



The C280-12 generator set incorporates years of proven success of the 3600 engine with the latest technology in electronics. The result is a fully integrated solution that is ideal for offshore operations. Ideal applications for the C280-12 offshore generator set are main power on-board drilling and production vessels and platforms. These include jackup rigs, semi-submersible rigs, and production platforms. Complete package offerings are MCS type-approved and compliant with IMO Tier II emissions standards, making integration of the Cat C280-12 generator set into the vessel a simplified operation. The redundant ADEM A4 engine control system works together with the Cat Alarm and Protection to bring comprehensive generator set control, safety, and simple operator interface. Cat generator sets are backed by the worldwide network of Cat dealers ready to support your operation with technical support, service, parts, and warranty. Cat C280-12 offshore generator set. Ratings: 3322-3900 ekW (4153-5571 kVA) @ 50/60 Hz (1000/900 rpm). IMO Tier II emissions compliant.

Specifications

Engine Specifications		
Minimum Rating	3460 ekW	4640 kV·A
Maximum Rating	4060 ekW	5444 kV·A
Emissions	IMO Tier II/EPA Marine Tier 2	
Weight	56500 kg	124561 lb
Bore	300 mm	11 in
Aspiration	Turbocharged-Aftercooled	
Generator Set Control	Cat® Alarm and Protection System	
Fuel System	EUI	
Oil Change Interval	1000 h	1000 h
Engine Control	Dual ADEM™ A4	
Displacement	222 l	13546 in ³
Stroke	300 mm	11.8 in

Dimensions		
Length	8125 mm	319.9 in
Height	3973 mm	156.4 in
Width	2568 mm	101.1 in

Capacity for Liquids		
Lube Oil System - Refill	1283 l	339 gal (US)
Cooling System - Engine	1245 l	329 gal (US)

Benefits and Features

Custom Packaging

For any petroleum application, trust Caterpillar to meet your project needs with custom factory generator sets and mechanical packages. Cat engines, generators, controls, radiators, and transmissions can be custom designed and matched in collaboration with our local dealers to create unique solutions. Custom packages are globally supported and are covered by a one year warranty after startup.

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Full Range of Attachments

Large variety of factory-installed engine attachments increases application flexibility and reduces installation time. Testing • Every unit is full-load tested to ensure proper package performance • Full range of factory tests and reports are available including performance, torsional-vibration analysis, fuel consumption, engine, and generator special tests

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Product Support Offered Through the Global Cat Dealer Network

More than 2,200 dealer outlets - Cat factory-trained dealer technicians service every aspect of your Cat petroleum product - Worldwide parts availability, service, and warranty - Preventive maintenance agreements available for repairbefore- failure opti

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More than 2,200 dealer outlets - Cat factory-trained dealer technicians service every aspect of your Cat petroleum product - Worldwide parts availability, service, and warranty - Preventive maintenance agreements available for repairbefore- failure options - SOSM program matches your oil and coolant samples against Caterpillar set standards to determine: Internal engine component condition Presence of unwanted fluids Presence of combustion by-products Site-specific oil change interval

Over 80 Years of Engine Manufacturing Experience

- C280 engines incorporate over 20 years of proven component reliability and durability from 3600 engines • Large field population in offshore applications provides proven performance, reliability, durability, and established worldwide product support network

Web Site

Visit www.catoilandgasinfo.com to learn more.

Standard Equipment

Product Consist

- The engine is a turbocharged, aftercooled, four-strokecycle- diesel, electronic unit injection engine with a 280 mm (11 in) bore by 300 mm (11.8 in) stroke. SAE standard rotation is counterclockwise as viewed from the rear of engine flywheel.

Emissions Certifications

- GL and CCS approved IMO certificate – includes statement of compliance or Engine International Air Pollution Prevention (EIAPP) certificate, supplied by the Recognized Organization (RO) where available, and technical file to be kept on board per IMO regulations.

Marine Certification Society type-approval

- ABS, BV, CCS, DnV, GL, LRS
- Spray shielding to meet SOLAS regulations for flammable fluids

European Certifications

- Declaration of Incorporation for EU Machinery Safety
- Directive and EU Low Voltage Safety Directive

Air Inlet System

- Fresh water aftercooler, corrosion resistant coated (air side)
- Air inlet shutoff
- Turbochargers (2), rear-mounted, oil lubricated
- 90° adapter and straight adapters for air inlet to turbocharger
- Air cleaners
- Air cleaners with Cat dry paper filter elements (approximately 99.9% efficient at filtering SAE fine dust)

Control System

- Dual Cat ADEM A4 electronic engine control module with electronic unit injector fuel system, rigid wiring harness (10 amp 24V power required to drive electronic engine control modules), direct rack control

Cooling System

- Gear-driven jacket water (JW) pump
- Gear-driven separate-circuit aftercooler/oil cooler (AC/OC) pump
- Front-mounted water connections: JW and AC/OC, 6" ANSI
- Jacket Water Thermostat Options:
- AC/OC Thermostat Options:
- Expansion Tank Options:

Exhaust System

- Dry, gas tight exhaust manifold
- Dual turbocharger, rear-mounted
- Dual wastegate; hard shielding - SOLAS compliant
- Exhaust manifold shields

Fuel System

- Distillate fuel (requires viscosity ranging from 1.4 cSt to 20 cSt at 38°C); fuel pump, gear-driven; fuel transfer pump (mounted on left-hand side); duplex fuel filters, rear-engine-mounted; electronically controlled unit injectors
- ; crankcase breathers, top-mounted; turbochargers (2), front-mounted, oil lubricated

Lube System

- Centrifugal oil filters and lines with single shutoff - RH mounted on cylinder block inspection covers, serviceable with the engine running
- Oil pump, gear-driven
- Oil filler and dipstick - located in base integrated tank
- Oil pressure regulating valve
- Duplex oil filter - accessory module mounted
- Off engine mounted oil cooler - DTO quote required for package connections
- Base integrated tank - DTO required
- Electric continuous prelube pump

- Redundant prelube with continuous electric prelube
- Intermittent air prelube backup

Protection System

- Flywheel and damper guards
- Crankcase explosion relief valves

Instrumentation

- Cat Alarm and Protection System Features:

Starting System

- TDI dual air starting motors, LH rear
- Shutoff valve
- Two integrated relay valves with built-in screen #40 mesh and solenoid
- Air pressure sensor, monitored by Cat Alarm and Protection System - requires customer wiring
- Maximum operating (dynamic) pressure: 10 bar (150 psi)
- Maximum static pressure: 14 bar (200 psi)
- 3-inch ANSI flange customer connection; requires customer-provided 3-inch supply air line from receiver or regulator to air starter and flex connection; if regulator is used, Cv of 40 or greater is required
- Pressure reducing valve

Mounting System

- Design-To-Order (DTO) base

General

- Generator panel
- Torsional coupling
- Engine barring device options:

Optional Equipment

Air Inlet System

- Soot filter
- Air cleaner support bracket

Cooling System

- Jacket water heater
- ANSI connection adapters

Exhaust System

- Flexible exhaust fittings
- Weld flanges

Fuel System

- Manual fuel priming pump
- Duplex primary fuel strainer

Lube System



- Lube oil heater

Protection System

- Cylinder pressure relief valve
- Spray shielding
- Oil mist detector

Mounting System

- Vertically-restrained vibration isolators and weld plates

General

- Accessory module - Front mounted for mounting expansion tank, heat exchanger, instrument panel, annunciator panel, alarm and shutdown contactors, and fuel strainer
- Engine testing – certified dynamometer test, fuel consumption test, rated speed performance test, overload test, minimum power setting, peak firing pressure test, turbo work certificates, crankshaft work certificates, standard and project-specific witness testing
- Spare parts kit
- Engine lifting eyes

Literature

- Project-specific installation drawings
- Electrical schematics and P&ID drawings

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.