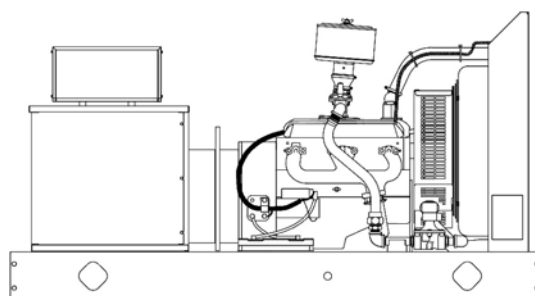


MODEL	G50U
Stand-by Power @ 60Hz	45-55 kW / 48-69 kVA
Prime Power @ 60Hz	44-50 kW / 44-63 kVA

STANDARD FEATURES

General features :

- SDMO Industries provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- Alternator features :
 - Excitation system delivers excellent voltage response and short circuit capability using a permanent magnet (PM) excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Others features :
 - The electronic, isochronous governor incorporates an integrated drive-by-wire throttle body actuator delivering precise frequency regulation.
 - Controllers are available for all applications. See controller features inside.
 - A rugged industrial gas engine delivers rated power at 1800 rpm (60 Hz).



GENERATOR RATINGS

Alternator	Voltage	HZ	Phase	Natural Gas				LP Gas			
				130°C Rise Standby Rating		105°C Rise Prime Rating		130°C Rise Standby Rating		105°C Rise Prime Rating	
				KW / kVA	Amps	KW / kVA	Amps	KW / kVA	Amps	KW / kVA	Amps
4P8	120/208	60	3	50/63	173	46/58	160	55/69	191	50/63	173
	127/220	60	3	50/63	164	46/58	151	55/69	180	50/63	164
	120/240	60	3	50/63	150	46/58	138	55/69	165	50/63	150
	120/240	60	1	48/48	200	44/44	183	49/49	204	45/45	188
	139/240	60	3	50/63	150	46/58	87	55/69	165	50/63	150
	220/380	60	3	50/63	95	46/58	69	55/69	104	50/63	95
	277/480	60	3	50/63	75	46/58	54	55/69	83	50/63	75
4Q10	347/600	60	3	50/63	60	46/58		55/69	60	50/63	54
	120/240	60	1	48/48	200	44/44	183	54/54	225	49/49	204

RATINGS: All three phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. **STANDBY RATINGS:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS5514, AS 2789 and DIN6271. **PRIME POWER RATINGS:** Prime Power Ratings apply to installation where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS2789 and DIN6271. For limited running time and base load ratings, consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** Altitude: Derate 1.3% per 100m (328 ft) elevation above 200m (656 ft). Temperature: Derate 3.0% per 10°C (18°F) temperature above 40°C (104°F).

CONDITIONS OF SALE

- SDMO provides a full line of products with high quality recognized engines and alternators.
- Service and parts are available from SDMO distributors as a single source of responsibility.
- Each and every unit is factory tested. All generator sets are also prototype tested.
- Warranty according to our standard conditions.

ENGINE DATA

Manufacturer / Model	General Motors Industrial Powertrain , Vortec 5.0 L, 4-cycle, Natural Aspiration
Cylinder Arrangement	V-8
Displacement	5.0 L [305C.I.]
Bore and Stroke	94.5mm [3.74in.] X 88.4mm [3.48in.]
Compression ratio	9.4 : 1
Rated RPM	1800 Rpm
Piston Speed	318m/min [1044ft./min]
Main bearing: quantity, type	5, M400 Copper Lead
Max. Power at rated RPM kW (HP)	66.4kW [89HP]
Cylinder head material	Cast Iron
Piston type and material	High Silicon Aluminum.
Crankshaft material	Nodular Iron
Valve (exhaust) material	Forged Steel
Frequency regulation, no load to full-load	Isochronous
Frequency regulation, steady state	+/- 0.5 %
Frequency	Field-Convertible
Governor : type	Electronic
Air cleaner type, all models	Dry

Exhaust System

Exhaust manifold type	Dry
Exhaust flow at rated kW, m³/min (cfm)	15.6 [550]
Exhaust temperature at rated kW, dry exhaust, °C (°F)	593°C [1100°F]
Maximum allowable back pressure, kPa (in. Hg)	10.2 kPa [3.0 in. Hg]
Exhaust outlet size at engine hookup, mm (in.)	76mm [3.0 in]OD

Engine Electrical System

Ignition system	Electronic, Distributor
Battery charging alternator : Ground (negative/positive)	Negative
Negative	12
Ampere rating	70
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):Qty., rating for – 18°C (0°F)	1, 630
Battery, recommended cold cranking amps (CCA):Battery voltage (DC)	12

Fuel System

Fuel type	LP Gas or Natural Gas,
Fuel supply line inlet	1 NPTF
Natural Gas/LPG fuel supply pressure, measured at the generator set fuel inlet after any fuel system equipment accessories, kPa (in. H ₂ O)	0.87-2.74 kPa [3.5-11.0 in H ₂ O]

Lubricating system

Type	Full Pressure
Oil pan capacity, L [qt.]	4.7 L [5.0qt]
Oil pan capacity with filter, L [qt.]	6.2 L [6.5 qt]
Oil filter : quantity, type	1, Cartridge

Cooling – Radiator System

Ambient temperature, °C [°F] ^①	50 °C [122°F]
Engine jacket water capacity, L [gal.]	6.8L [1.8 gal]
Radiator System capacity, including engine, L [gal.]	20.1L [5.3 gal]
Engine jacket water flow, Lpm [gpm]	117.3Lpm [31 gpm]
Heat rejected to cooling water at rated kW, dry exhaust, kW [Btu/min]	51.5kW [2930 Btu/min]
Water pump type	Centrifugal
Fan diameter, including blades, mm [in.]	533mm [21 in]
Fan, kWm [HP]	4.5kWm [6.0HP]
Max. Restriction of cooling air, intake and discharge side of radiator, kPa [in.H ₂ O]	0.125kPa [0.5 in H ₂ O]

^① Enclosure with enclosed silencer reduces ambient temperature capability by 10°C (18°F. Enclosure with roof-mounted silencer reduces ambient temperature capability by 5°C (9°F).

Cooling – Remote Radiator System ^②

Exhaust manifold type	Dry
Connection sizes :Water inlet, ID hose, mm [in]	44.45 mm [1.75 in]
Connection sizes :Water outlet, ID hose, mm [in.]	38.10mm [1.50 in]
Static head allowable above engine, kPa (ft. H ₂ O)	4.32mm [17.0 in]

^② Contact your local distributor for cooling system options and specifications based on your specific requirements.



Air requirements

Radiator-cooled cooling air, m ³ /min. [scfm] ^③	170 m ³ /min [6000 scfm]
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C [25°F] rise and ambient temperature of 29°C [85°F], m ³ /min [cfm]	135.9 m ³ /min [4800 scfm]
Combustion air, m ³ /min [cfm]	5 m ³ /min [175 scfm]
Heat rejected to ambient air: Engine, kW [Btu/min.]	29.5 m ³ /min [1680 scfm]
Heat rejected to ambient air : Alternator, kW [Btu/min]	7.6 m ³ /min [430 scfm]

^③ Air density = 1.20 kg/m³ [0.075 lbm/ft³]

Fuel Consumption^④

Natural Gas, m3/hr [cfh] at % load		Standby Ratings
	100%	21.1 [744]
	75%	17.9 [631]
	50%	13.7 [483]
	25%	9.4 [333]
Natural Gas, m3/hr [cfh] at % load		Prime Ratings
	100%	19.8 [699]
	75%	16.6 [587]
	50%	12.8 [453]
	25%	9.1 [320]
LP Gas, m3/hr [cfh] at % load		Standby Ratings
	100%	8.4 [295]
	75%	6.5 [230]
	50%	5.0 [178]
	25%	3.7 [129]
LP Gas, m3/hr [cfh] at % load		Prime Ratings
	100%	7.6 [269]
	75%	6.1 [214]
	50%	4.8 [168]
	25%	3.5 [124]

^④ Fuel consumption is based on 1015 Btu/standard cu.ft. natural gas.

ALTERNATOR SPECIFICATIONS

General Data

- NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and drip-proof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor
- Permanent magnet, brushless alternator with brushless exciter for excellent load response.

Alternator Data

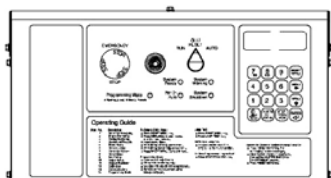
Type	4-Pole, Rotating-Field
Exciter type – Wound Field (WF)	Wound Exciter Field with Separate Excitation Power Winding
Exciter type –Permanent magnet (PM)	Brushless, Permanent-Magnet
Leads : quantity, type -4S9W/4S9, 4S13W/4S13	12, Reconnectable
Leads : quantity, type -4V11W/4V11	4, 110-120/220-240
Insulation : Material, Temperature rise	NEMA MG1, Class H, 130°C, Standby
Voltage regulator	Solid State, Volts/Hz
Bearing : quantity, type	1, Sealed
Coupling	Flexible Disc

Other Alternator Data

Amortisseur windings	Full
Voltage regulation, no-load to full-load, Permanent magnet (PM) alternator	+/- 2 % Average
500 controller (with 0.5% drift due to temperature variation)	3-Phase Sensing, +/-0.25 %
Unbalanced load capacity	100% of Rated Standby Current
One-step load acceptance	100% of Rating
Peak motor 50/63kVA :	(35% dip for voltages below)
480 V, 380 V 4P8 (12 lead)	210 (60 Hz)
240 V, 220 V 4Q10(4 lead)	(60 Hz)

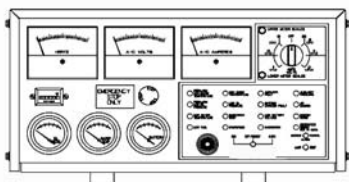
CONTROL PANEL

XC500



Audiovisual annunciation with NFPA 110 Level 1 capability.
 Programmable microprocessor logic and digital display features.
 12 or 24 volts engine electrical system capability.
 Remote start, remote annunciation and remote communication options.
 Refer to F6-46 for additional controller features and accessories.

XC200



Audiovisual annunciation with NFPA 110 Level 1 capability.
 Microprocessor logic, AC meters and engine gauge features.
 12- or 24-volts engine electrical system capability.
 Remote start, prime power and remote annunciation options.

OPTIONS

Engine and Alternator

- Alternator, Wound Field (WF)
- Safeguards Breaker (not available with XC500 controller)
- Alternator, Permanent Magnet (PM)
- Air Cleaner Restrictor Indicator
- Alternator Strip Heater
- CSA Certification
- Voltage Regulation, 1%
- Engine Fluids (oil and coolant) Added
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)
- Optional Alternators
- Rated Power Factor Testing
- Rodents Guards
- Voltage Regulation Sensing, Three-Phase

Fuel

- Flexible Fuel Lines
- LP Gas Liquid Withdrawal
- Gas Filter
- Manual Valve and Gas Solenoid Bypass
- Secondary Gas Solenoid Valve
- Conversion Kit (natural gas to LP gas)

Cooling system

- Block Heater [recommended for ambient temperature below 10°C (50°F)]
- Remote radiator Cooling
- City Water Cooling
- Radiator Duct Flange

Electrical system

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

Open Unit

- Flexible Exhaust Connector, Stainless Steel
- Exhaust Silencer, Critical (kits : PA-324292, PA-324470)

Enclosure

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)
- Weather Housing (with roof-mounted silencer)

Controller (XC500 and 16-Light)

- Common Failure Relay Kit
- Communication Products and PC Software (XC500 controller only)
- Customer Connection Kit
- Dry contact Kit (isolated alarm)
- Engine Prealarm Sender Kit
- Local Emergency Stop Kit
- Prime Power Switch (XC500 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- Remote Mounting Cable
- Run Relay Kit

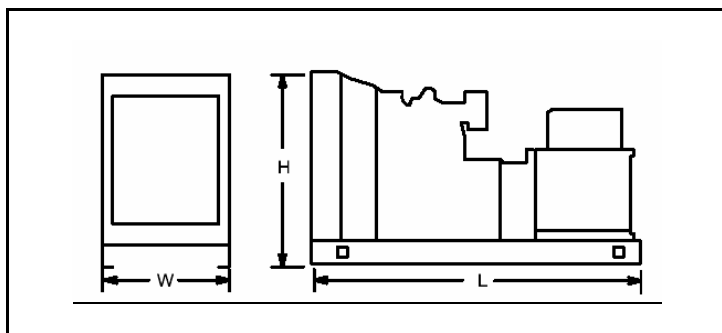
Literature and Maintenance

- General Maintenance Literature Kit
- Maintenance Kit (includes standard air, oil and fuel filters)
- NFPA 110 Literature
- Overhaul Literature Kit
- Production Literature Kit

Additional Standard Features

- Alternator Protection (standard with XC500 controller)
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Integral Vibration Isolation
- Oil Drain Extension
- Operation and Installation Literature

WEIGHT AND DIMENSIONS



Overall size l x w x h :

Wide Skid : 2200mm [86.6in] x 1040mm [40.9in] x 1172mm [46.1in]
Narrow Skid : 2200mm [86.6in] x 865mm [34.0in] x 1172mm [46.1in]

Weight (radiator model), wet, kg (lb):

712kg [1570lbs]

NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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