

C175-16 OFFSHORE GENERATOR SET

IMO Tier III Emissions Certified

1833 ekW (2619 kVA) 60 Hz @ 1200 rpm



Cat® Engine Specifications

V16, 4-Stroke-Cycle-Diesel

Emissions:

IMO Tier III

Bore:

175 mm (6.89 in)

Stroke:

220 mm (8.66 in)

Displacement:

85.0 L (5167 cu. in)

Aspiration:

Turbocharged/2-stage
Aftercooled

Fuel System:

Common Rail/ EUI

Instrumentation:

LECP II/III

Engine Control:

Dual ADEM™ A5

Oil Change Interval:

1000 hours

Voltage:

600V or 690V

FEATURES AND BENEFITS

Product Design

- Industry-leading power density for growing offshore power demands.
- Factory certified IMO III solution includes aftertreatment with switchable IMO II to IMO III functionality
- Dual ADEM A5 redundant engine control
- Marine Society Certifications
- MCS type approval
- High pressure electronic unit injection maximize fuel efficiency, performance, while maintaining emission and standards
- Low smoke zero halogen wiring harness compliant with IEC 61892-3 Section 7.4.7.2

Engine Design

- Inner-outer base mounting design with vibration isolators for simplified rig integration
- Package design provides single-lift installation to reduce shipyard installation complexity

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.

Full Range of Attachments

A wide variety of factory-installed attachments are available to simplify packaging, saving time and effort.

Product Support Offered Through Global Cat Dealer Network

- More than 2,200 dealer outlets
- Cat factory trained dealer technicians service every aspect of your Oil & Gas engine
- Caterpillar 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:
 - Interval engine component condition
 - Presence of unwanted fluids
 - Presence of combustion by-products
 - Site-specific oil change interval

Over 90 years of Engine Manufacturing Experience

World-Class Manufacturing capability and process coupled with proven core engine designs assure reliability, quiet operation and many hours of productive life.

Website

For all your Oil & Gas power requirements, visit www.cat.com



STANDARD EQUIPMENT

Air Inlet System

- Aftercooler core, corrosion resistant (air side)
- Air cleaners--single or dual element
- Dual turbochargers
- Air shutoff

Exhaust System

- Dry exhaust manifolds with thermo-laminated heat shields
- Dual turbochargers with water-cooled bearings and thermo-laminated heat shields
- Vertical exhaust outlet
- Flange and exhaust expanders

Cooling System

- Two-stage separate-circuit-aftercooler (SCAC)
- Jacket water (JW) circuit cooling system
- Gear-driven centrifugal pumps, one for each circuit – SCAC electronic thermostat, outlet-controlled with aftercooler inlet temperature sensing
- JW electronic thermostat, outlet-controlled with inlet temperature sensing
- Engine oil cooler in JW circuit

Electrical

- MCS certified Class I/Division 2
- Low Smoke Zero Halogen Wiring Harness

Exhaust System

- Dry gas tight exhaust manifolds with heat shields.
- Dual turbochargers with water-cooled, oil-lubricated bearings and heat shields.
- Exhaust outlet: 305 mm (12 in) round flanged outlet, vertical orientation

Flywheel and Flywheel Housing

- Flywheel, SAE No. 00, 183 teeth
- Flywheel housing, SAE No. 00
- SAE standard rotation

Fuel System

- Cat common rail high-pressure fuel system with electronically controlled unit injectors
- Duplex primary fuel filter with water separator
- Duplex secondary/tertiary fuel filters
- Electric fuel priming pump
- Gear-driven low pressure transfer pump
- Gear-driven high pressure fuel pump
- Double-walled high pressure fuel lines
- Fuel pressure, temperature, and leak detection sensors

Lube System

- Engine-driven, gear-type oil pump
- Integral lube oil cooler
- Front-mounted oil drain lines and valve
- Oil sampling valve
- Filler and dipstick
- Four-canister simplex oil filter
- Prelube pump — electric, air, or custom – Fumes disposal with crankcase breathers – Crankcase explosion relief valves

Generator

- SR500 brushless permanent magnet
- 2-bearing, close-coupled arrangement
- 60 HZ, 600V or 690V

Starting System

- Turbine air starter
- Dual electric starting motors

Mounting System

- Inner-outer base with vibration isolators

Large Engine Control Panel II (LECP II) - Std

- Local Start/Stop/Throttle Control/ E-stop
- MCS Approved
- Remote Throttle ready
- Off/Local/Remote Switch
- Engine Parameters and Diagnostics
- Full Color 5.7" display (Touchscreen)
- J1939, Modbus TCP (Ethernet), and RTU (RS485) communication
- Switches: Crank Override, Manual Start and Manual Prelube
- Options:
 - MCS Approved Ethernet Switch
 - Telematics
 - Direct Rack (Aux only)

Large Engine Control Panel III (LECP III) - Optional

- Cat Alarm and Protection Panel
- MCS Approved
- Local Start/Stop/Throttle Control
- Remote Throttle ready
- Off/Local/Remote Switch
- Provides Diagnostics
- Full color 5.7" display
- J1939, Modbus TCP (Ethernet), and RTU (RS485) communication
- Shutdowns (SDU 410): Coolant Temp, Oil Pressure, Overspeed, Estop and Oil Mist Detection
- Switches: Manual start, Crank override, Manual prelube, Crank inhibit
- Options:
 - MCS Approved Ethernet Switch
 - Telematics
 - OMD Override Switch
 - Red/Yellow Alarm Beacon
 - Direct Rack (Aux only)

*Via custom quotation by Caterpillar Oil & Gas Solutions

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TECHNICAL INFORMATION

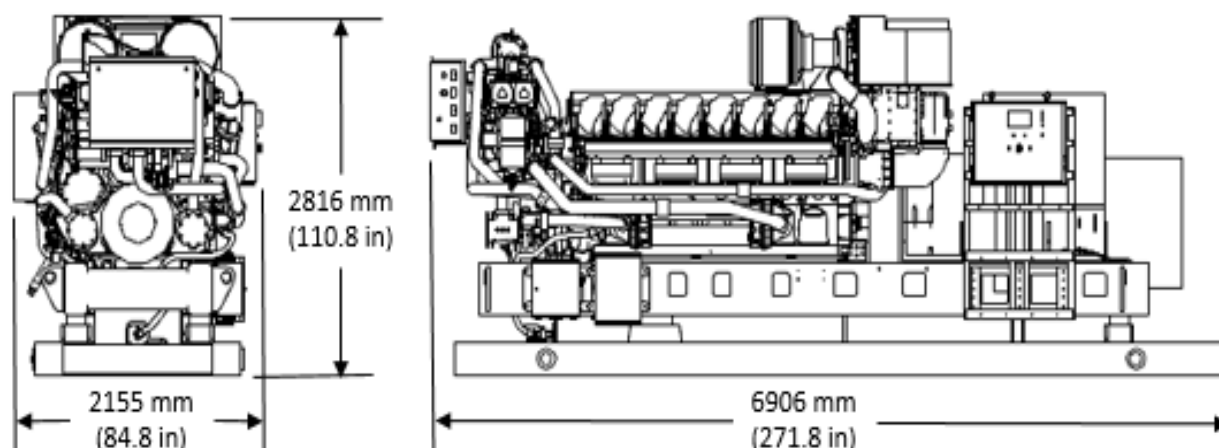
RATINGS	60 Hz	
Rated Speed	1200 rpm	
Engine Power	1930 bkW	2588 bhp
Generator Set Rating ^{*)}	1833 ekW	2291 kVA
Maximum ambient temperature without derate 1500 M Altitude	60°C	140°F
BSFC @ 100% Load	205 g/kWh	.340 lbs/bhp-hr
BSFC @ 75% Load	211 g/kWh	.350 lbs/bhp-hr
BSFC @ 50% Load	220 g/kWh	.360 lbs/bhp-hr
BSFC @ 25% Load	250 g/kWh	.410 lbs/bhp-hr
JW heat rejection @ rated	99°C	220 °F
SCAC heat rejection	48 °C	118 °F

^{*)} Assumes 95 % efficiency and a power factor of 0.8 rating power. Dependent on generator type. Without Fan.

Package Dimensions		
Length (B)	6906 mm	271.8 in
Width (C)	2155 mm	84.8 in
Height (D)	2816 mm	110.8 in
Weight (dry)**	24312 kg	53599 lb

^{*)} Dependent on generator type

******Weight includes engine, generator, inner and outer bases, and coupling. Weight may vary depending upon individual configuration.

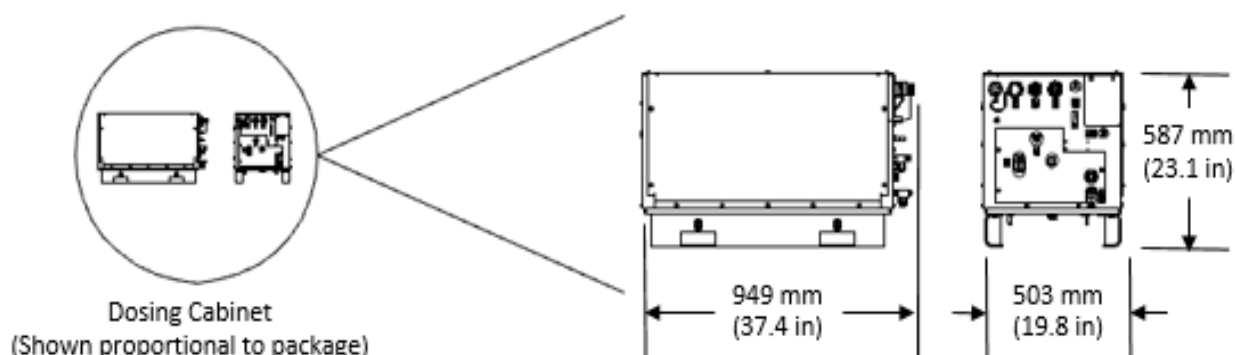


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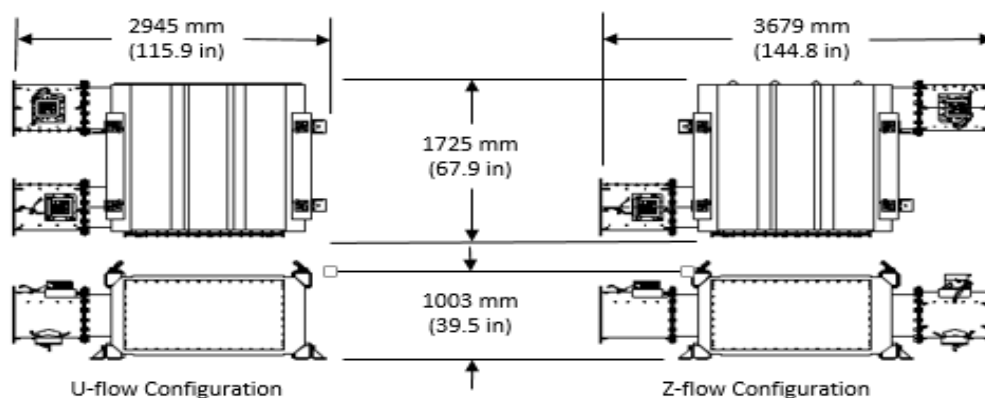
Dosing Cabinet Dimensions

Length (B)	949 mm	37.4 in
Width (C)	503 mm	19.8 in
Height (D)	587 mm	23.1 in



Selective Catalytic Reduction (SCR) Dimensions

Length- U flow (Z Flow)	2945 (3679) mm	115.9 (144.8) in
Width- U flow (Z Flow)	1725 mm	67.9 in
Height - U flow (Z Flow)	1003 mm	39.5 in



Rating Definitions and Conditions

The corrected performance values shown for Cat engines will approximate the values obtained when the observed performance data is corrected to SAE J1349, ISO 3046-2, 8665m 2288, 9249, and 1585, EEC 80/1269 and DIN 70020 standard reference conditions.

Engines are equipped with standard accessories: lube oil, fuel pump, and jacket water pump. The power required to drive auxiliaries must be deducted from the gross output to arrive at the new power available for the external flywheel load. Typical auxiliaries include cooling fans, air compressors and charging alternators.

To find your nearest dealer, please visit:
www.cat.com

Subject to change without notice.
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