



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	
Height	1370 mm (53.9 in)
Length	1874 mm (73.8 in)
Weight - Net Dry - Basic Operating Engine Without Optional Attachments	3004 kg (6625 lb)
Width	1600 mm (63 in)

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.

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

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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

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

- 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

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

783 kW (1050 bhp) @ 1800 rpm

Rating Type: IND-D RATING

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

C27 ACERT

DITA

783 kW (1050 bhp) @ 1800 rpm



Image shown may not reflect actual configuration

	Metric	English
General Engine		
Power Rating	783 kW	1050 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-D RATING:For service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

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.

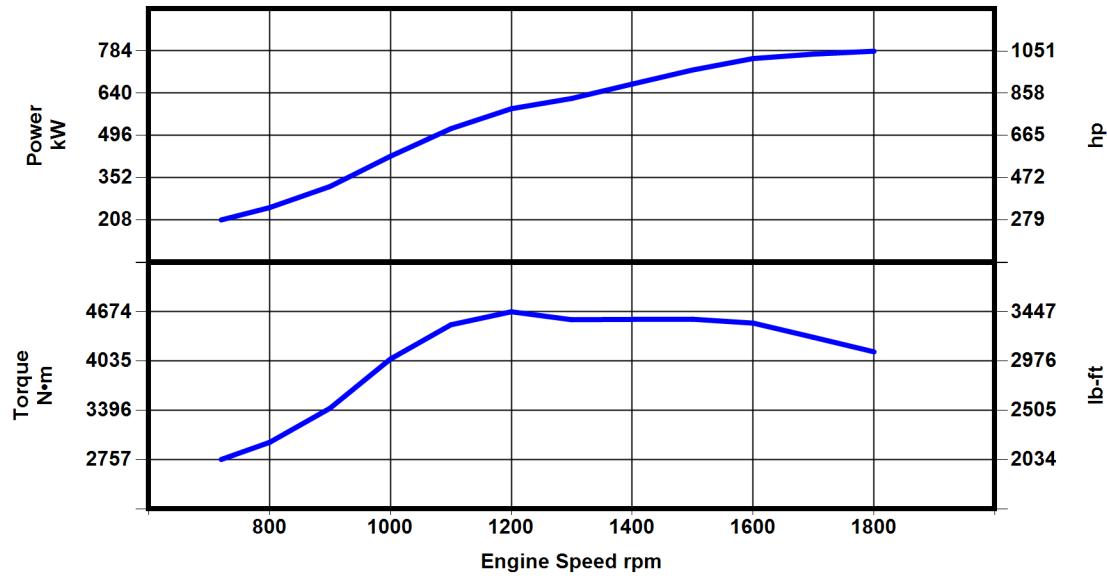


C27 ACERT

783 bkW (1050 bhp) @ 1800 rpm

Rating Type: IND-D 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	783	1050	4154	3064
1700	773	1037	4342	3203
1600	759	1017	4527	3339
1500	719	964	4577	3376
1400	671	900	4575	3375
1300	622	835	4571	3372
1200	587	788	4674	3447
1100	519	696	4505	3322
1000	425	570	4061	2995
900	323	432	3422	2524
800	250	335	2979	2197
720	208	279	2757	2034

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