



# Generator Set **3508B**

Prime Power  
1500 rpm

**1010 kVA**

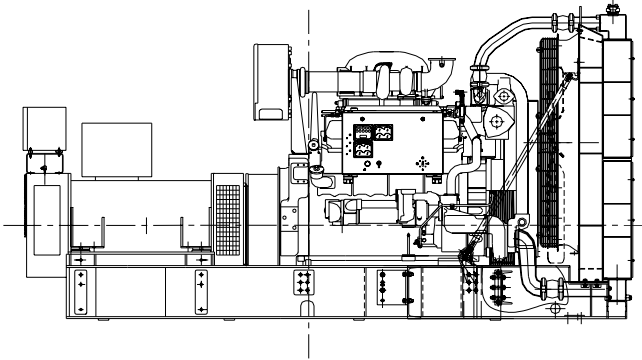
**808 ekW**

## CATERPILLAR® ENGINE SPECIFICATIONS

**Engine Model : 3508B DITA**

V-8, 4-stroke, Watercooled, Diesel

Bore - mm (in).....	170 (6.7)
Stroke - mm(in).....	190 (7.5)
Displacement - L(cu in).....	34.5 (2105)
Aspiration.....	Turbocharged Separate Circuit After-cooled (SCAC)
Compression Ratio.....	14:1
Governor type.....	Caterpillar ADEM II (Advanced Diesel Engine Management System II)



## FEATURES

### CAT® DIESEL GENERATOR SETS

- Factory designed, Fully configured generator set.
- Complete system designed and built at Caterpillar® ISO 9001 and Class A Certified facility.
- Production tested and delivered to you as a package.
- Supported 100% by your Caterpillar / HPL dealer, providing extensive post sales support including maintenance & repair agreement.
- Caterpillar / HPL dealer presence for customer support in over 42+ locations throughout India.
- Caterpillar Schedule Oil Sampling (S.O.S) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

### CAT 3508B DITA DIESEL ENGINE

- Fully Electronic Engine
- Reliable, Rugged, Durable design.
- Field-proven world-wide.
- Four-Stroke-Cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight.

### AC GENERATOR

- AC Generators are designed and manufactured for Caterpillar.
- AC Generator sets meet the following specifications: IS4722, BS5000, IEC34, DIN VDE:530
- Matched to the performance and output characteristics of Caterpillar engines.
- Double bearing, star connected, self - excited and self - regulated brushless AC generators.
- 2/3<sup>rd</sup> pitch – winding minimizes harmonic distortion and facilitates parallel operation.
- Load adjustment module (LAM) provides engine relief upon sudden block loading, improves load acceptance and recovery time.
- Class H insulation.
- AREP windings for better short circuit capability.
- R448 AVR with R731 Three Phase Sensing Module
- Space Heaters, RTD and BTD

### CAT CONTROL PANELS

- EMCP II+ offers various engine and electrical metering features.
- Factory engineered, liberally sized, powder coated CRCA sheet power module with suitably sized circuit breaker.
- Auto mains panel, Synchronizing panel, Power Management tools and PLC based control systems & Custom built panels can be offered as options.

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**FACTORY STANDARD & OPTIONS**

System	Standard	Options
<b>Air Inlet</b>	<ul style="list-style-type: none"> <li>• Separate Circuit After-cooler</li> <li>• Single element canister type air cleaner with restriction sensor</li> <li>• Crankcase breather</li> </ul>	
<b>Cooling</b>	<ul style="list-style-type: none"> <li>• Radiator with guard – 50deg C ambient capability</li> <li>• Coolant drain line with valve</li> <li>• Fan &amp; fan guard</li> <li>• Coolant conditioner</li> <li>• Coolant Low level sensor</li> </ul>	<ul style="list-style-type: none"> <li>• Heat Exchanger</li> <li>• Remote Mounted Radiator</li> </ul>
<b>Exhaust</b>	<ul style="list-style-type: none"> <li>• Stainless steel exhaust flexible &amp; suitable flange</li> <li>• Manifold &amp; Turbo outlet with elbow</li> <li>• Residential muffler - Twin</li> </ul>	
<b>Fuel</b>	<ul style="list-style-type: none"> <li>• Primary &amp; Secondary fuel filters</li> <li>• Rotary fuel transfer pump &amp; hand priming pump</li> <li>• Flexible fuel lines</li> </ul>	
<b>Lube</b>	<ul style="list-style-type: none"> <li>• Lubricating oil &amp; filter</li> <li>• Oil drain with valve</li> <li>• Fumes disposal</li> <li>• Lube oil level indicator (dip stick)</li> </ul>	
<b>Starting / Charging</b>	<ul style="list-style-type: none"> <li>• 35 amp charging alternator</li> <li>• Batteries 2 x 180AH 12V Batteries</li> <li>• 24 volt starting system</li> <li>• Safety shutoff protection</li> </ul>	
<b>Governor</b>	<ul style="list-style-type: none"> <li>• Cat<sup>®</sup> ADEM II Electronic governor</li> </ul>	
<b>Mounting</b>	<ul style="list-style-type: none"> <li>• Integrated Steel base frame</li> <li>• Linear vibration isolators</li> </ul>	
<b>Generator</b>	<ul style="list-style-type: none"> <li>• AREP excitation</li> <li>• Class H insulation</li> <li>• Class H temperature rise</li> <li>• Random wound</li> <li>• R448 Voltage Regulator with R731 - 3 phase sensing module</li> <li>• Load Adjustment Module (LAM)</li> <li>• Terminal box for Cable / Bus duct Termination</li> <li>• IP 23 Protection</li> <li>• Paralleling kit droop transformer</li> <li>• Space Heaters, RTD(2 per Phase) and BTD-2Nos</li> </ul>	<ul style="list-style-type: none"> <li>• Oversize generator</li> <li>• Six Terminal Alternator</li> </ul>
<b>Control Panels</b>	<ul style="list-style-type: none"> <li>• EMCP II+</li> <li>• Power Module incorporating Air Circuit Breaker with over-current and short circuit releases</li> </ul>	<ul style="list-style-type: none"> <li>• Customer Communication module</li> <li>• Local Alarms &amp; Remote annunciator modules</li> <li>• Special Panels like AMF, Synchronization panels etc.</li> <li>• Programmable Relay Control module</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Paint – Cat Yellow, except rails, radiators &amp; air cleaner</li> <li>• SAE standard rotation</li> <li>• Flywheel &amp; flywheel housing – SAE no. 00</li> <li>• Floor standing 990L fuel tank with sight level glass</li> </ul>	<ul style="list-style-type: none"> <li>• Fuel level switches</li> </ul>

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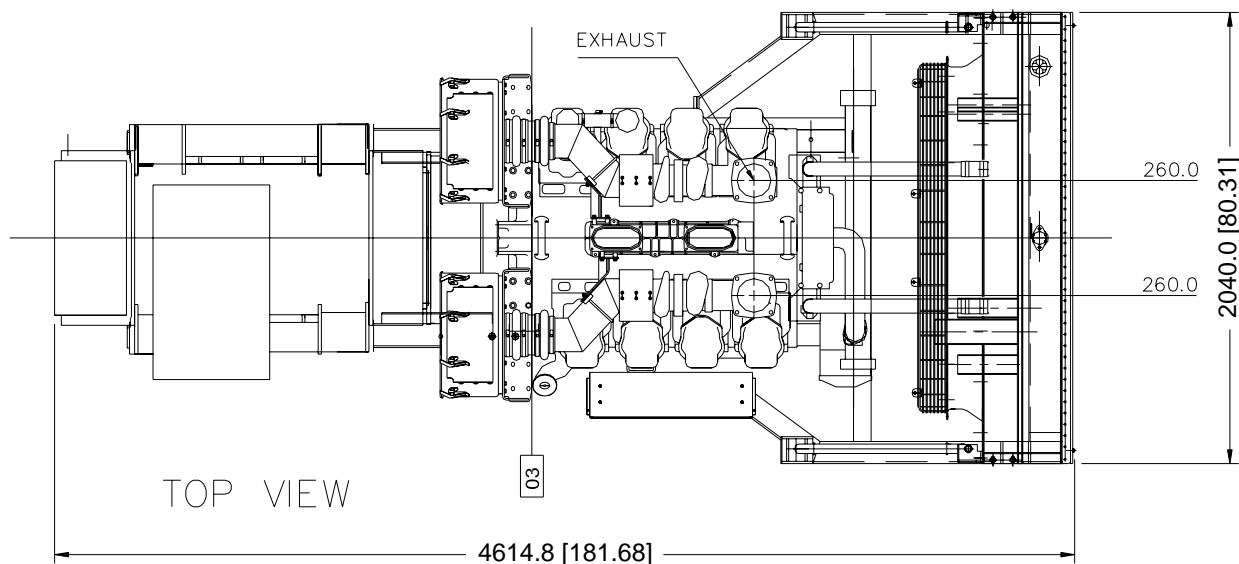
**TECHNICAL DATA – ENGINE / PACKAGE**

<b>Package performance</b>	Genset Power rating @ 0.8 p.f (kVA) Genset Power rating with fan (ekW)	1010 808	
<b>Aftercooler Temp</b>	Aftercooler water temperature (deg C)	60	90
<b>Fuel consumption</b>	100% load with fan (l/hr) 75% load with fan (l/hr) 50% load with fan (l/hr)	197.43 149.86 104.96	202.12 153.34 107.33
<b>Cooling system</b>	Ambient air temperature (design) (deg C) Air flow restriction after radiator (system) (kPa) Air flow (max. @ rated speed for radiator arrangement) (m <sup>3</sup> /min) Engine Coolant capacity with radiator / exp. Tank (L) Engine coolant capacity (L) Radiator coolant capacity (L) Coolant Pump external resistance Aftercooler Pump (m H <sub>2</sub> O) Engine Water Pump (m H <sub>2</sub> O) Coolant Pump Flow at maximum allowable resistance Aftercooler (l/min) Engine (l/min)	50 0.06 1563 278 130 148  2.6 2.5  540 1040	50 0.06 1563 278 130 148  2.6 2.5  540 1040
<b>Exhaust system</b> (@ 100% Rated Load)	Combustion air inlet flow rate (m <sup>3</sup> /min) Exhaust stack gas temperature (deg C) Exhaust gas flow rate (m <sup>3</sup> /min) Exhaust flange size (internal diameter) (mm) - Dual Exhaust system backpressure (maximum available) (kPa)	65.8 401.1 155.4 152.4 6.7	65 428.7 159.7 152.4 6.7
<b>Heat Rejection</b> (@ 100% Rated Load)	Heat rejection to coolant (total) (kW) Heat rejection to exhaust (total) (kW) Heat rejection to atmosphere from engine (kW) Heat rejection to atmosphere from generator (kW)	364 655 84 32.77	391 692 95 32.77
<b>Lube system</b>	Lube oil sump refill capacity with filter (L)	227	227
<b>Others</b>	Fuel tank capacity (L)	990	990

Consult your Caterpillar/HPL dealer for ambient capability. Generator temperature rise is based on a 40 deg C ambient.  
Consult your Caterpillar/HPL dealer for special requirements on alternator sizing

**TECHNICAL DATA – AC GENERATOR**

	<b>50 Hz 1500 RPM – PRIME POWER</b>
<b>Ratings (kVA) (ekW)</b>	<b>1010 808</b>
<b>Frame</b>	DSG 62L
<b>Volts</b>	415
<b>Pitch</b>	2/3 <sup>rd</sup>
<b>Full load current (amps)</b>	1405
<b>Efficiency @ 1.0 P.F Lag</b>	
@ 100%	96.4
@ 75%	96.5
@ 50%	95.8
<b>Main Stator resistance (ohms)</b>	0.004
<b>Main Rotor resistance (ohms)</b>	1.050
<b>Reactance (per unit)</b>	
<b>Sub transient Direct axis (x''d)</b>	0.127
<b>Sub transient Quadrature axis (x''q)</b>	0.152
<b>Transient Saturated (x'd)</b>	0.238
<b>Synchronous Direct axis (xd)</b>	2.946
<b>Synchronous Quadrature axis (xq)</b>	1.363
<b>Negative Sequence (x<sub>2</sub>)</b>	0.139
<b>Zero Sequence (x<sub>0</sub>)</b>	0.056
<b>Time Constants (milliseconds)</b>	
<b>Open circuit transient direct axis (T'd<sub>0</sub>)</b>	2420
<b>Short circuit transient direct axis (T'd)</b>	196.0
<b>Open circuit sub transient – direct axis (T''d<sub>0</sub>)</b>	8.09
<b>Short circuit sub transient direct axis (T''d)</b>	4.3
<b>Open circuit sub transient – Quad axis T''q<sub>0</sub></b>	91.28
<b>Short circuit sub transient – Quad axis T''q</b>	5.45
<b>Short circuit ratio SCR</b>	0.39
<b>Armature short circuit Ta</b>	26.3



Package Dimensions *	
Length	4614.8 mm
Width	2040 mm
Height	2373.3 mm
Weight	10020 kg

\* - use only for reference. for actual please consult factory

### CONDITIONS AND DEFINITIONS

**Prime** - Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271 and BS5514 available on request.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions. ISO3046 tolerances apply.

**Fuel rates** are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ / kg (18,390 Btu / lb) when used at 29° C(85° F) and weighing 850 g / litre.

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

Materials and specifications are subject to change without notice.

The International System of Units (SI) is used in this publication.

Product features and specifications mentioned in this spec sheet are subject to change without prior notice.

Cat 3508 Engine and Dg Sets are manufactured in India  
and sold by  
M/s Hindustan Powerplus Limited  
Mathagondapalli, Hosur-635114  
Tamilnadu

Promoted by  
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