

Image shown with optional attachments.

CAT® ENGINE SPECIFICATIONS

V-16, 4-Stroke-Cycle-Diesel

Emissions	Not Emissions Certified
Bore	170 mm (6.7 in.)
Stroke	190 mm (7.5 in.)
Displacement.....	69 L (4210 cu. in.)
Aspiration	Turbocharged-Aftercooled
Governor and Protection.....	Woodward
Engine Weight, net dry (approx)	8205 kg (18,090 lb.)
Module Weight, net dry (approx)* ..	18,340 kg (40,433 lb.)
Capacity for Liquids	
Lube Oil System (refill).....	405 L (107 U.S. gal.)
Cooling System (engine only).....	233 L (61.5 U.S. gal.)
Cooling System (radiator)	330 L (87.2 U.S. gal.)
Oil Change Interval.....	500 hours

*Module weight includes — inner and outer base, radiator, generator, and engine

FEATURES

Engine Design

- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Assembled, tested, and validated as a package to minimize package vibration and maximize component life
- Market-leading power density
- Designed to perform in oilfield conditions, including high ambient high altitude applications
- Long overhaul life proven in oilfield applications
- Core engine components designed for reconditioning and reuse at overhaul

Safety

- E-Stop pushbutton on instrument panel
- Air shutoff and explosion relief valves
- Configurable alarm and shutdown features
- Extra alarm switches available for customer-supplied panel

Ease of Installation and Packaging

- Customer interface harness
- Simple engine/package wiring
- Adapters, fittings, and connectors available for cooling, air and exhaust system

Improved Serviceability

Large inspection openings allow convenient access to core engine internals

Reduction of Owning and Operating Costs

- Long filter change intervals, aligned with service intervals

Custom Packaging

For any petroleum application, trust Caterpillar to meet your exact needs with a factory custom package. Cat® engines, generators, enclosures, controls, radiators, transmissions — anything your project requires — can be custom designed and matched to create a one-of-a kind solution. Custom packages are globally supported and are covered by a one-year warranty after startup.

Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time

Testing

Every engine is full-load tested to ensure proper engine performance.

Product Support Offered Through Global Cat Dealer Network

More than 2,200 dealer outlets

Cat factory-trained dealer technicians service every aspect of your petroleum engine

Cat parts and labor warranty

Preventive maintenance agreements available for repair-before-failure options

S•O•SSM 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

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.

- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site

For all your petroleum power requirements, visit www.catoilandgas.cat.com.

STANDARD EQUIPMENT

Air Inlet System

Aftercooler core — corrosion resistant
Air cleaner — regular duty

Control System

Governor, Woodward EG6PC actuator — RH (controls provided by the SCR supplier)
Magnetic pickup

Cooling System

Radiator cooled land based
Outlet controlled thermostats and housing
Jacket water pump — gear-driven

Exhaust System

Exhaust flexible fittings, adapters and flanges
Dual turbochargers with w/c bearings

Flywheels and Flywheel Housings

SAE No. 00
SAE standard rotation

Fuel System

Fuel filter, fuel transfer pump
Flexible fuel lines
Fuel priming pump — LH

Instrumentation

Electronic instrument panel — LH, 8 hole, 7 gauge
Oil pressure, fuel pressure
Oil filter differential pressure
Water temperature
Tachometer
Service meter
Exhaust temperature — dual

Lube System

Crankcase breather
Oil cooler, oil filter
Shallow oil pan
Oil pan drain valve, 2" NPT female connection

Mounting System

Oilfield base 7.85 m (25 ft 9 in) length
Heavy-duty land rig inner baseframe — three-point mount to oilfield base

Power Take-Offs

Accessory drive

Protection System

Hydra-mechanical shutoffs (low oil pressure, high water temperature and overspeed, air inlet shutoff); monitoring gauge and emergency remote shutoff
Alarm switches, low oil pressure, high water temperature (Marine Society approved) for connection to customer-supplied alarm panel
Manual shutoff control — LH

Starting System

Air prelube pump
Air starting motor
Air silencer

General

Paint — Cat yellow
Vibration damper and guard
Lifting eyes

OPTIONAL EQUIPMENT

Air Inlet System

Heavy-duty air cleaners and precleaners
Remote air inlet adapters

Charging Systems

Battery chargers
Charging alternators

Control System

Load sharing modules
Local speed throttle control

Governor Conversion

2301A load sharing governors
2301A speed control governor and actuator
3161 mechanical governors
Engine-mounted controls
Throttle position sensors

Cooling Systems

High gloss black folded core radiators and conventional core radiator
Coolant regulator conversions
Belt guard, radiator guard
Blower fan
Fan drive and fan pulley
Radiator cover, regulators
Water level switch gauge
Coolant level sensors

Exhaust System

Elbows
Flange and exhaust expanders
Mufflers

Fuel System

Flexible fuel lines
Fuel priming pumps — manual
Fuel Filters — primary, duplex
Fuel Cooler

Generator

Oilfield spec twin-bearing, close-coupled
Factory aligned

Generator Attachments

Air filter
Cable access box
Bearing temperature detectors
Generator conversion
Low voltage extension box
Manual voltage control

Instrumentation

Annunciator
Customer management device
Removal panel display, remote cylinder temperature display
Switches and contactors

Lube System

Fumes disposal
Oil filter, oil pan accessories
Sump pumps

Mounting System

Bases, base removal

Power Take-Offs

Front housing, flywheel guard
Flexible couplings, coupling hubs
Front accessory drive
Auxiliary drive shaft, auxiliary drive pulleys
Front stub shaft, flywheel stub shaft
Pulleys

Protection System

Explosion relief valve
Air shutoffs
Switches and contactors
Oil pressure monitors

Starting System

Air pressure regulator
Starting aids

General

Tool set
Caterpillar data link wire

GENERATOR DATA

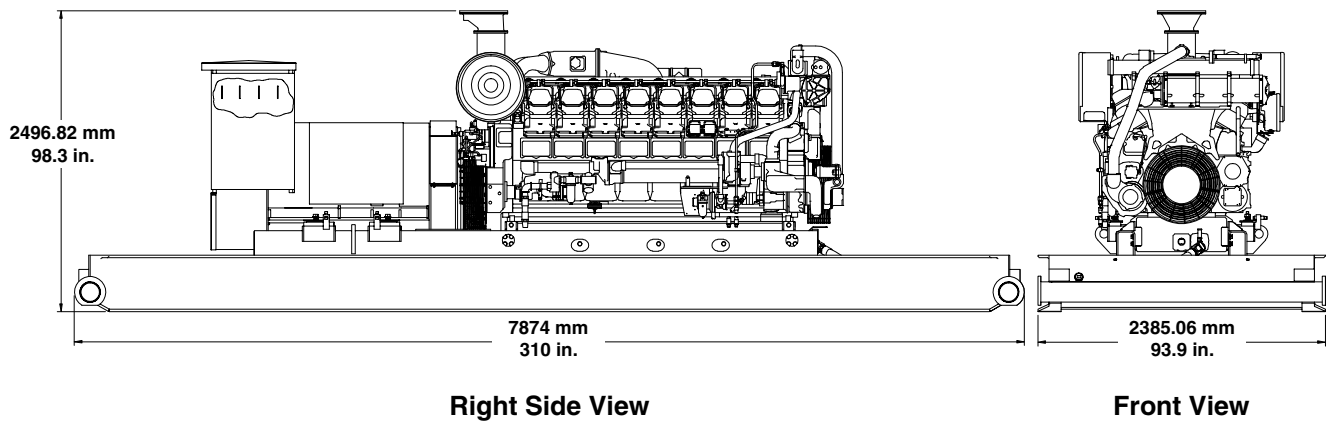
60 Hz — Standard

ekW / kVA.....	1285 / 2150	Voltage	600
rpm.....	1200	Voltage Regulator	Optional
Rated pf.....	0.7	Configuration	Two-bearing, close-coupled
Temperature Rise.....	90°C @ 50°C ambient,	Coastal Protection	Yes
Insulation Class.....	VPI	Space Heater	Included
Overload	50% / 2 min	Construction	Form wound
Excitation	Permanent magnet	Frame Size	868

ALTITUDE CAPABILITY

Approximate Power (bhp) as a function of Altitude and Inlet Manifold Temperature									
Ambient Operating Temp. (°F)	Altitude (feet)								
	10,499	9843	8202	6562	4921	3281	1640	984	0
50	1247	1279	1362	1450	1542	1609	1609	1609	1609
68	1204	1235	1316	1400	1490	1584	1609	1609	1609
86	1164	1195	1273	1354	1440	1531	1609	1609	1609
104	1128	1156	1231	1310	1395	1482	1574	1609	1609
122	1093	1121	1194	1270	1350	1436	1526	1562	1609
Normal	1248	1274	1342	1413	1486	1562	1609	1609	1609

LAND ELECTRIC DRILLING MODULE



Module Dimensions		
Length	7874 mm	310 in.
Width	2385.06 mm	93.9 in.
Height	2496.82 mm	98.3 in.
Engine Weight (dry)	8205 kg	18,090 lb.
Module Weight (dry)*	18,340 kg	40,433 lb.

*Module weight includes — inner and outer base, radiator, generator, and engine

Note: Do not use for installation design.
See general dimension drawings for detail.
(Drawing #316-8268)

RATING DEFINITIONS AND CONDITIONS

Ratings are based on SAE J1995 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 100 kPa (29.61 in Hg), 27° C (81° F), and 60% relative humidity. Ratings are valid for air cleaner inlet temperatures up to and including 50° C (122° F).

Fuel consumption has a tolerance of +5% and is based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18 390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal). Fuel consumption shown with all oil, fuel, and water pumps, engine driven.

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