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

715 ekW
910 ekW

60 Hz, 1800 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 in^3)
Rated Engine Speed . . . . . 1800 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 ± 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:	60 Hz
Duty:	Prime
Generator Frame:	1423, 1467
Generator Arrangement:	342-0536, 342-0538
Excitation Type:	Permanent Magnet
Connection:	Series Star
Generator Set Rating (kW):	715, 910
Generator Set Rating (kVA):	894, 1138
Power Factor:	0.8
Application:	Marine
Line-Neutral Voltage:	254-277
Line-Line Voltage:	440-480
Rated Current:	1172 (1423), 1492 (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	< 3.0%
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 = 125% 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:	1800
Generator Pitch:	2/3
Insulation:	Class H
IP Rating:	Drip Proof IP 23*
Alignment:	Closed-coupled adapter
Overspeed Capability:	125%
Paralleling/Droop:	Standard

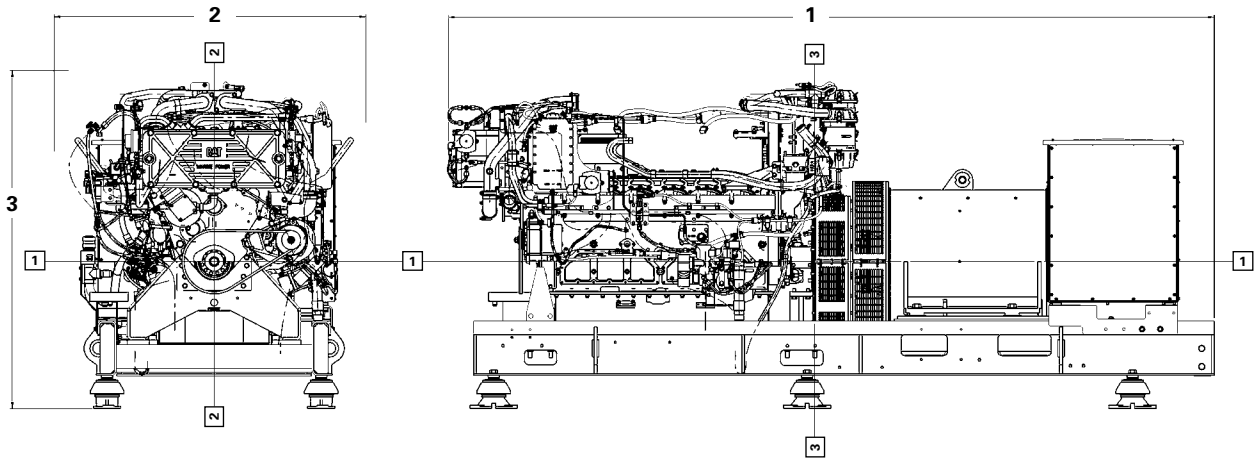
*Package is compatible with Fixed Water Based Local Application Fire Fighting System (FWBLAFFS)

Generator Excitation

	No Load	Full Load Series
Excitation current in amps:		
342-0536	1.4	3.21
342-0538	1.4	3.08

C32 ACERT™ MCS APPROVABLE GENERATOR SET

715/910 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 (910 ekW) 4309.3 mm

GENERATOR DATA

60 Hz

Power	Generator Arrangement	Leads	Pitch	Excite
715 ekW	342-0536	6	0.6667	Permanent Magnet
910 ekW	342-0538	6	0.6667	Permanent Magnet

PERFORMANCE DATA

60 Hz @ 1800 rpm			
% Load	**ekW**	**Lph**	**gph**
DM8822			
100	910	245.6	64.9
75	683	194.9	51.5
50	455	136.6	36.1
DM8823			
100	715	196.0	51.8
75	536	157.4	41.6
50	358	106.7	28.2

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.

U.S. Sourced
LEHM0040-00 (9-11)