Cat® 3512E DGB ATAAC Land Well Service Engine

1678 bkW (2250 bhp) / @ 1800 rpm **1864 bkW (2500 bhp) / @ 1800 rpm**

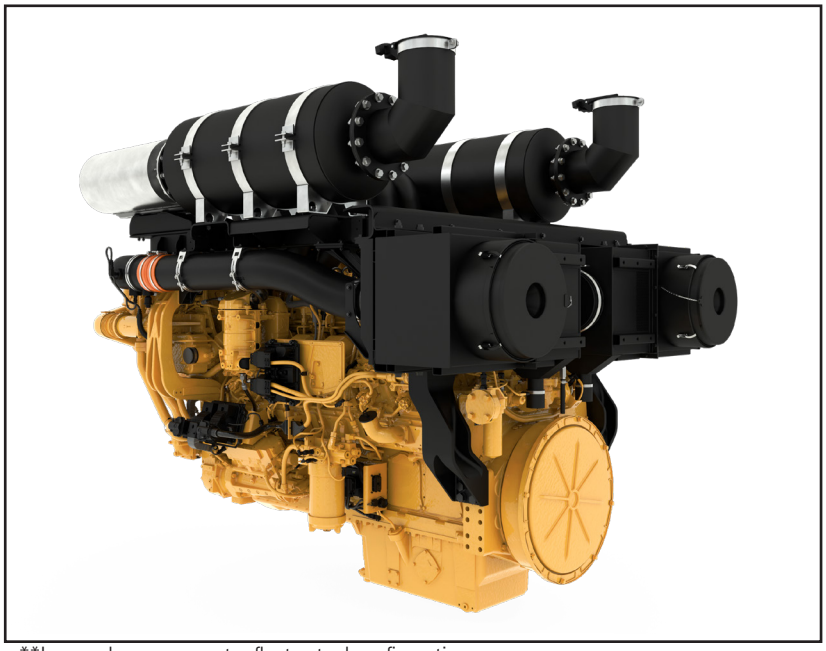


**Image shown may not reflect actual configuration

Cat® Engine Specifications

3512E DGB, 4-Stroke-Cycle-Diesel

Emissions
EPA Tier 4 Final

Bore
170 mm (6.7 in)

Stroke
215 mm (8.5 in)

Displacement
58.9 L (3596 in3)

Aspiration
ATAAC

Governor
ADEM™ A5

SPECIFICATIONS

Cat 3512E ATAAC Land Well Service Engine	Metric	Imperial (English)
Configuration	**V-12, 4-Stroke-Cycle Diesel**	
Emissions	U.S. EPA Tier 4 Final	
Peak Torque **2250 bhp** **2500 bhp**	 9017 N•m @ 1350 rpm 10550 N•m @ 1375 rpm	
Bore	170 mm	6.7 in
Stroke	215 mm	8.5 in
Displacement	58.9 L	3596 in3
Aspiration	ATAAC	
Governor and Protection	Electronic (ADEM™ A5)	
Core Engine Weight, dry (approx)*	7086 kg	15,622 lb
Capacity for Liquids **Lube Oil System (refill)** **Cooling System**	 170/246 L 197 L	 45/65 gal 52 gal
Oil Change Interval	250/500 hours	
Rotation (from flywheel end)	Counterclockwise	
Flywheel and Flywheel Housing	SAE No. 0	
Flywheel Teeth	151	

See page 5 for fully configured weight or TMI for weights of specific attachments.

Cat® 3512E DGB ATAAC Land Well Service Engine

FEATURES AND BENEFITS

Engine Design
- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range
- Air shutoff – integrated with engine controls
- EGR/Diesel Oxidation Catalyst (DOC)/common rail fuel system to meet Tier 4 Final/Stage IV emission standards
- DEF free solution – eliminates the storage, logistics, and issues involved with SCR/DEF design engines
- Individual cylinder based gas injection system.
- Engine mounted DGB controls.
- Engine mounted Gas filter, water coalescing type

Attachments
Cooling System
Air-to-Air Aftercooler (ATAAC)

Engine-Mounted Package
Integrates with engine, aftertreatment, heavy-duty air cleaners, residential grade mufflers available in stainless or carbon steel

Optional Attachments
Engine-Mounted Transmission Oil Cooler
Integration with engine cooling system allows ease of installation and a tighter overall engine package

Advanced Digital Engine Management
ADEM A6 DGB based controls seamlessly integrated with A5 engine management system.

Custom Packaging
For any petroleum application, trust Caterpillar to meet your exact needs with a factory custom package. Cat engines, generators, enclosures, controlsCustom Packaging , radiators, transmissions – anything your project requires – can be custom designed and matched to create a one-of-a kind solution. Custom packages are globally supported and are covered by a one-year warranty after startup.

Full Range of Attachments
Large variety of factory-installed engine attachments reduces packaging time

Testing
Every engine is full-load tested to ensure proper engine performance

Product Support Offered Through Global Cat Dealer Network
- More than 2,200 dealer outlets
- Cat® factory-trained dealer technicians service every aspect of your petroleum engine
- Cat® parts and labor warranty
- Preventive maintenance agreements available for repair-before-failure options

S•O•S℠ program matches your oil and coolant samples against Caterpillar set standards to determine:
- Internal engine component condition
- Presence of unwanted fluids
- Presence of combustion by-products
- Site-specific oil change interval

Over 80 Years of Engine Manufacturing Experience
Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.
- Cast engine blocks, heads, cylinder liners, front and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site
For all your oil & gas power requirements, visit: www.cat.com/oilandgas

Cat® 3512E DGB ATAAC Land Well Service Engine

STANDARD EQUIPMENT

Control System
Cat ADEM A6 DGB controls

Cooling System
ATAAC system
Thermostats and housing, jacket and separate circuit water pump, gear-driven centrifugal

Aftertreatment Mounting
CEM/muffler support package Heavy-duty air cleaners (2 element with precleaners)

Exhaust System
Dual DOC - Robust Metallic Substrate
Exhaust manifold, dry, bellows connection
Four turbochargers with watercooled bearings
Exhaust outlet depends on configuration (systems with mufflers have installed rain caps)
Dual 10-inch ANSI round flange as part of aftertreatment

Flywheel and Flywheel Housings
Flywheel, SAE No. 0, 151 teeth

Fuel System
Primary/secondary fuel fi lters
Fuel priming pump (electric)
Common rail fuel system
Fuel transfer pump
Clean fuel module boost pump
Engine mounted Gas filter, water coalescing type.

Instrumentation
Product Link™ engine monitoring

Lube System
Closed Crankcase ventillation – top mounted
Fumes disposal
Oil cooler
Oil filler and dipstick – LH
Oil pump
Oil filter – RH spin-on type
Oil pan drain valve – 1" NPT female connection
Oil scavenger pump

Mounting System
Trunion front support
Flywheel housing – two-sidedfailure options

Protection System
ADEM A5 ECU system to provide customer programmable engine deration strategies to protect against adverse operating conditions
Emergency stop logic inputs provided at 70-pin customer interface connection

General
Paint – Caterpillar yellow
Vibration damper and guard
Lifting eyes

OPTIONAL EQUIPMENT

Charge Air System
High temperature hump hoses
Hybrid insulated CAC adapters
Inlet adapter with hose barb

Charging System
80, 95, or 150 amp charging alternator

Control System
Local speed throttle control
Throttle position sensors

Cooling System
Coolant conditioner
JW inlet and outlet hose barb connections
JW outlet coupling-style connections
JW inlet weld-flange connection
Water level switch gauge
High temperature ATAAC conncetions

Exhaust System
Flex pipe kit
Residential mufflers (painted steel and stainless steel) with outlet elbow and rain cap

Flywheel and Flywheel Housings
Allison and Twin Disc flywheel options

Instrumentation
Product Link harness extensions
LAN adapters

Lube System
Rear sump oil pan – 250-hour change interval
Front deep sump oil pan – 500-hour change interval

Power Take-offs
Front crankshaft stub shaft
Front crankshaft adapter
Accessory drive – upper LH and upper RH

Protection System
Hydraulic actuated air shutoff

Starting System
Hydraulic starter – LH
Dual hydraulic starter – LH
Manual engine barring device

Transmission Attachments
Transmission oil cooler
Transmission oil cooler 2-1 connections
Torque converter connections

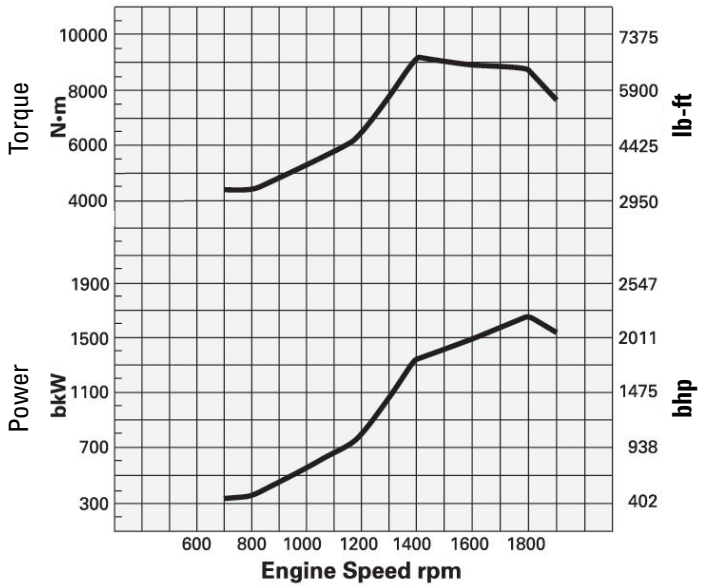
General
Air compressor
Additional paint selections

CAT®

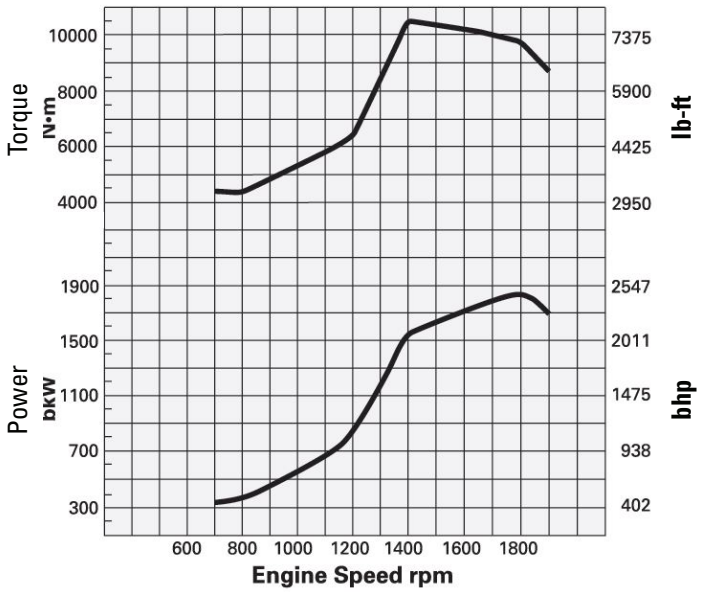
Cat® 3512E DGB ATAAC
Land Well Service Engine

Performance Curves

1678 bkW (2250 bhp) @ 1800 rpm



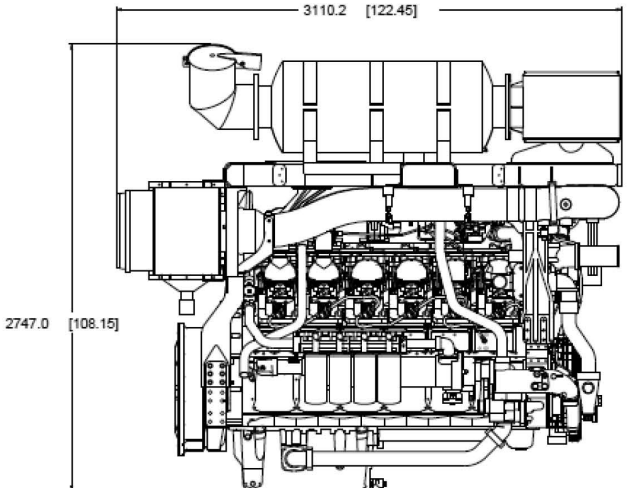
Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Red to Exh		From 2nd Stage Aft Clr	
	bkw	bhp	bkw	Btu/min	bkw	Btu/min	bkw	Btu/min	bkw	Btu/min
1800	1672	2241	859	48850.5	49	2758	1068	60728	444	25238



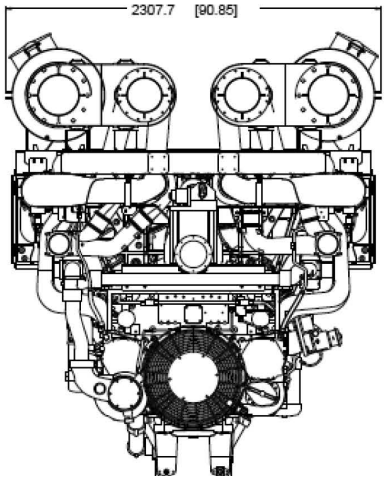
Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Red to Exh		From 2nd Stage Aft Clr	
	bkw	bhp	bkw	Btu/min	bkw	Btu/min	bkw	Btu/min	bkw	Btu/min
1800	1862	2496	929	52831.3	54	3048	1204	68453	508	28889

Cat® 3512E DGB ATAAC Land Well Service Engine

Dimensions



Right Side View



Left Side View

Package Dimensions and Weight		
Length	3110 mm	122 in
Width	2308 mm	91 in
Height	2747 mm	108 in
Weight	9,310kg	20,525 lb

Note: Maximum configured attachment level – dry weight. Consult TMI for weights of specific attachments.

Rating Definitions and Conditions

Oil & Gas – E Rating

For fire pump, offshore cranes, well fracturing, and cementing/kill pump – the power and speed capability of the engine which can be used to power high-pressure well service equipment. For C32 engines and smaller, the maximum average load factor is 35%. For well fracturing engines, the maximum average load factor is 50%, and the maximum time at rated load and speed is less than 2.5 hours per year. For cementing and kill pump engines, the maximum average load factor is 40%, and the maximum time at rated load and speed is less than 2 hours per year. When used as a fire pump and NFPA certification is required, size the pump power to 90% of the advertised rating.

Engine Performance is corrected to inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. These values correspond to the standard atmospheric pressure and temperature as shown in SAE J1995.

Performance measured using a standard fuel with fuel gravity of 35 degrees API having a lower heating value of 42 780 kJ/kg (18,390 BTU/lb) when used at 29°C (84.2°F) where the density is 838.9 g/L (7.001 lb/U.S. gal).

The corrected performance values shown for Cat engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2, ISO 8665, ISO 2288, ISO 9249, ISO 1585, EEC 80/1269, and DIN 70020 standard reference conditions.

LEHW0367-00

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