43.8 %</td>
</tr>
<tr>
<td>Engine efficiency (nominal)</td>
<td>(1)</td>
<td>42.4 %</td>
</tr>
<tr>
<td><strong>ENGINE DATA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Consumption (ISO3046/1)</td>
<td>(1)</td>
<td>192.6 g/bkw-hr</td>
</tr>
<tr>
<td>Fuel Consumption (nominal)</td>
<td>(1)</td>
<td>196.7 g/bkw-hr</td>
</tr>
<tr>
<td>Fuel Consumption (90% confidence)</td>
<td>(1)</td>
<td>198.8 g/bkw-hr</td>
</tr>
<tr>
<td>Air Flow (@ 25°C, 101.3 kPaa)</td>
<td>(1)</td>
<td>290.5 m3/min</td>
</tr>
<tr>
<td>Air Mass Flow</td>
<td></td>
<td>19441 kg/hr</td>
</tr>
<tr>
<td>Compressor Outlet Pressure</td>
<td></td>
<td>307.3 kPa(abs)</td>
</tr>
<tr>
<td>Compressor Outlet Temperature</td>
<td></td>
<td>203.0 °C</td>
</tr>
<tr>
<td>Inlet manifold Pressure</td>
<td></td>
<td>305.0 kPa(abs)</td>
</tr>
<tr>
<td>Inlet Manifold Temperature</td>
<td></td>
<td>60.3 °C</td>
</tr>
<tr>
<td>Timing</td>
<td>(10)</td>
<td>16.5 °BTDC</td>
</tr>
<tr>
<td>Exhaust Stack Temperature</td>
<td></td>
<td>395.1 °C</td>
</tr>
<tr>
<td>Exhaust Gas Flow (@stack temp, 101.3kPa)</td>
<td></td>
<td>631.6 m3/min</td>
</tr>
<tr>
<td>Exhaust Gas Mass Flow</td>
<td></td>
<td>20032 kg/hr</td>
</tr>
<tr>
<td><strong>ENERGY BALANCE DATA</strong> (nominal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Input Energy (LHV)</td>
<td>(1)</td>
<td>7020 KW</td>
</tr>
<tr>
<td>Heat Rej. To jacket water</td>
<td>(4)</td>
<td>583 KW</td>
</tr>
<tr>
<td>Heat Rej. To atmosphere</td>
<td>(5)</td>
<td>140 KW</td>
</tr>
<tr>
<td>Heat Rej. To oil cooler</td>
<td>(6)</td>
<td>299 KW</td>
</tr>
<tr>
<td>Heat Rej. To EXH. (LHV to 25°C)</td>
<td>(4)</td>
<td>2215 KW</td>
</tr>
<tr>
<td>Heat Rej. To EXH. (LHV to 177°C)</td>
<td>(4)</td>
<td>1543 KW</td>
</tr>
<tr>
<td>Heat Rej. To aftercooler</td>
<td>(7), (8)</td>
<td>768 KW</td>
</tr>
<tr>
<td><strong>EMISSIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx (as NO)</td>
<td>(9)</td>
<td>12.94 g/bkW-hr</td>
</tr>
<tr>
<td>CO</td>
<td>(3)</td>
<td>0.81 g/bkW-hr</td>
</tr>
<tr>
<td>THC (molecular weight of 13.018)</td>
<td>(3)</td>
<td>0.90 g/bkW-hr</td>
</tr>
<tr>
<td>Particulates</td>
<td>(9)</td>
<td>0.13 g/bkW-hr</td>
</tr>
</tbody>
</table>

**CONDITIONS AND DEFINITIONS**

ENGINE RATING OBTAINED AND PRESENTED IN ACCORDANCE WITH ISO 3046/1 AND SAE J1995 JAN90 STANDARD REFERENCE CONDITIONS

OF 25°C, 100 KPA, 30% RELATIVE HUMIDITY AND 150M ALTITUDE AT THE STATED AFTERCOOLER WATER TEMPERATURE. CONSULT ALTITUDE CURVES FOR APPLICATIONS ABOVE MAXIMUM RATED ALTITUDE AND/OR TEMPERATURE.

PERFORMANCE AND FUEL CONSUMPTION ARE BASED ON 35 API, 16°C FUEL HAVING A LOWER HEATING VALUE OF 42.780 KJ/KG USED AT 29°C WITH A DENSITY OF 838.9 G/LITER.

**NOTES**

1) FUEL CONSUMPTION TOLERANCE. ISO 3046/1 IS ± 5% OF FULL LOAD DATA. NOMINAL IS ± 3 % OF FULL LOAD DATA.
2) ENGINE POWER TOLERANCE IS ± 3 % OF FULL LOAD DATA.
3) EMISSION DATA SHOWN ARE NOT TO EXCEED VALUES.
4) HEAT REJECTION TO JACKET AND EXHAUST TOLERANCE IS ± 10% OF FULL LOAD DATA. (heat rate based on treated water)
5) HEAT REJECTION TO ATMOSPHERE TOLERANCE IS ±50% OF FULL LOAD DATA. (heat rate based on treated water)
6) HEAT REJECTION TO LUBE OIL TOLERANCE IS ± 20% OF FULL LOAD DATA. (heat rate based on treated water)
7) HEAT REJECTION TO AFTERCOOLER TOLERANCE IS ± 5% OF FULL LOAD DATA. (heat rate based on treated water)
8) TOTAL AFTERCOOLER HEAT = AFTERCOOLER HEAT x ACHRF (heat rate based on treated water)
9) EMISSION DATA SHOWN ARE DRY AND NOMINAL VALUES.
10) TIMING BASED ON AFM INJECTORS.
RATING DEFINITIONS AND CONDITIONS


Standby - Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35º API [16º C (60º F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29º C (85º F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.
### Dimensions

<table>
<thead>
<tr>
<th>Package Dimensions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td>10261.7 mm</td>
<td>404.00 in</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>2530.3 mm</td>
<td>99.62 in</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>3977.7 mm</td>
<td>156.60 in</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>41,390 kg</td>
<td>91,050 lb</td>
</tr>
</tbody>
</table>

**NOTE:** For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2362588).