



Image shown may not reflect actual configuration

# Cat® 3512E DGB ATAAC

## Well Service Engine

The Cat® 3512E DGB ATAAC is a V 12, 4-stroke diesel engine with Dual Gas Blend (DGB) capability designed for land well service applications. Features ATAAC (Air-to-Air Aftercooling), ADEM A6 DGB controls integrated with A5 engine management, and meets U.S. EPA Tier 4 Final emission standards. Power range: 1678-1864 kW (2250-2500 bhp) at 1800 rpm. DEF-free Tier 4 Final solution with EGR/DOC technology and individual cylinder-based gas injection system.

### Features and Benefits:

#### DEF-FREE TIER 4 FINAL PERFORMANCE

- Meets U.S. EPA Tier 4 Final emissions standards using an EGR, DOC, and common rail fuel system architecture
- DEF-free design eliminates SCR systems and DEF fluid handling requirements, simplifying operation in remote well service environments
- Reduces maintenance burden and operating costs by avoiding DEF-related components and service considerations

#### ENGINEERED FOR CONTINUOUS HIGH-LOAD OILFIELD OPERATION

- ATAAC (Air-to-Air Aftercooling) system supports consistent performance across demanding well service applications, including fracturing, cementing, and kill pump operations
- Broad operating speed range provides flexibility across varying load profiles and duty cycles
- Robust diesel engine design delivers long service life and durability in harsh oilfield conditions

#### ADVANCED CONTROLS & INTEGRATED PROTECTION

- ADEM™ A5 engine management system integrates speed control, air/fuel management, engine protection, and monitoring into a single platform
- Customer-programmable deration strategies help protect the engine during adverse operating conditions
- Air shutoff integration and emergency stop logic enhance equipment protection and operational safety

### Specifications

|                           |                                |                                      |                     |
|---------------------------|--------------------------------|--------------------------------------|---------------------|
| <b>Configuration</b>      | V 12, 4-Stroke-Cycle Diesel    | <b>Governor and Protection</b>       | Electronic (ADEM™5) |
| <b>Emissions</b>          | U.S. EPA Tier 4 Final          | <b>Lube Oil System (refill)</b>      | 170 L (45 gal)      |
| <b>Rated Engine Speed</b> | 1800 RPM                       | <b>Cooling System (Engine)</b>       | 197 L (52 gal)      |
| <b>Bore</b>               | 170 mm (6.7 in)                | <b>Oil Change Interval</b>           | 250 - 500 hours     |
| <b>Stroke</b>             | 215 mm (8.5 in)                | <b>Rotation (from flywheel end)</b>  | Counterclockwise    |
| <b>Displacement</b>       | 58.9 L (3596 in³)              | <b>Flywheel and Flywheel Housing</b> | SAE No. 0           |
| <b>Aspiration</b>         | ATAAC (Air-to-Air Aftercooled) | <b>Flywheel Teeth</b>                | 151 Teeth           |
| <b>Engine Control</b>     | ADEM A6 DGB / ADEM A5          |                                      |                     |



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## Ratings and Fuel Consumption

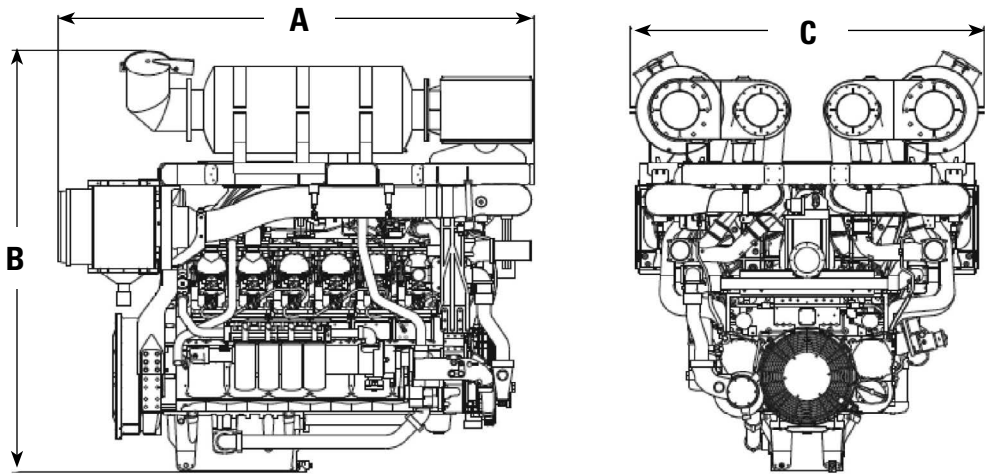
| Standby<br>60 Hz ekW (kVA) | Mission Critical<br>60 Hz ekW (kVA) | Prime<br>60 Hz ekW (kVA) | Continuous<br>60 Hz ekW (kVA) | Emissions Performance |
|----------------------------|-------------------------------------|--------------------------|-------------------------------|-----------------------|
| 1000 (1250)                | 1000 (1250)                         | 910 (1137)               | 830 (1038)                    | Low Fuel Consumption  |

## Rating Definitions and Conditions

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, max avg load factor is 35%. For well fracturing engines, max avg load factor is 50%, max time at rated load <2.5 hours/year. For cementing/kill pump engines, max avg load factor is 40%, max time at rated load <2 hours/year. Engine Performance corrected to inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F).

## Dimensions

All dimensions are approximate.



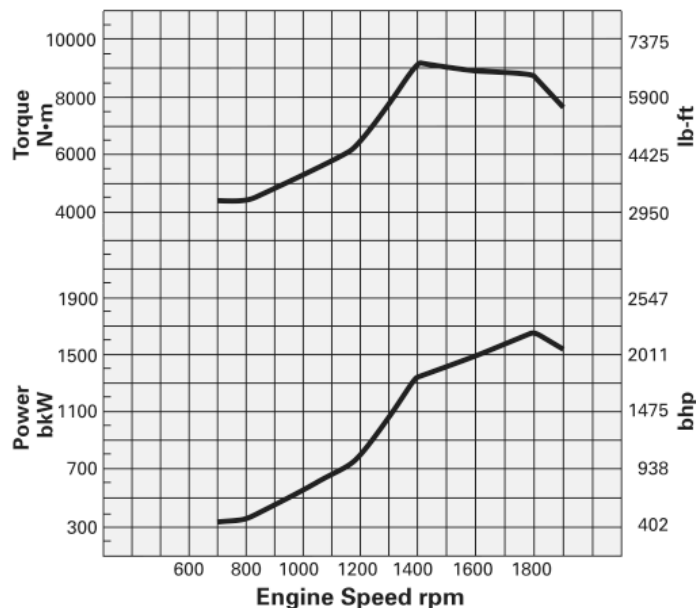
|                 |           |          |                |           |           |
|-----------------|-----------|----------|----------------|-----------|-----------|
| <b>A</b> Length | 3110.0 mm | 122.0 in | <b>C</b> Width | 2308.0 mm | 91.0 in   |
| <b>B</b> Height | 2747.0 mm | 108.0 in | Weight (wet)   | 9310 kg   | 20,525 lb |

Note: Do not use for installation design. See general dimension drawings for detail. Weights and dimensions are approximations.

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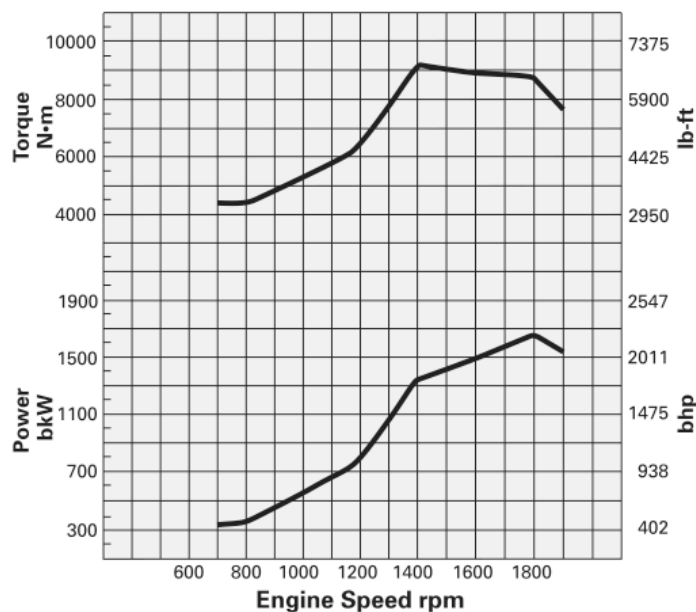
## Performance Curves

1678 bkW (2250 bhp) @1800 rpm



| Heat Rejection Data |              |       |           |          |              |         |            |         |                        |         |
|---------------------|--------------|-------|-----------|----------|--------------|---------|------------|---------|------------------------|---------|
| Engine Speed<br>RPM | Engine Power |       | Rej to JW |          | Rej to Atmos |         | Rej to Exh |         | From 2nd Stage Aft Clr |         |
|                     | bkW          | bhp   | bkW       | Btu/min  | bkW          | Btu/min | bkW        | Btu/min | bkW                    | Btu/min |
| 1,800               | 1,678        | 2,250 | 985       | 55,998.0 | 212          | 12,056  | 1,369      | 77,875  | 502                    | 28,523  |

1864 bkW (2500 bhp) @1800 rpm



| Heat Rejection Data |              |       |           |          |              |         |            |         |                        |         |
|---------------------|--------------|-------|-----------|----------|--------------|---------|------------|---------|------------------------|---------|
| Engine Speed<br>RPM | Engine Power |       | Rej to JW |          | Rej to Atmos |         | Rej to Exh |         | From 2nd Stage Aft Clr |         |
|                     | bkW          | bhp   | bkW       | Btu/min  | bkW          | Btu/min | bkW        | Btu/min | bkW                    | Btu/min |
| 1,800               | 1,864        | 2,500 | 1,084     | 61,622.0 | 233          | 13,238  | 1,498      | 85,165  | 564                    | 32,093  |

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## Standard and Optional Equipment

### Standard Equipment

#### Air Inlet System

- Heavy-duty air cleaners (2 element with precleaners)

#### Control System

- Cat ADEM A5 ECU – LH with Common Rail Electronic Fuel Injection
- Product Link engine monitoring

#### Cooling System

- ATAAC system
- Thermostats and housing
- Jacket and separate circuit water pump, gear-driven centrifugal

#### Exhaust System

- Dual DOC - Robust Metallic Substrate
- Exhaust manifold, dry, bellows connection
- Four turbochargers with watercooled bearings
- Dual 10-inch ANSI round flange

#### Flywheel and Flywheel Housings

- Flywheel, SAE No. 0, 151 teeth

#### Fuel System

- Primary/secondary fuel filters
- Fuel priming pump (electric)
- Common rail fuel system
- Fuel transfer pump
- Clean fuel module boost pump

#### Lubrication System

- Crankcase breather – 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
- Oil scavenger pump

#### Mounting System

- Trunion front support
- Two-sided flywheel housing

### Optional Equipment

#### Air Inlet System

- Optional heavy-duty air cleaners (dual element/service indicator with precleaners)
- Four front-mounted turbochargers

#### Control System

- Throttle position sensors
- Local speed throttle control
- Governor conversion
- Variable speed radiator fan control

#### Cooling System

- Coolant regulator conversion
- Water level switch gauge
- Coolant level sensors and coolant conditioner
- External transmission cooler connections
- Variable speed hydraulic fan pump

#### Exhaust System

- Flexible exhaust fitting
- Elbows, flange, bellows, rain caps
- Industrial and residential mufflers (painted steel and stainless steel)

#### Flywheel and Flywheel Housings

- Flywheel stub shaft
- Front crankshaft adapter

#### Fuel System

- Flexible fuel lines
- Primary fuel filter/fuel water separator

#### Instrumentation

- Remote panel display
- Remote cylinder temperature display

#### Lubrication System

- 500-hour deep sump oil pan (rear sump pan)

#### Power Take-Offs

- Flywheel stub shaft
- Front crankshaft adapter

#### Protection System

- Sensors
- Shutoff controls

#### Starting System

- Hydraulic starter - LH
- Hydraulic starter - RH
- Dual hydraulic starter - LHR
- Manual engine barring device

#### General

- Air compressor
- Aftertreatment support package
- Charging alternators

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