



Image shown may not reflect actual configuration

The Cat® C27 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 and EU Stage V emission standards. Industries and applications powered by C27 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), 708 kW (950 bhp), and 775 kW (1039 bhp) ratings.

Specifications

Power Rating – Twin Turbo (>560 kW)		
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 and EU Stage V Nonroad Emission Standards

Engine Specifications		
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 (engine)	55 L	58.1 qts
Lube System (refill)	40-74 L	10.5-19.5 gal

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 & Features

High Power Density

C27 engines have excellent power density. With a top rating of 783 kW (1050 bhp), the C27 uses a dual-can diesel oxide catalyst (DOC) aftertreatment. The DOC is a maintenance-free, passive aftertreatment solution that eliminates the need for thermal management and all the associated components. The C27 does not require diesel exhaust fluid (DEF) and removes all DEF infrastructure (DEF tank, pump, lines, electronics), simplifying the solution and further reducing the overall package size.

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, materials-handling, construction, mining, forestry, waste, and other industrial applications.

Fluid Efficiency

- Fuel consumption optimized to match operating cycles of a wide range of equipment and applications while maintaining low operating costs.
- No DEF required for a lifetime of low-cost operation.

Installation

- Fully configurable engine with exceptional power density, numerous options, and a simplified aftertreatment to minimize total package size and enable commonization across a wide range of applications.
- Optional rear-mounted turbos to accommodate narrow compartments. Available on 652 kW (875 bhp), 708 kW (950 bhp), and 775 kW (1039 bhp) ratings.
- Aftertreatment installation flexibility to meet all applications – including remote-mounted and engine-mounted.
- The C27 meets both U.S. EPA Tier 4 Final and EU Stage V Nonroad emission standards, simplifying customer design and installation across regions.

Low Cost Maintenance

- Worldwide service delivers ease of maintenance and simplifies the servicing routine.
- Maintenance-free DOC ensures a lifetime of low-cost ownership.
- Standard service intervals of 500 hours under normal operating conditions.
- The S•O•SSM program is available from your Cat dealer to optimize oil change intervals.
- Ideal for high-hour applications over 10,000 hours.
- Remote mount options for serviceable items such as oil and fuel filters.

Quality

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

Benefits & Features (continued)

World-class Product Support Offered Through Global Cat Dealer Network

- Scheduled maintenance, including S•O•S sample
- Customer support agreements (CSA)
- Extended service coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

U.S. EPA Tier 4 Final/EU Stage V Aftertreatment

- Clean emissions module (CEM) consisting of a dual-can DOC.
- No coolant, fuel, or electrical connection points required.
- No thermal management or regeneration required.
- Maintenance-free until major engine overhaul.
- No DEF required (reduced lifetime operating cost).
- Remote-mounted aftertreatment standard for greatest flexibility.
- Engine-mounted aftertreatment (EMAT) optional for simplified installation.

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

Standard Equipment (continued)

Fuel System

- Mechanical electronic unit injectors (MEUI)
- 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

- Caterpillar Yellow paint, with optional colors available
- Vibration damper
- Lifting eyes

C27



**Emissions: U.S. EPA Tier 4 Final
 and EU Stage V Nonroad
 Emission Standards**

**C27
 DITA
 783 bkW/ 1050 bhp @ 1800 rpm**

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	Metric	English
General Engine		
Number of Cylinders	12	
Bore	137 mm	5.4 in
Stroke	152 mm	6.0 in
Displacement	27 L	1648 in ³
Compression Ratio	16.0:1	

RATING DEFINITIONS AND CONDITIONS

IND-A (Continuous) for heavy duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling.

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%).

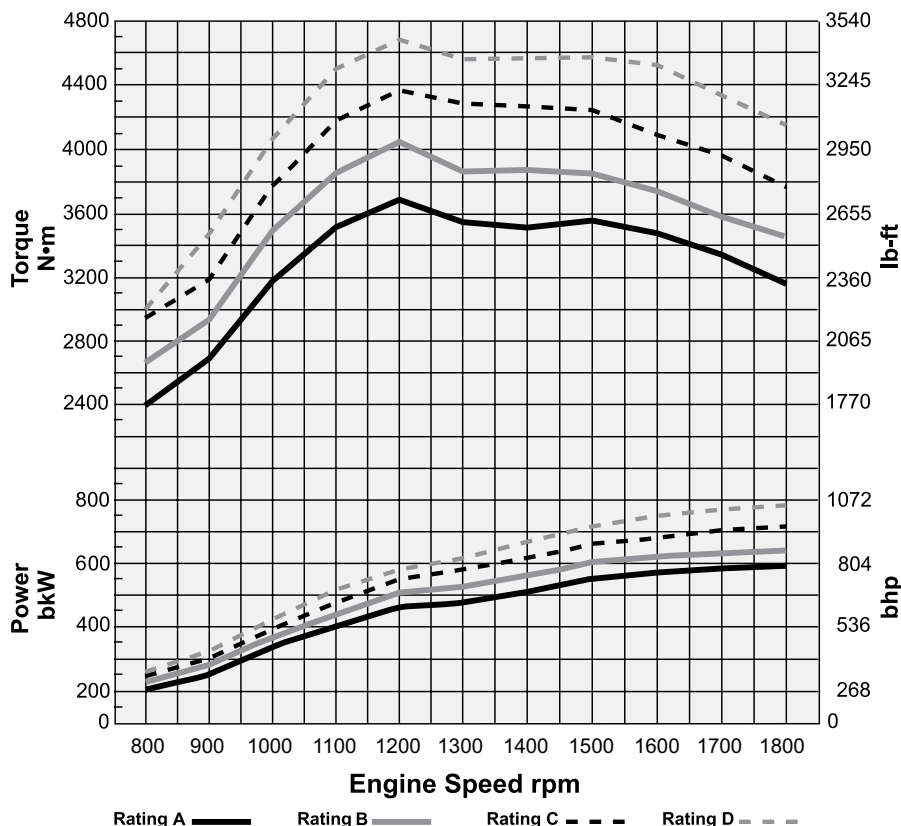
IND-D for service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

Diesel Engines – greater than 7.1 liters. 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.



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Performance Data



Rating*	Aspiration	Rated Speed rpm	Rated Power kW	Rated Power bhp	Peak Torque N·m	Peak Torque lb-ft	Speed rpm
A	TA	1800	596.5	800	3676	2711	1200
B	TA	1800	652.5	875	3984	2938	1200
C	TA	1800	708.5	950	4354	3211	1200
D	TA	1800	783.0	1050	4679	3451	1200

*Rated power and torque is the same for standard side and optional rear-mounted turbos on B and C ratings.

D rating with optional rear-mounted turbo has a rated power of 775 kW (1039 bhp) @ 1800 rpm with a peak torque of 4620 N·m (3408 lb-ft).

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Materials and specifications are subject to change without notice.
 The International System of Units (SI) is used in this publication.

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