



The Cat® C27 ACERT™ Industrial Diesel Engine is offered in ratings ranging from 597-783 kW (800-1050 bhp) @ 1800 rpm. These ratings meet U.S. EPA Tier 4 Final emission standards. Industries and applications powered by C27 ACERT engines include: Bore/Drill Rigs, Chippers/Grinders, Construction, Cranes, Dredgers, Forestry, Hydraulic Power Units, Irrigation Equipment, Material Handling, Mobile Earthmoving Equipment, Paving Equipment, Pumps, Shovels/Draglines, Surface Hauling Equipment and Trenchers. Specifications are for configurations with side-mounted turbos. Configurations are also available with rear-mounted turbos for 652 kW (875 bhp) and 708 kW (950 bhp) ratings.

Specifications

Power Rating		
Minimum Power	597 kW	800 bhp
Maximum Power	783 kW	1050 bhp
Rated Speed	1800 rpm	

Emission Standards	
Emissions	U.S. EPA Tier 4 Final

General	
Engine Configuration	V-12, 4-Stroke-Cycle Diesel
Bore	137.2 mm (5.4 in)
Stroke	152.4 mm (6 in)
Displacement	27 L (1649.5 in ³)
Aspiration	Twin Turbocharged-Aftercooled (TTA)
Compression Ratio	16.0:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	67.9 L (71.7 qt)
Lube System (refill)	68 L (71.9 qt)

Engine Dimensions (Approximate. Final dimensions dependent on selected options)	
Length	1874 mm (73.8 in)
Width	1600 mm (63 in)
Height	1370 mm (53.9 in)
Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	3004 kg (6625 lb)



Benefits and Features

Emissions

Meets U.S. EPA Tier 4 Final 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.

Fuel Efficiency

Fuel consumption optimized to match operating cycles of a wide range of equipment and applications while maintaining low operating costs.

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.

Low Cost Maintenance

Worldwide service delivers ease of maintenance and simplifies the servicing routine. Service intervals at 250 hours are standards. Capable of optimal oil change intervals of up to 500-hours, depending on rating, application, operating conditions, and maintenance practices. No aftertreatment is required. The S·O·SSM program is available from your Cat dealer to determine oil change intervals and provide optimal performance.

Quality

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

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
- Air-to-Air Aftercooled

Control System

- Electronic control system
- Over-foam wiring harness
- Automatic altitude compensation
- Power compensated for fuel temperature
- Configurable software features
- Engine monitoring system SAE J1939 broadcast and control



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

Exhaust System

- Exhaust manifold, dry
- Optional exhaust outlet

Flywheels and Flywheel Housing

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

Fuel System

- MEUI injection
- Fuel filter, secondary (2 micron)
- Fuel transfer pump
- Electronic fuel priming

Lube System

- Open crankcase ventilation system
- Oil cooler
- Oil filler
- Lube oil filter
- Rear sump oil pan
- Oil dipstick
- Gear driven oil pump

Power Take Off

General

- Paint: Caterpillar yellow, with optional colors available at request
- Vibration damper
- Lifting eyes

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.

C27 ACERT

709 kW (950 bhp) @ 1800 rpm

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: U.S. EPA Tier 4 Final Nonroad Emission Standards



Image shown may not reflect actual configuration

C27 ACERT

DITA

709 kW (950 bhp) @ 1800 rpm

	Metric	English
General Engine		
Power Rating	709 kW	950 hp
Number of Cylinders	12	
Bore	137 mm	5.4 in
Stroke	152 mm	6.0 in
Displacement	27.0 L	1649.0 cu in.
Compression Ratio	16.0 : 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.

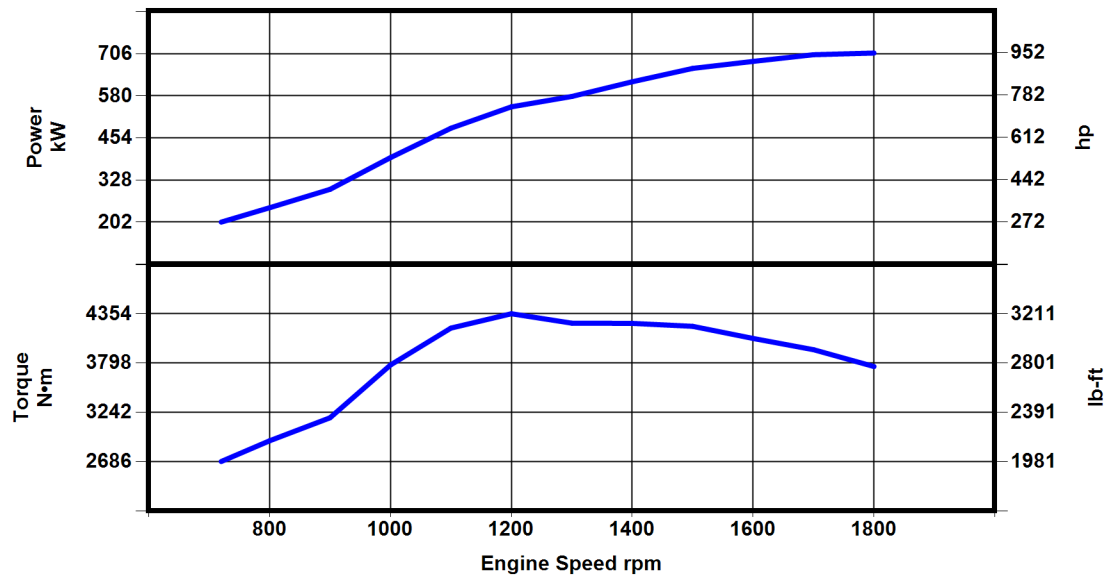


C27 ACERT

709 bkW (950 bhp) @ 1800 rpm

Rating Type: IND-C (INTERMITTENT) RATING

Emissions: U.S. EPA Tier 4 Final Nonroad Emission Standards



Engine Speed rpm	Engine Power bkW	Engine Power bhp	Torque N*m	Torque lb-ft
1800	709	950	3759	2772
1700	703	943	3949	2913
1600	683	916	4076	3006
1500	662	887	4213	3107
1400	623	835	4246	3132
1300	579	776	4249	3134
1200	547	734	4355	3212
1100	483	648	4193	3093
1000	395	530	3776	2785
900	300	402	3180	2346
800	245	328	2920	2153
720	203	272	2686	1981

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