

Image shown may not reflect actual configuration

The Cat® C18 (<560 kW) industrial diesel engine with single turbocharger-aftercooled (TA) arrangement is offered in ratings ranging from 429-470 bkW (575-630 bhp) @ 1800-2000 rpm. These ratings meet U.S. EPA Tier 4 Final, EU Stage V, Japan 2014, and Korea Tier 4 Final* or China Nonroad Stage IV emission standards.

C18 engines are ideal choices to power applications in agriculture, aircraft ground support, construction, forestry, general industrial, material handling, and mining.

Specifications

Power Rating – Single Turbo (<560 kW)		
Minimum Power	429 bkW	575 bhp
Maximum Power	470 bkW	630 bhp
Rated Speed	1800-2000 rpm	

Emission Standards	
Emissions	EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final* or China Nonroad Stage IV

Engine Specifications		
Engine Configuration	In-Line 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
Aspiration	Turbocharged-Aftercooled (TA, <560 kW)	
Compression Ratio	16.0:1	
Combustion System	Direct Injection	
Rotation (from flywheel end)	Counterclockwise	
Cooling System Capacity (engine)	27 L	28 qts
Lube System (refill)	40-72 L	10.5-19.0 gal

Engine Dimensions (Approximate. Final dimensions dependent on selected options.)		
Length	1438 mm	56.6 in
Width	969 mm	38.1 in
Height	1248 mm	49.1 in
Weight – Net Dry (basic operating engine without optional attachments)	1542 kg	3399.5 lb

Aftertreatment Dimensions (Approximate. Final dimensions dependent on selected options.)		
Length	1153 mm	45.4 in
Width	1112 mm	43.8 in
Height	652 mm	25.7 in
Weight	268 kg	590.8 lb

*Korea Tier 5 Capable

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

Fluid Efficiency

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

Installation

- Fully configurable engine with multiple ratings, a wide range of power, and numerous options to minimize total package size and enable commonization across a broad array of applications.
- Aftertreatment installation flexibility to meet all applications – including remote mount and engine-mounted from the factory.
- Industrial power unit (IPU) available from factory to avoid significant design, validation, and manufacturing costs.
- Low heat rejection levels allow for optimized cooling package at equivalent power.
- The C18 is available as a single label certification for EU Stage V, U.S. EPA Tier 4 Final, Japan 2014, and Korea Tier 4 Final* or certified to China Nonroad Stage IV. Common installation across regions covered by these emissions regulations simplifies customer design and installation.

Low Cost Maintenance

- Worldwide service delivers ease of maintenance and simplifies the servicing routine.
- Minimum 5000-hour diesel particulate filter (DPF) ash service interval ensures low-cost maintenance.
- 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.

World-class Product Support Offered Through Global Cat Dealer Network

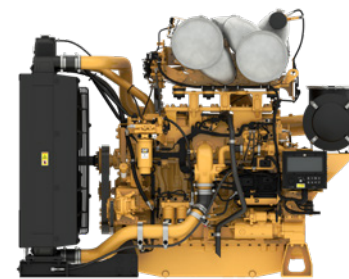
- Scheduled maintenance, including S•O•S sample
- Customer support agreements (CSA)
- Extended service coverage (ESC)
- Superior dealer service network
- Extended dealer service network through the Cat Industrial Service Distributor (ISD) program

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Benefits & Features (continued)

U.S. EPA Tier 4 Final and EU Stage V or China Nonroad Stage IV Aftertreatment Features – C18 (<560 kW)

- Clean emissions module (CEM) consisting of diesel oxidation catalyst (DOC), diesel particulate filter (DPF), and selective catalytic reduction (SCR).
- Maximum uptime with transparent aftertreatment regeneration. No operator distraction or impact to machine performance.
- Remote-mounted aftertreatment standard for greatest flexibility. Engine-mounted aftertreatment (EMAT) optional for simplified installation.
- Pump Electronic Tank Unit (PETU) Diesel Exhaust Fluid (DEF) capacity up to 93.7 liters (24.8 U.S. gallons)
- Minimum 5000 hour service interval for DPF/PETU filters



Optional IPU shown
with engine-mounted
aftertreatment (EMAT)

Enhanced Electronics

- The C18 (<560 kW) is equipped for the future with the latest technology from a single on-engine ECM.
- 2-wire Ethernet connection allows for simpler, faster installation and for remote service and software flash.
- 12V and 24V available

Standard Equipment

Air Inlet System

- Turbocharged
- Air-to-Air Aftercooled
- Mid-mount turbocharged system with front and rear exhaust configurations

Control System

- Electronic control system
- Over-foam wiring harness
- Configurable software features
- Engine monitoring system SAE J1939 broadcast and control
- Integrated Electronic Control Unit (ECU)
- Remote fan control
- 12V and 24V available

Cooling System

- Vertical outlet thermostat housing
- Centrifugal water pump
- Guidance on cooling system design available through your dealer to ensure equipment reliability

Flywheels and Flywheel Housing

- SAE No. 0 and SAE No. 1 flywheel housings
- Available SAE 1 power take-off (PTO) housing with optional SAE B and SAE C power take-off drives
- Engine power can also be taken from the front of the engine with optional attachments

Standard Equipment (continued)

Fuel System

- Mechanical Electronic Unit Injectors (MEUI)
- Primary fuel filter
- Secondary and tertiary fuel filters
- Fuel transfer pump
- Electronic fuel priming

Lube System

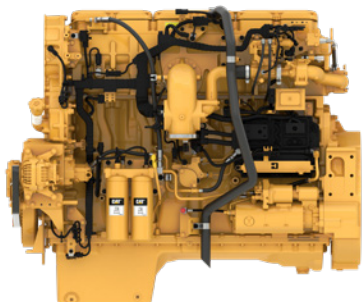
- Oil cooler
- Oil filler
- Lube oil filter
- Oil dipstick
- Gear-driven oil pump
- Choice of front, rear or center sumps
- Open crankcase ventilation system on C18 engines with ratings less than 560 kW (OCV filter system optional).

PTO

- SAE 1 PTO available with optional SAE B and SAE C PTO drives
- Engine power can also be taken from the front of the engine on some applications

General

- Caterpillar Yellow paint, with optional colors available



**Emissions: U.S. EPA Tier 4 Final, EU Stage V,
 Japan 2014, and Korea Tier 4 Final* or China
 Nonroad Stage IV Emission Standards**

C18 (<560 kW)
429-470 kW/ 575-630 bhp
1800-2000 rpm

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	Metric	English
General Engine		
Number of Cylinders	6	
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1104.5 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%).

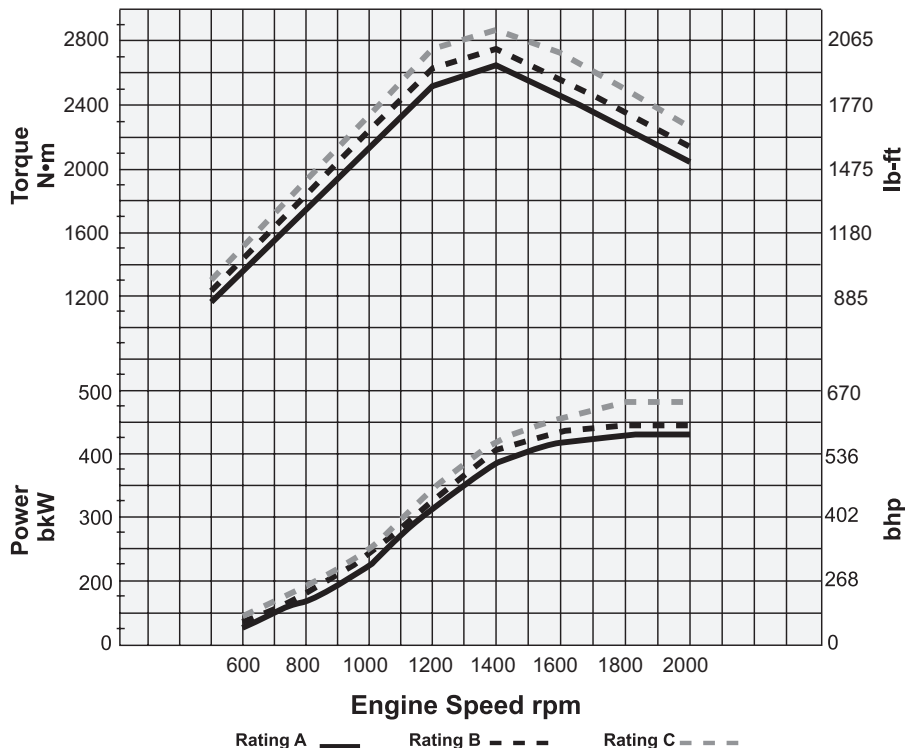
IND-D for service where maximum power is required for periodic overloads (time at full load not to exceed 10% of the duty cycle).

Diesel Engines – greater than 7.1 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.

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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	1800-2000	429	575	2696	1989	1300
B	TA	1800-2000	447	599	2813	2075	1300
C	TA	1800-2000	470	630	2953	2178	1300

RATING CONDITIONS FOR DIESEL ENGINES - GREATER THAN 7 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.

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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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