



500kW Containerized Diesel Generator Set

Model	Emissions	Standby Rating	Prime Rating
EGC-500C	EPA Certified	60 Hertz	
		500kW (625kVA)	450kW (562.5kVA)



Standard Features

Cummins Heavy Duty Diesel Engine

- 4-cycle design, turbocharged, aftercooled, direct injection
- Polymide blade cooling fan
- Engine coolant heater
- Meets EPA Tier 2 emissions standards

Fuel System

- 800 gallon, single wall fuel tank
- Fuel priming system
- Fuel/water separators and drip pan
- Electric fuel run pump
- External fuel fill
- 30 micron Racor® fuel filter system

Alternator

- Brushless, 4-pole, synchronous, WYE connection
- Class H insulation system conforms to NEMA MG1-22, BS5000, CSA-C22-2, IEC-34-1 standards for temperature rise
- Drip-proof, self-venting, amortisseur windings
- Epoxy impregnated windings with tropical insulation for increased environmental protection and long life

Electronic Voltage Regulator

- Electronic automatic voltage regulator provides precise regulation
- Separate three-phase excitation for fast recovery from block loads and motor starting

Full Load Acceptance

- Accepts 100% of standby nameplate rating in one step, in compliance with NFPA, para 5-13.2.6

Generator Control Panel

- Basler vibration-isolated controller
- Manual or remote engine start/stop
- RS485/Modbus communication support
- Safety shutdowns
- Externally mounted emergency stop switch
- Generator mainline circuit breaker, 100% rated, electronically operated, UL listed

Specially Designed Container

- 20 ft. ISO container, sound-attenuated, foam-lined for extremely quiet operation
- Solidly mounted battery rack and cooling system
- Integral vibration isolators
- Exterior polyurethane coating system provides long life in extreme operating conditions
- Interior DC lights and timer switch
- Crankcase filtration system
- Critical grade silencer with heat blankets

Warranty

- Engine-generator sets are covered by an express written, one-year limited warranty



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APPLICATION DATA

Alternator Specifications

Make	Marathon Magna Max
Type	4-Pole, Rotating Field
Number of Leads	10 or 12
Generator Type	Rotating Field; PMG
Voltage Regulator	Solid State, Digital, Model DVR2000
Insulation	NEMA MG1-1.66
Material	Class H
Temperature Rise	105°C / 130°C
Bearing: Number, Type	Single, Sealed
Coupling	Flexible Disk
Amortisseur Windings	Full
Excitation	Voltage Regulated, Brushless
Voltage Regulation (no load to full load)	0.25%
One Step Load Acceptance % of rating per NFPA-110	100
Generator Efficiency at Full Load	93%
Phase Sequence	ABC (L1, L2, L3)
L-L Harmonic Max Total	5.0%
L-L Harmonic Max Single	3.0%

The EGC500C Sound Attenuated Generator is configured for standard 60 Hz, 208V or 480V output. Special voltage outputs are available (special order).

Alternator Features

- All ratings tested per MIL-STD-705 as applicable.
- Generator protection for overload and short circuit.
- Generator is designed and built within NEMA, IEEE and ANSI standards for temperature rise.
- PMG exciter for superior regulation and response.
- Three phase sensing on regulator.
- Skewed rotor for smooth voltage wave form.
- Optional - Vacuum impregnated epoxy varnish, fungus resistant per MIL-I-24092.

Engine Specifications

Manufacturer/Model	Cummins / QSX15-G9
Engine Type	4-cycle, Turbocharged, Air to Water Aftercooled
Cylinder Arrangement	6 In-line
Displacement	912 in ³ (15 L)
Bore	5.39 in. (137 mm)
Stroke	6.65 in. (169 mm)
Compression Ratio	17 : 1
Piston Speed (60Hz)	1995 ft./min (10.1 m/sec)
Bearing Main: Number	7
Bearing Main: Type	Replaceable, Precision
Cylinder Block	Cast iron with wet, replaceable cylinder liners
Cylinder Head Material	Cast iron
Crankshaft Material	Forged steel
Brake Mean Effective Pressure (BMEP)	360 psi (2482 kPa)
Rated RPM (60 Hz)	1800 RPM
Max. Power At Rated RPM (without fan)	755 hp (563 kW)
Governor: Type	Electronic
Frequency Regulation: Steady State	± 0.5%
Air Cleaner Type - All Models	Dry, Dual Element

Amperage

Voltage	Phase	Power Factor	Continuous Amperes	
			Standby	Prime
120/208 Volt	3	0.8	1910	1848
277/480 Volt	3	0.8	827	800

Engine Electrical System

Battery Charging Alternator Ground Type	Negative
Volts	24 VDC
Ampere Rating	70A
Starter Motor Rated Voltage	24 VDC
Minimum Recommended Battery for 0 °C / Cold Cranking Performance	1425 Ah

Derating

Derating Factors (60 Hz)	Altitude	Ambient Temperature
The engine may be operated up to 3000 ft. (915 m) altitude without derating at 1800 rpm.	>3000 ft. = 1.8% per 1000 ft. (300 m)	+10% per 10°C (18°F)



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Cooling System

Exhaust Manifold Type	Dry
Radiator Design	Standard horizontal discharge
Coolant Capacity - Engine	6.3 gal. (24 L)
Water Pump Design/Type	Belt Driven, Centrifugal
Coolant Flow	87 gal/min (329 L/min)
Heat Rejection to Coolant	7830 BTU/min (138 kW)
Minimum Pressure Cap	10 psi (70 kPa)
Thermostat Range	180-200 °F (82-93 °C)

Fuel System

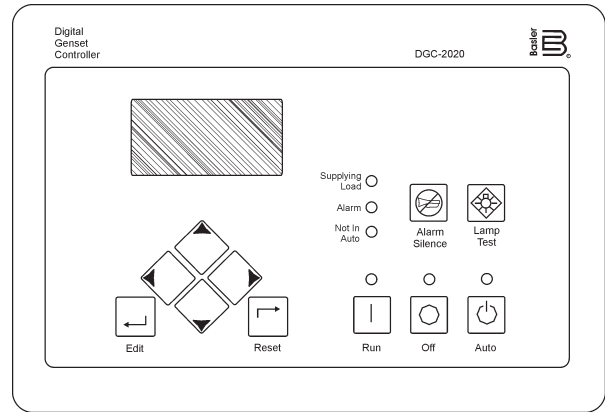
Recommended Fuel	ASTM-D975-No.1 or No. 2-D	
Fuel Pump Maximum Lift	6.0 ft. (1.8 m)	
Filter Micron Size - 98% Efficiency	2	
Total Fuel Flow	112 gal./hr. (424 L/Hr.)	
Fuel Tank Capacity	800 gal (3028 L)	
Fuel Consumption - gal/hr (L/hr)		
Diesel Fuel @ % of Load	Standby	Prime
25%	11.6 (43.9)	9.9 (37.4)
50%	18.8 (71.1)	17.2 (65.3)
75%	25.7 (97.2)	23.9 (90.5)
100%	34.4 (130.2)	31.1 (117.8)

Lubrication System

Type	Full Pressure System
Oil Filters	Spin-on, Full Flow
Oil Pan Capacity	22 gal. (83.0 L)
Oil Capacity with Filters	24 gal. (91.0 L)
Oil Pressure at Rated Speed (minimum)	20 psi (138 kPa)

Exhaust System

Exhaust Temperature at Rated kW	875 °F (468 °C)
Exhaust Flow at Rated kW	3200 cfm (90.6 m³/min)
Silencer Type	Critical
Maximum Allowable Backpressure (standby)	40.2 in/wc (10 kPa)
Exhaust Outlet Size at hook-up	5.0 in. (127 mm)



DGC-2020 Digital Genset Controller

Digital Controller Features

- Local and Remote Generator Control
- Automatic and manual starting and stopping
- Engine and Generator Protection
- Programmable Analog Engine Senders
- ECU Communications via SAE J1939
- 16 Programmable Contact Inputs
- Programmable Logic
- Automatic Transfer Switch Control (Mains Failure)
- Integrated RS485
- Auto Synchronizing
- Event recording

Monitoring

- Engine RPM
- Engine run time
- Generator voltage
- Generator current
- Generator frequency
- Oil pressure
- Battery voltage
- Fuel level measurements
- Running Hour Meter
- Coolant temperature
- Generator under/over voltage alarm/shutdown
- Generator under/over frequency alarm/shutdown
- Over Current alarm/shutdown
- Warm up and cooling functions
- Maintenance timer



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Optional Features and Accessories

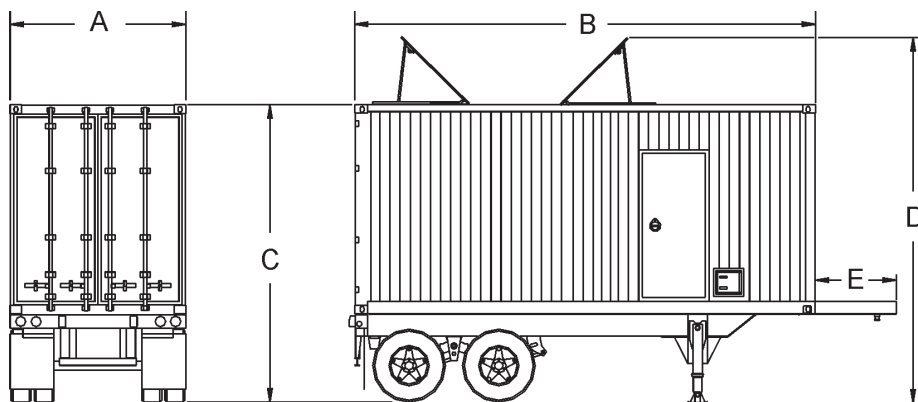
Generator Set

- Genset-to-Genset Paralleling Control System
- Base Load-to-Utility Paralleling Control System
- Custom Outlet Panels
- Rotary Voltage Selector Switch (High Wye/Low Wye Voltages)
- Auxiliary Oil Reservoir with Level Control (10-gallon)
- Centrifugal Oil Filter System
- Oil Pan Heater with Thermostat
- Alternator Strip Heater
- AC Battery Charger with Shore Power Receptacle

Container

- ISO Trailer Chassis (20 ft.)
- Double-wall Fuel Tank (900-gallon capacity)
- Fluid Containment
- Manual Fuel Valves (For Internal or External Fuel Supply)
- Fueling Platform (Aluminum Step Construction with Hand Rail)
- Personnel Ladder (Aluminum Construction)
- Interior Lights (AC Work lights)
- Custom Paint Colors (Artic White is Standard)
- Utility Grade Protective Relay

SPECIAL OPTIONS AVAILABLE UPON REQUEST



20 ft. Container

Weight and Dimensions

A	B	C	D	E
96 in. (2,438 mm)	238 in. (6,045 mm)	150 in. (3,810 mm)	177 in. (4,495 mm)	44 in. (1,117 mm)
Weight (Wet)*		20,440 lbs (9,271 kg)		
Weight (Wet with trailer)*		26,920 lbs (12,211 kg)		

* Weight is approximate. Wet weight does not include fuel.

Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device. Specifications are subject to change without notice.

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