FEATURES

Emissions
Conforms with EPA (U.S.) Tier 4 Interim and EU Stage IIIB emission standards.

Reliable, Quiet, and Durable Power
World-class manufacturing capability and processes coupled with proven core engine designs assure reliability, quiet operation, and many hours of productive life.

High Performance
Series turbocharging with smart wastegate available on all ratings for fast response, high power, and increased torque.

Fuel Efficiency
Fuel consumption optimized to match operating cycles of a wide range of equipment and applications. No additional fluids or additives are required which lowers operating costs.

Fuel & Oil
Tier 4 Interim/Stage IIIB engines require Ultra Low Sulfur Diesel (ULSD) fuel containing a maximum of 15 ppm sulfur, and new oil formulations to support the new technology. Cat® engines are designed to accommodate B20 biofuel. Your Cat dealer can provide more information regarding fuel and oil.

Broad Application Range
Industry leading range of factory configurable ratings and options for agricultural, materials-handling, construction, mining, aircraft ground support, and other industrial applications.

Package Size
Exceptional power density enables standardization across numerous applications. Multiple installation options minimize total package size. Ideal for equipment with narrow engine compartments.

Low-Cost Maintenance
Worldwide service delivers ease of maintenance and simplifies the servicing routine. Hydraulic tappets, multi-vee belts, minimum 5000-hour diesel particulate filter ash service interval and 500-hour oil change intervals enable low-cost maintenance. Many service items have a choice of location on either side of the engine to enable choice of service access. The S•O•S™ program is available from your Cat dealer to determine oil change intervals and provide optimal performance.

Quality
Every Cat engine is manufactured to stringent standards in order to assure customer satisfaction.

World-class Product Support Offered Through Global Cat Dealer Network
• Scheduled maintenance, including S•O•S™ sample
• Customer Support Agreements (CSA)
• Cat Extended Service Coverage (ESC)
• Superior dealer service network
• Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

Web Site: For additional information on all your power requirements, visit www.cat-industrial.com.
STANDARD ENGINE EQUIPMENT

Air Inlet
Standard air cleaners

Control System
Full electronic control system, all connectors and wiring looms waterproof and designed to withstand harsh off-highway environments, flexible and configurable software features and well supported SAE J1939 CAN bus enables highly integrated machines

Cooling System
Top tank temperature 108°C (226°F) as standard to minimize cooling pack size, 50:50 water glycol mix, detailed guidance on cooling system design and validation available to ensure machine reliability

Exhaust System
Diesel particulate filter and regeneration system supplied, with a range of inlet and outlet options

Flywheels and Flywheel Housing
Wide choice of drivetrain interfaces, including SAE1, SAE2 or SAE3 configurations

Fuel System
Electronic high pressure common rail, ACERT™ Technology, innovative filter design to ensure maximum protection of the engine.

Lube System
Wide choice of sumps for different applications

Power Take Off
SAE A or SAE B flanges on left-hand side. Right-hand side twin PTO also available. Engine power can also be taken from the front of the engine on some applications, factory fitted compressors are also available.

DIMENSIONS

(1) Length — 1063.7 mm (41.9 in)  (2) Width — 820.2 mm (32.3 in)  (3) Height — 907 mm (35.7 in)

Note: Final dimensions dependent on selected options
PERFORMANCE DATA — PRELIMINARY

Turbocharged-Aftercooled — 2200 rpm

**Rated Speed**

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Torque N•m</th>
<th>lb-ft</th>
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</thead>
<tbody>
<tr>
<td>800</td>
<td>50</td>
<td>37.2</td>
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<tr>
<td>1000</td>
<td>90</td>
<td>66.4</td>
</tr>
<tr>
<td>1200</td>
<td>130</td>
<td>95.9</td>
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<tr>
<td>1400</td>
<td>170</td>
<td>125.7</td>
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<tr>
<td>1600</td>
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<td>1800</td>
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<td>2000</td>
<td>290</td>
<td>215.4</td>
</tr>
<tr>
<td>2200</td>
<td>330</td>
<td>245.3</td>
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**Speed Range**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Speed rpm</th>
<th>Peak Power bkW</th>
<th>Peak Power bhp</th>
<th>Speed rpm</th>
<th>Peak Torque N•m</th>
<th>Peak Torque lb-ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>B*</td>
<td>2200</td>
<td>140.0</td>
<td>187.7</td>
<td>1400</td>
<td>890</td>
<td>656.4</td>
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<tr>
<td>B</td>
<td>2200</td>
<td>151.0</td>
<td>202.5</td>
<td>1400</td>
<td>922</td>
<td>680.0</td>
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<td>212.5</td>
<td>1400</td>
<td>973</td>
<td>717.6</td>
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<td>1400</td>
<td>1086</td>
<td>801.0</td>
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<tr>
<td>C</td>
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<td>842.3</td>
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<td>274.9</td>
<td>1400</td>
<td>1257</td>
<td>927.0</td>
</tr>
</tbody>
</table>

*Curve shown

**RATING DEFINITIONS AND CONDITIONS**

- **IND-B** for service where power and/or speed are cyclic (time at full load not to exceed 80%).
- **IND-C** (Intermittent) is the horsepower and speed capability of the engine where maximum power and/or speed are cyclic (time at full load not to exceed 50%).
- **IND-D** for service where maximum power is required for periodic overloads.

Additional ratings are available for specific customer requirements. Consult your Cat dealer.

**Rating Conditions** are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.
C7.1 ACERT™
Industrial Engine
Tier 4 Interim/Stage IIIIB
140-225 bkW/187.7-301.8 bhp @ 2200 rpm

AFERTREATMENT CONFIGURATION

Less than or equal to 172 bkW (231 bhp)
287 mm (11.3 in) DIAMETER BASE
Approximate Size and Weight
(1) Length — 918.7 mm (36.2 in)
(2) Width — 714.4 mm (28.1 in)
(3) Height — 618.5 mm (24.3 in)
Weight — 124 kg (273.4 lbs)

CEM Options include:
Basic Aftertreatment Package (DPF/DOC)

Note: Final dimensions dependent on configuration

Greater than 172 bkW (231 bhp)
337.8 mm (13.3 in) DIAMETER BASE
Approximate Size and Weight
(1) Length — 918.7 mm (36.2 in)
(2) Width — 714.4 mm (28.1 in)
(3) Height — 643.9 mm (25.3 in)
Weight — 134 kg (295.4 lbs)

Multiple Customizable Configuration Options Available

AFERTREATMENT FEATURES

Regeneration: Cat Regeneration System maximizes fuel efficiency during regeneration
Flexibility: Flexible regen options maximize uptime

Mounting: Remote installation options provide OEM flexibility for many applications
Service: Minimum 5000-hour diesel particulate filter ash service interval
Available in 12V or 24V systems

STANDARD EMISSIONS CONTROL EQUIPMENT

Cat Regeneration System
CEM: Clean Emissions Module
DOC: Diesel Oxidation Catalyst
DPF: Diesel Particulate Filter

NRS: NOx Reduction System
3" flex pipe connection kit with straight, 45°, and 90° options for flexibility

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ACERT, S-O-S, “Caterpillar Yellow” and the “Power Edge” trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

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