



The Cat® C18 ACERT™ Industrial Diesel Engine is offered in ratings ranging from 429-522 bkW (575-700 bhp) @ 1800-2100 rpm. These ratings meet China Stage II, U.S. EPA Tier 3 equivalent, and EU Stage IIIA equivalent emission standards. Ratings: 571-597 bkW (765-800 bhp) @ 1800-2100 rpm meet U.S. EPA Tier 2 equivalent emission standards. Non-certified ratings are also available at 429-522 bkW (575-700 bhp) @ 1800-2100. Industries and applications powered by C18 ACERT engines include Agriculture, Ag Tractors, Aircraft Ground Support, Bore/Drill Rigs, Chippers, Grinders, Compactors, Rollers, Compressors, Construction, Cranes, Dredgers, Forestry, General Industrial, Hydraulic Power Units, Irrigation Equipment, Material Handling, Mining, Mobile Earthmoving Equipment, Paving Equipment, Pumps, Shovels/Draglines, Surface Hauling Equipment and Trenchers.

Specifications

Power Rating

Minimum Power	429 bkW	575 BHP
Maximum Power	597 bkW	800 BHP
Rated Speed	1800-2100 rpm	

Emission Standards

Emissions	China Nonroad III, U.S. EPA Tier 3 equivalent or U.S. EPA Tier 2 equivalent, EU Stage IIIA equivalent, or Non-certified
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General

Engine Configuration	Inline 6, 4-Stroke-Cycle Diesel
Bore	145 mm (5.71 in)
Stroke	183 mm (7.2 in)
Aspiration	Turbocharged Aftercooled (TA)
Displacement	18.1 L (1104.5 in³)
Compression Ratio	16.3:1
Combustion System	Direct Injection
Rotation from Flywheel End	Counterclockwise

Engine Dimensions - Approximate

Height	1243-1257 mm (48.9-49.5 in)
Length	1388.2-1414 mm (54.6-55.7 in)
Weight - Net Dry - Basic Operating Engine Without Optional Attachments	1673 kg (3688 lb)
Width	921-974 mm (36.3-38.3 in)

Benefits and Features

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.

Broad Application Range

Industry leading range of factory configurable ratings and options for agricultural, material 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.

World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including SOSSM sample
- Customer Support Agreements (CSA)
- Caterpillar Extended Service Coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

Standard Equipment

Air Inlet System

- Turbocharged Aftercooled (429-470 kW, 575-630 bhp)
- Twin Turbocharged Aftercooled (522-597 kW, 700-800 bhp)
- Air-to-Air Aftercooled

Charging System

- Charging alternator 24 volt, 50 amp

Control System

- Electronic governing, PTO speed control
- Programmable ratings
- Automatic altitude compensation
- Power compensation for fuel temperature
- Programmable low and high idle and total engine limit
- Electronic diagnostics and fault logging
- Engine monitoring system SAE J1939 broadcast and control
- ADEM™ A4 Electronic Control Unit (ECU)

Cooling System

- Thermostats and housing, vertical outlet
- Jacket water pump, centrifugal
- Water pump, inlet

Exhaust System

- Exhaust manifold, dry
- Optional exhaust outlet

Flywheels and Flywheel Housing

- SAE No. 1 or SAE No. 0 flywheel housing

Fuel System

- MEUI injection
- Fuel filter, secondary (2 micron)
- Fuel filter, tertiary (2 micron)
- ACERT™ Technology
- Fuel transfer pump
- Fuel priming pump

Lube System

- Crankcase breather
- Oil cooler
- Oil filler
- Lube oil filter
- Front sump oil pan
- Oil dipstick
- Gear driven oil pump

General

- Vibration damper
- Lifting eyes
- Cold start capability to -20° C (-4° F)
- Paint: Caterpillar yellow, with optional colors available at request

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, 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.

C18 ACERT
522 bkW (700 bhp) @ 2100 rpm



Rating Type: IND-C (INTERMITTENT) RATING

Emissions: U.S. EPA Tier 3 Nonroad Equivalent Emission
Standards (Not Currently EPA Certified)

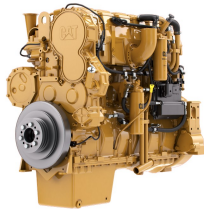


Image shown may not reflect actual configuration

C18 ACERT
DITA
522 bkW (700 bhp) @ 2100 rpm

	Metric	English
General Engine		
Power Rating	522 kW	700 hp
Number of Cylinders	6	
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1106.0 cu in.
Compression Ratio	16.3 : 1	

RATING DEFINITIONS AND CONDITIONS

IND-C (INTERMITTENT) RATING:Intermittent service where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Diesel Engines — up to 7.1 liter All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance measured using fuel to EPA specifications in 40 CFR Part 1065 and EU specifications in Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

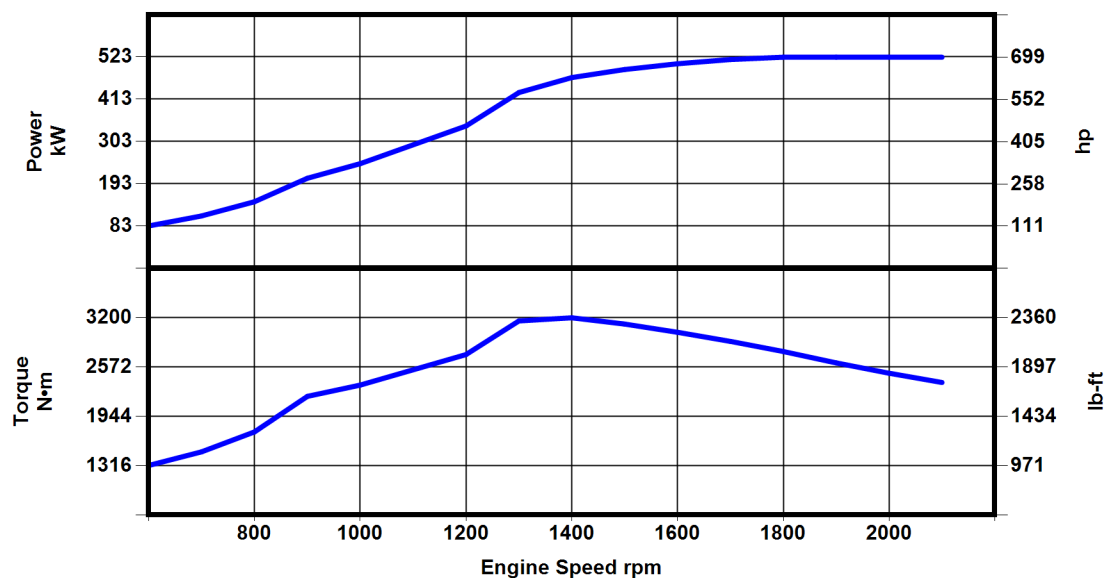
Diesel Engines — greater than 7.1 liter All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.

C18 ACERT

522 bkW (700 bhp) @ 2100 rpm

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: U.S. EPA Tier 3 Nonroad Equivalent Emission Standards (Not Currently EPA Certified)



Engine Speed rpm	Engine Power bkW	Engine Power bhp	Torque N*m	Torque lb-ft
2100	522	700	2374	1751
2000	522	700	2492	1838
1900	522	700	2624	1935
1800	522	700	2769	2043
1700	516	692	2898	2138
1600	505	677	3014	2223
1500	490	657	3119	2301
1400	469	629	3199	2359
1300	430	577	3159	2330
1200	343	460	2730	2013
1000	245	329	2341	1727
900	207	278	2197	1620
800	146	196	1744	1286
700	109	147	1490	1099
600	83	111	1316	971

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