

The Cat® C18 Industrial Diesel Engine is offered in ratings ranging from 429-522 kW (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 kW (765-800 bhp) @ 1800-2100 rpm meet U.S. EPA Tier 2 equivalent emission standards. Non-certified ratings are also available at 429-522 kW (575-700 bhp) @ 1800-2100. Industries and applications powered by C18 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		
Maximum Power	597 kW	800 HP
Maximum Torque	3655 Nm @ 1400 rpm	2696 lb-ft @ 1400 rpm
Rated Speed	1800-2100 rpm	
Minimum Power	429 kW	575 HP

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

General		
Engine Configuration	Inline 6, 4-Stroke-Cycle Diesel	
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 l	1104.5 in ³
Compression Ratio	16.3:1	
Aspiration	Turbocharged Aftercooled (TA)	
Combustion System	Direct Injection	
Rotation from Flywheel End	Counterclockwise	
Aftertreatment	-	

Engine Dimensions - Approximate		
Length	1414 mm	55.7 in
Width	974 mm	38.3 in
Height	1257 mm	49.5 in
Weight - Net Dry - Basic Operating Engine Without Optional Attachments	1673 kg	3688 lb

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

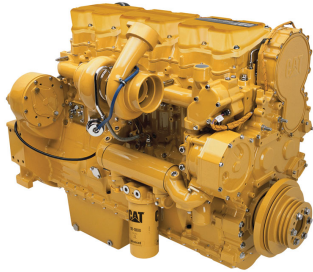
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C18 ACERT

470 kW (630 bhp) @ 2100 rpm

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: Noncertified



C18 ACERT
DITA
470 kW (630 bhp) @ 2100 rpm

Image shown may not reflect actual configuration

	Metric	English
General Engine		
Power Rating	470 kW	630 hp
Number of Cylinders	6	
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1106.4 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.

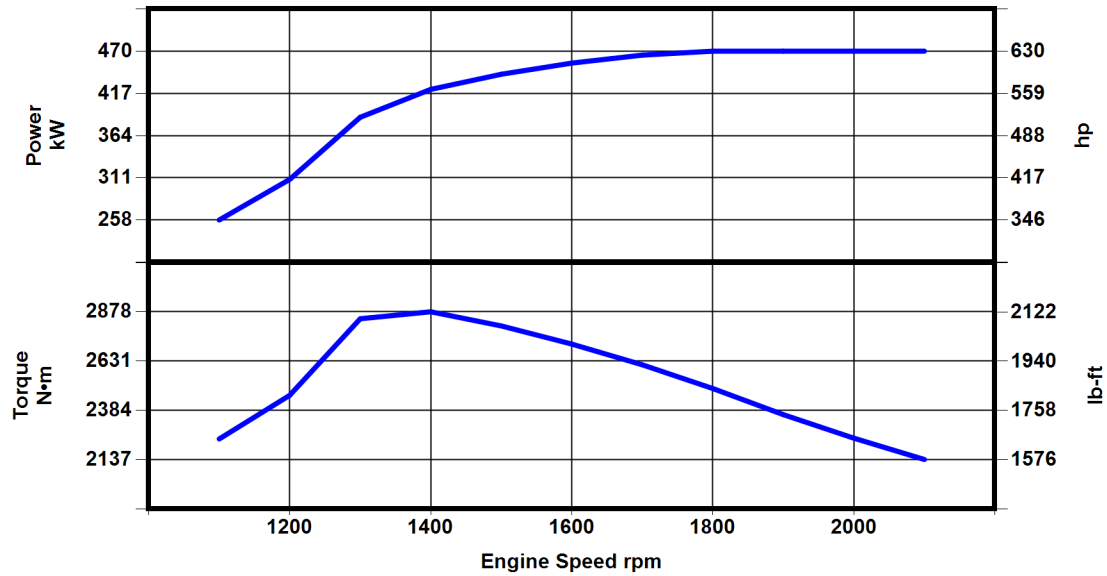


C18 ACERT

470 bkW (630 bhp) @ 2100 rpm

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: Noncertified



Engine Speed rpm	Engine Power kW	Engine Power bhp	Torque N*m	Torque lb-ft
2100	470	630	2137	1576
2000	470	630	2244	1655
1900	470	630	2362	1742
1800	470	630	2493	1839
1700	465	624	2612	1927
1600	455	610	2716	2003
1500	441	591	2807	2071
1400	422	566	2878	2123
1300	387	519	2843	2097
1200	309	414	2459	1814
1100	258	346	2240	1652

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