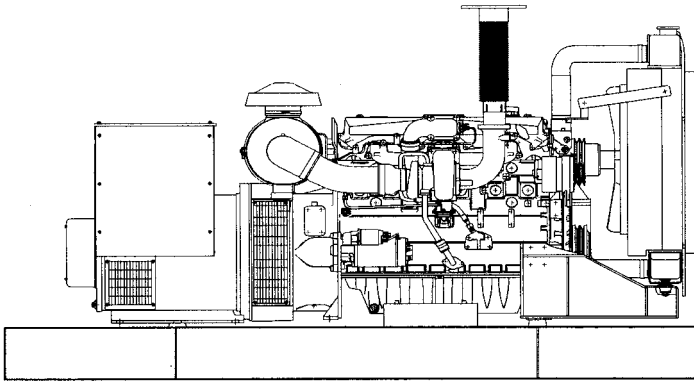


Lynx Power Systems

Model: 50SG

Ratings:

| | | 50Hz | 60Hz |
|-----------------|-----|------|------|
| Standby: | kw | 45 | 50 |
| | kva | 56 | 62 |
| Prime: | kw | 40 | 45 |
| | kva | 50 | 56 |



Product Features

- * System reliability and longevity begin with design experience and integrity.
- * Heavy duty 4 cycle industrial engine for reliability and fuel efficiency.
- * Heavy duty steel base with integral vibration isolators.
- * Single source responsibility for the generator set and accessories.
- * Microprocessor based control system providing digital metering and monitoring.
- * Brushless rotating field generator with class H insulation.
- * Unit conforms to CSA, NEMA, EGSA, ANSI and other standards.
- * Prototype and production tested to insure one step load acceptance per NFPA 110.
- * Two year limited warranty on generator sets and accessories.
- * Extended warranty available upon request.

Application & Engineering Data

Engine Specifications

| | |
|-------------------------|--------------------------------|
| Make | GM |
| Model | 5.7 |
| Cylinders | V-8 |
| Displacement | 5.7 Liter (350 cu. In.) |
| Bore | 101.6 mm (4.0 in.) |
| Stroke | 88 mm (3.48 in.) |
| Compression Ratio | 8.5:1 |
| Intake Air | Naturally Aspirated |
| Number of Main Bearings | 5 |
| Connecting Rods | 8-Drop Forged Steel |
| Cylinder Head | Cast Iron |
| Pistons | 8-Notched Head, Aluminum Alloy |
| Crankshaft | Nodular Steel |

Cooling System

| | |
|----------------------|------------------------------|
| Type of System | Pressurized, Closed Recovery |
| Water Pump | Pre-Lubed, Self-Healing |
| Type of Fan | Pusher |
| Number of Fan Blades | 7 |
| Diameter of Fan | 580 mm (23 in.) |
| Coolant Heater | 120V, 1000W |

Electrical System

| | |
|---------------------------|-------------------------|
| Battery Charge Alternator | 100 Amps at 12V |
| Starter Motor | 12V |
| Recommended Battery | (1) - 12V, 90 A.H., 27F |
| Ground Polarity | Negative |

Fuel System

| | |
|---------------------------------------|--------------------------------|
| Fuel | Standard |
| Natural Gas or L.P. vapor | Optional |
| L.P. Liquid Withdrawal | Optional |
| Gasoline (Non-Auto Start) | Downdrafts |
| Carburetor | Nat. Gas or L.P. Vapor System |
| Secondary Fuel Regulator | L.P. Liquid Withdrawal Systems |
| Hot Water Vaporizer | Standard |
| Automatic Fuel Lockoff Solenoid | 7" to 15" H ₂ O |
| Operating Fuel Pressure Vapor Systems | |

Lubrication System

| | |
|------------------|----------------------|
| Type of Oil Pump | Trochoid |
| Oil Filter | Full Flow, Cartridge |
| Crank Capacity | 4.7 Liters (5 qts.) |

Valve Train

| | |
|------------------------|------------------------|
| Lifter Type | Hydraulic |
| Intake Valve Material | Aluminized Steel Faced |
| Exhaust Valve Material | Stellite Faced |
| Valve Seats | Standard |

Engine Governor

| | |
|--|----------|
| Electronic | Standard |
| Frequency Regulation, No Load to Full Load | 0.50% |
| Steady State Regulation | ± 0.25% |

Standby

50SG

Generator Output KW (60Hz)

| | |
|-------------|-------------|
| <u>N.G.</u> | <u>L.P.</u> |
| 50KW | 50KW |

Generator Output KW (50Hz)

| | |
|-------------|-------------|
| <u>N.G.</u> | <u>L.P.</u> |
| 45KW | 45KW |

Fuel

| | | |
|---------------------------------|------|------|
| Fuel Consumption-60Hz-100% Load | | |
| ft. ³ (gal.) / hr. | 763 | 303 |
| m ³ (lit.) /hr. | 21.6 | 8.57 |
| Fuel Consumption-50Hz-100% Load | | |
| ft. ³ (gal.) / hr. | 619 | 246 |
| m ³ (lit.) /hr. | 17.5 | 6.96 |

Prime

50SG

| | |
|-------------|-------------|
| <u>N.G.</u> | <u>L.P.</u> |
| 45KW | 45KW |

| | |
|-------------|-------------|
| <u>N.G.</u> | <u>L.P.</u> |
| 40KW | 40KW |

| | |
|-------------|-------------|
| <u>N.G.</u> | <u>L.P.</u> |
| | |

Cooling

| | | | |
|----------------------------|-----------|---|--------------------------------------|
| Coolant Capacity | System | 19 lit. (5 US gal.) | 19 lit. (5 US gal.) |
| | Engine | 8 lit. (2 US gal.) | 8 lit. (2 US gal.) |
| | Radiator | 11 lit. (3 US gal.) | 11 lit. (3 US gal.) |
| Coolant Flow/Min. | 60 Hz | 90 lit. (24 US gal.) | 90 lit. (24 US gal.) |
| | 50 Hz | 75 lit. (20 US gal.) | 75 lit. (20 US gal.) |
| Heat Rejection to Coolant | | 235,000 BTU / hr. | 200,000 BTU / hr. |
| | Inlet Air | | |
| 60 Hz | | 212 m ³ /min. ³ (7500 cfm) | 212 m ³ /min. (7500 cfm) |
| | 50 Hz | 177 m ³ / min. ³ (6250 cfm) | 177 m ³ / min. (6250 cfm) |
| Max. Inlet Air Temperature | | 110°F | 110°F |

Combination Air Requirements

| | | | |
|---------------------|-------|---|--------------------------------------|
| Flow at Rated Power | 60 Hz | 4.53 m ³ /min. ³ (160 cfm) | 4.25 m ³ /min. (150 cfm) |
| | 50 Hz | 3.82 m ³ / min. ³ (135 cfm) | 3.54 m ³ / min. (120 cfm) |

Exhaust

| | | | |
|-------------------------------------|-------|--|--------------------------------------|
| Exhaust Flow at Rated Output | 60 Hz | 18.1 m ³ /min. ³ (640 cfm) | 11.32 m ³ /min. (400 cfm) |
| | 50 Hz | 15 m ³ / min. ³ (530 cfm) | 9.42 m ³ / min. (333 cfm) |
| Maximum Recommended Back Pressure | | 5.0 Kpa (1.5" Hg) | 5.0 Kpa (1.5" Hg) |
| Exhaust Temperature at Rated Output | | 650°C (1200°F) | 593°C (1100°F) |
| Exhaust Outlet Size | | 3" | 3" |

Engine

| | | | |
|----------------|-------|----------------------------|----------------------------|
| Rated RPM | 60 Hz | 1800 | 1800 |
| | 50 Hz | 1500 | 1500 |
| HP at Rated KW | 60 Hz | 80 | 64 |
| | 50 Hz | 64 | 51 |
| Piston Speed | 60 Hz | 317 m/min. (1040 ft./min.) | 317 m/min. (1040 ft./min.) |
| | 50 Hz | 264 m/min. (866 ft./min.) | 264 m/min. (866 ft./min.) |
| BMEP | 60 Hz | 101 | 80 |
| | 50 Hz | 97 | 77 |

Deration Factors

| | | | |
|-------------|-------------------------------|---------|---------|
| Temperature | 5% for every 10°C | 43°C | 43°C |
| | 2.77% for Every 10 F Above | 110°F | 110°F |
| Altitude | 1.1% for Every 100 m Above | 150 m | 150 m |
| | 3.5% for Every 1000 Ft. Above | 500 ft. | 500 ft. |

Control Panel

Standard Control Panel provides: Digital readout of AC volts, AC amps and frequency; continuous display of engines. Oil pressure, water temperature and battery voltage; display of running time, system diagnostics and service information, safety shutdowns for overcrank, overspeed, low oil pressure and high water temperature; and remote and local start/stop capabilities with speed signal monitoring.

Generator Specifications

Standards

MJB Industrial generators meet the requirements of IEC 60034-1, CEI 2-3, BS 4999-5000, VDE 0530, NF 51-100,111 OVE M-10, and NEMA MG 1.22.

Excitation Systems

The generators are self-excited, by means of a brushless type excitation system. The voltage is maintained within $\pm 0,5\%$ of the nominal value in steady state condition with balanced and non distorting load.

The excitation system is fed by an auxiliary winding which gives a better response to the variation in loads and sustains the power supply in the case of a short-circuit.

The MJB Generators can be supplied with a Permanent Magnet Generator (PMG) on request, which gives an independent supply to the excitation system. PMG is advisable for use with generators such as unbalanced loads and distorting loads.

The MJB Generators are supplied with adjustable over-excitation protection which, when combined with an external protection system, will protect the alternator in the event of over-excitation.

Insulation

The insulation system is Class H. The Generators are impregnated with high grade resin, using the most modern technologies (VPI). A further protective treatment is applied on the whole range, making the generators suitable for the toughest environment conditions. Tropicalisation as standard on all generator series.

Shaft

The rotors are dynamically balanced with a half key applied to the shaft extension in accordance with IEC 60034-14 to vibration grade normal (N) in standard execution. Generators can be supplied with reduced (R) or special (S) vibration levels on request.

Windings & Electrical Performance

MJB Generators for Industrial application are supplied with 2/3 pitch winding to reduce the voltage harmonic content in applications with non-linear loads. The no-load waveform is sinusoidal with a residual harmonic $\leq 2\%$ Total Harmonic Distortion (THD) $\leq 2\%$.

Telephone Interference

The Telephonic Harmonic Factor (THF) is less than 2 % as defined by IEC 60034-1.

Radio Interference

Radio Interference conforms to Class B Group 1 as defined by EN55011.

Enclosure

The standard protection is IP23. The MJB can be supplied with protection degree IP43 on request. Higher protection degrees are available for larger frame sizes through the application of air-to-air or air-to-water heat exchangers.

Quality Assurance

Generators are manufactured using production procedures having a quality assurance level to BS EN (ISO9001).

Standard Features and Accessories

Standard Features

- * Heavy Duty Steel Base
- * Vibration Isolators
- * Battery Rack
- * Battery Cables
- * Owners Manual
- * Oil Drain Valve with Extensions
- * Flex Exhaust Connector
- * Radiator Overflow Bottle

Accessories

- Water Jacket Heater
- Exhaust Silencer
- Silencer Mounting Kit for Enclosure
- Weather Enclosure
- Sound Attenuated Enclosure
- Sub-base Fuel Tank
- Flexible Fuel Tank
- Battery
- Battery Heater
- Battery Charger
- Electronic Isochronous Governor
- PMG Exciter

Accessories

- Generator Strip Heater
- Line Circuit Breaker
- Lynx 100 Controls
- Lynx 200 Controls
- Lynx 300 Controls
- Alarm Horn
- Dry Contact Kit
- Remote Annunciator
- Interactive Telecommunications

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