



C32 ACERT™ MARINE CLASSIFICATION SOCIETY (MCS) APPROVABLE GENERATOR SET

540 ekW
800 ekW

50 Hz, 1500 rpm



Image shown may not
reflect actual engine

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Emissions IMO II/EPA Tier 2/EU Stage IIIA
Displacement 32.1 L (1959 in³)
Rated Engine Speed 1500 rpm
Bore 145 mm (5.7 in)
Stroke 162 mm (6.4 in)
Aspiration Twin Turbocharged-Aftercooled
Governor Electronic
Cooling System Heat Exchanger & Keel Cooled
Weight, Net Dry (approx) 7031 kg (15,500 lbs)
Refill Capacities (engine only)
 Cooling System (HeX) 80 L (21.1 gal)
 Lube Oil System 138 L (36.5 gal)
Oil Change Interval 500 hours
Rotation (from flywheel end) Counterclockwise
Flywheel and Flywheel Housing SAE No. 0
Flywheel Teeth 136
Maximum Exhaust
 Backpressure 6.7 kPa (26.9 in water)

STANDARD ENGINE EQUIPMENT

Air Inlet System

Corrosion-resistant sea water aftercooler core; heavy duty air cleaner, jacket water cooled turbocharger, turbocharger inlet OD straight connection

Control System

Note: If MCS control panel is not chosen as optional equipment, then start/stop controls must be provided by the customer. Electronic governing (A4 ECU), programmable low idle, electronic diagnostics and fault logging, fuel/air ratio control

Cooling System

Gear-driven jacket water pump; gear-driven, bronze impeller, sea water pumps; separate circuit keel cooling or titanium plate heat exchanger (with expansion tank and coolant recovery system)

Exhaust System

Watercooled exhaust manifold and turbocharger

Flywheels & Flywheel Housings

SAE No. 0 flywheel (136 teeth); SAE No. 0 flywheel housing; SAE standard rotation

Fuel System

Fuel filter (RH service); manual fuel priming pump; fuel transfer pump

Generator

6-lead WYE connected; three-phase brushless; voltage regulation $\pm 0.5\%$; Class H insulation (generator meets Marine Society temperature rise requirements for Class F insulation), permanent magnet (PMG) excitation; surface-mounted platinum stator and bearing RTDs, space heaters; Cat® Digital Voltage Regulator (Cat DVR)

Lube System

Crankcase breather; oil cooler; spin-on oil filters (RH service); deep sump oil pan, oil filler and dipstick (RH service); gear-driven oil pump

Mounting System

Formed C-channel base frame with high strength rails; six shipped-loose linear vibration isolators

Protection System

Electronic shutdown (24V)

General

Torsional finned vibration damper; lifting eyes; RH or LH mounted MCS control panel; literature; conduit enclosed package and engine wiring; upper rear-facing customer wiring connector and service tool connection

ISO Certification

Factory-designed systems built at Caterpillar
ISO 9001:2000 certified facilities



OPTIONAL EQUIPMENT

Emissions Certifications

CCNR and IMO (ABS or GL), EPA Tier 2 certifications

Air Inlet System

Closed crankcase ventilation system

Charging System

Alternator: 24V (75A)

Control System

Color Marine Power Display (CMPD)

Cooling System

Flange kit

Exhaust System

Dry elbows; water-cooled elbows; flexible fittings; mufflers; flanges; rain caps

Fuel System

Duplex fuel filters; water separators; fuel cooler

Generators & Generator Attachments

Manual voltage control terminal strip connections; low voltage connections; loadshare module

Lube System

Sump pumps; oil pan accessories; duplex oil filters (RH service)

MCS Alarm & Protection System

Includes remote-mountable MCS control panel with 5.7" TFT color screen, all MCS-required alarm and shutdown sensors, full-length drip trays, single-point ship communications (RS-485 modbus RTU), CANOpen, J1939, Ethernet modbus TCP

MCS Alarm & Protection System Options

Remote display (connectable to GPS/GPM) controls up to 8 generator sets; 3-phase power monitoring; manual speed control; remote E-stop; programmable I/O and relay modules

Starting System

Air starter; air pressure regulator; air silencer; electric starter (24V); jacket water heater; battery sets

General

Guards; filter cover kits; tool set; literature; decals; storage preservation; export packing

**Generator Data — Selected Model**

Engine:	C32 ACERT
Fuel:	Diesel
Frequency:	50 Hz
Duty:	Prime
Generator Frame:	1423, 1467
Generator Arrangement:	342-0536, 342-0538
Excitation Type:	Permanent Magnet
Connection:	Series Star
Generator Set Rating (kW):	540, 800
Generator Set Rating (kVA):	675, 1000
Power Factor:	0.8
Application:	Marine
Line-Neutral Voltage:	220-230-240
Line-Line Voltage:	380-400-415
Rated Current:	1025.6 (1423), 1519.3 (1467)
Status:	Available for order
S/N Prefix:	RNF (package)
Engineering Model:	GS512 (package)

Voltage Regulation

Voltage level adjustment	± 5.0%
Voltage regulation, steady state.	± 0.5%
Voltage regulation w/ 3% speed change	± 0.5%
Waveform deviation line — line, no load	< 2.0%
Telephone influence factor.	< 50

Generator — Center of Gravity

Dimension X	342-0536-591.5 mm (-23.3 in)
	342-0538-758.6 mm (-29.7 in)
Dimension Y	0.0 mm (0.0 in)
Dimension Z	0.0 mm (0.0 in)

“X” is measured from driven end of generator and parallel to rotor. Towards engine fan is positive.

“Y” is measured vertically from rotor centerline. Up is positive.

“Z” is measured to left and right of rotor centerline. To the right is positive.

Generator — Weights

342-0536	
Generator Weight	2400 kg (5291 lbs)
Rotor Weight	932 kg (2055 lbs)
Stator Weight	1468 kg (3236 lbs)

342-0538	
Generator Weight	3000 kg (6614 lbs)
Rotor Weight	1142 kg (2518 lbs)
Stator Weight	1858 kg (4096 lbs)

Note: Rotor balance = 0.0508 mm deflection PTP
Overspeed capacity = 150% of synchronous speed

Generator Specifications

Frame:	1423, 1467
Type:	SR-5
Number of Bearings:	2
Winding Type:	Form Wound
Flywheel:	18
Housing:	SAE No. 0
Phases:	3
Number of Leads:	6
Poles:	4
Wires per Lead:	4
Sync Speed:	1500
Generator Pitch:	2/3
Insulation:	Class H
IP Rating:	Drip Proof IP 23*
Alignment:	Close-coupled adapter
Overspeed Capability:	150%
Paralleling/Droop:	Standard

*Package is compatible with Fixed Water Based Local Application Fire Fighting System (FWBLAFFS)

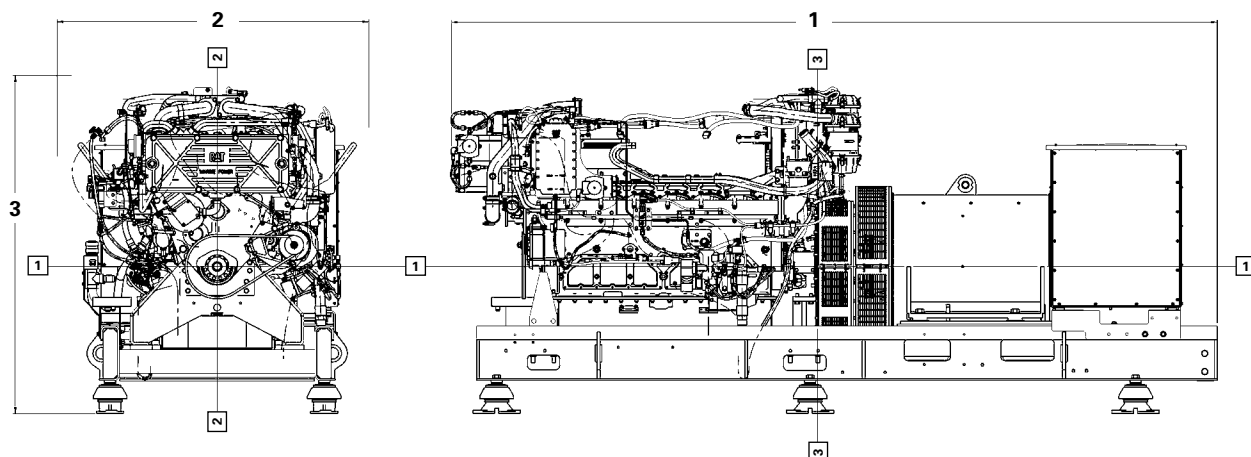
Generator Excitation

	No Load	Full Load Series
Excitation current in amps:		
342-0536	1.52	3.11
342-0538	1.59	3.4



C32 ACERT™ MCS APPROVABLE GENERATOR SET

540/800 ekW



DIMENSIONS

Preliminary Package Dimensions (Heat Exchanger Cooled)		
(1) Length*	4275.9 mm	168.34 in
(2) Width	1671.1 mm	65.79 in
(3) Height	1800.0 mm	70.86 in
Weight, Net Dry – Pkg (approx)	7031 kg	15,500 lb

Note: Do not use for installation design.

*Length (800 ekW) 4309.3 mm

GENERATOR DATA

50 Hz

Power	Generator Arrangement	Leads	Pitch	Excite
540 ekW	342-0536	6	0.6667	Permanent Magnet
800 ekW	342-0538	6	0.6667	Permanent Magnet

PERFORMANCE DATA

50 Hz @ 1500 rpm			
% Load	ekW	Lph	gph
DM8912			
100	540	143.4	37.9
75	405	112.4	29.7
50	113	77.6	20.5
DM8824			
100	800	215.7	57.0
75	600	169.9	44.9
50	400	114.6	30.3

RATING DEFINITIONS AND CONDITIONS

Power at declared engine speed is in accordance with ISO3046-1:2002E. Caterpillar maintains ISO9001:1994/QS-9000 approved engine test facilities to assure accurate calibration of test equipment. Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1:2002E.

Fuel rates are 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/L (7.001 lb/U.S. gal). Additional ratings may be available for specific customer requirements. Consult your Cat representative for additional information.

Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers' engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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