



**Ratings Range**

|                 |            | <b>KM9M<br/>50 Hz</b> |
|-----------------|------------|-----------------------|
| <b>Standby:</b> | <b>kW</b>  | 9                     |
|                 | <b>kVA</b> | 9                     |
| <b>Prime:</b>   | <b>kW</b>  | 8                     |
|                 | <b>kVA</b> | 8                     |



With Available Enclosure Accessory

**Standard Features**

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- A one-year limited warranty covers all systems and components.
- Mitsubishi engine with 12-volt battery charging alternator.
- Mecc Alte single-bearing alternator with insulation class H.
- Unit-mounted radiator with 50°C (122°F) ambient air capability.
- Skid and vibration isolators.
- Subbase fuel tank, 50 L (13 gal.).
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Battery, battery rack, and cables.
- Industrial 9 dB(A) reduction exhaust silencer (loose).
- Operation and installation literature.

**Generator Set Ratings**

| Alternator | Voltage | Ph | Hz | Standby Rating |      | Prime Rating |      |
|------------|---------|----|----|----------------|------|--------------|------|
|            |         |    |    | kW/kVA         | Amps | kW/kVA       | Amps |
|            | 220     | 1  | 50 | 9/9            | 41   | 8/8          | 36   |
| ECO3-2L    | 230     | 1  | 50 | 9/9            | 39   | 8/8          | 35   |
|            | 240     | 1  | 50 | 9/9            | 38   | 8/8          | 33   |

**RATINGS:** All single-phase units are rated at 1.0 power factor. See TIB-109 for generator set derate tables.

Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions.

**PRP:** Prime power is available for an unlimited number of annual operating hours in variable load applications in accordance with ISO-8528/1.

A 10% overload capability is available for a period of 1 hour within a 12-hour period of operating in accordance with ISO-3046/1.

**ESP:** The emergency standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO-8528/1. Overload is not allowed.

The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

# Alternator Specifications

- NEMA-MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards compliance for temperature rise and motor starting.
- Sustained short-circuit current greater than 300% of the rated current for up to 10 seconds.
- Self-ventilated and dripproof 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.

| Specifications                           |         |
|--|---------|
| Ratings voltage                          | 230 V   |
| Standby rating @ 27°C, kVA               | —       |
| Prime rating @ 40°C, kVA                 | 9       |
| Efficiency @ full load                   | 86.2%   |
| Air flow, m <sup>3</sup> /min. (cfm)     | 3 (106) |
| Direct axis subtransient reactance (X"d) | —       |

| Specifications                           | Alternator             |
|--|------------------------|
| Manufacturer                             | Mecc Alte              |
| Exciter type                             | Brushless              |
| Leads: quantity, type                    | 12, Reconnectable      |
| Type                                     | 4-Pole, Rotating-Field |
| Voltage regulator                        | Solid State            |
| Insulation:                              | NEMA MG1               |
| Material                                 | Class H                |
| Bearing: quantity, type                  | 1, Sealed              |
| Coupling                                 | Direct                 |
| Voltage regulation, no-load to full-load | ±1%                    |

## Application Data

### Engine

| Engine Specifications                      |                                 |
|--|---------------------------------|
| Manufacturer                               | Mitsubishi                      |
| Engine model                               | S3L2.SD                         |
| Engine type                                | 4-Cycle,<br>Naturally Aspirated |
| Cylinder arrangement                       | 3 Inline                        |
| Displacement, L (cu. in.)                  | 1.3 (80)                        |
| Bore and stroke, mm (in.)                  | 78 x 92 (3.1 x 3.6)             |
| Compression ratio                          | 22:1                            |
| Piston speed, m/min. (ft./min.)            | 276 (906)                       |
| Rated rpm                                  | 1500                            |
| Max. power at rated rpm, kWm (BHP)         | 11.3 (15)                       |
| Governor type                              | Mechanical                      |
| Frequency regulation, no-load to full-load | ISO 5%                          |
| Frequency regulation, steady state         | ±2.5%                           |
| Air cleaner type, all models               | Dry                             |

### Exhaust

| Exhaust System  |             |
|---|-------------|
| Exhaust manifold type                                 | Dry         |
| Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)  | 2.2 (77)    |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 400 (752)   |
| Maximum allowable back pressure, kPa (in. Hg)         | 7.0 (2.1)   |
| Exhaust outlet size at engine hookup, mm (in.)        | 60.5 (2.38) |

### Engine Electrical

| Engine Electrical System                       |          |
|--|----------|
| Battery charging alternator:                   | 12 Volt  |
| Ground (negative/positive)                     | Negative |
| Volts (DC)                                     | 12       |
| Starter motor rated voltage (DC)               | 12       |
| Battery, recommended cold cranking amps (CCA): |          |
| Quantity, CCA rating each                      | One, 680 |
| Battery voltage (DC)                           | 12       |

### Fuel

| Fuel System                  |           |
|------------------------------|-----------|
| Max. fuel flow, Lph (gph)    | 18 (4.8)  |
| Fuel prime pump              | Electric  |
| Recommended fuel             | #2 Diesel |
| Fuel tank capacity, L (gal.) | 50 (13.2) |

### Lubrication

| Lubricating System                    |               |
|---------------------------------------|---------------|
| Type                                  | Full Pressure |
| Oil pan capacity, L (qt.)             | 3.7 (4.0)     |
| Oil pan capacity with filter, L (qt.) | 4.2 (4.4)     |

## Application Data

### Cooling

#### Radiator System

|  |             |
|--|-------------|
| Ambient temperature, °C (°F)   | 50 (122)    |
| Radiator system capacity, including engine, L (gal.)   | 4.2 (1.1)   |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)                             | 9.8 (557)   |
| Water pump type  | Centrifugal |
| Fan, kWm (HP)  | 0.3 (0.4)   |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O) | 0.1 (0.4)   |

### Operation Requirements

#### Air Requirements

|   |           |
|---|-----------|
| Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) *          | 30 (1060) |
| Combustion air, m <sup>3</sup> /min. (cfm)                          | 1.0 (29)  |
| * Air density = 1.20 kg/m <sup>3</sup> (0.075 lbf/ft <sup>3</sup> ) |           |

#### Fuel Consumption

| Diesel, Lph (gph) at % load | Standby Rating |
|-----------------------------|----------------|
| 110% (standby rating)       | —              |
| Diesel, Lph (gph) at % load | Prime Rating   |
| 100% (of the prime rating)  | 3.1 (0.8)      |
| 75% (of the prime rating)   | 2.5 (0.7)      |
| 50% (of the prime rating)   | 2.1 (0.6)      |

## Controller



### Decision-Maker™ 1000

#### Automation

- Test LEDs
- Voltage and speed stabilization

#### Engine Parameters

- Engine speed indication (with LCD message)
- Battery voltage indication (with LCD message)
- Elapsed hour meter (with LCD message)
- Fuel solenoid control
- Starter control

#### Measurements

- Frequency, Hz (with LCD message)

#### Operation and/or Safety Lights

- Oil pressure fault
- Water temperature fault
- Fail to start fault
- Overspeed fault (≥60 kVA)
- Set ready for load
- Charging alternator fault
- General alarm
- General fault
- Panel lamp
- Emergency stop fault

#### Safety Devices

- Overspeed fault
- Automatic standby

#### Miscellaneous

- Fault reset

## Available Accessories

### Enclosed Unit

- Sound Enclosure M126, 60.4 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)

### Open Unit

- Exhaust Silencer, Critical 40 dB(A) Reduction
- Exhaust Silencer, Residential 29 dB(A) Reduction
- Extension, 40 cm (16 in.)
- Flexible Exhaust Connector
- Protection Mesh

### Cooling System

- Block Heater [recommended for ambient temperatures below 0°C (32°F)]
- Radiator core guard

### Controller

#### Automation

- External Starting Order
- Plug Preheating
- Remote Start Capability
- Utility Sensing, 3-Phase

#### Engine Parameters

- Plug Preheating Control
- Water Preheating Control

#### Measurements

- Analog Indicator
- Line Voltages, Volts
- Phase Currents, Amps
- Single Voltages, Volts

#### Safety Devices

- Overload or Short-Circuit Fault
- Differential Triggering Fault

#### Miscellaneous

- Alarm Horn
- Differential Protection with Time and Sensitivity Adjustment
- External ATS Position
- Permanent Insulation Controller

### Fuel System

- Automatic Fuel Tank Fill Kit
- Subbase Fuel Tank with Secondary Containment Basin
- Subbase Fuel Tank Leak Alarm
- Water Separator Fuel Filter

### Electrical System

- Battery Charger, Equalize/Float Type
- Battery Isolator Switch

### Miscellaneous Accessories

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
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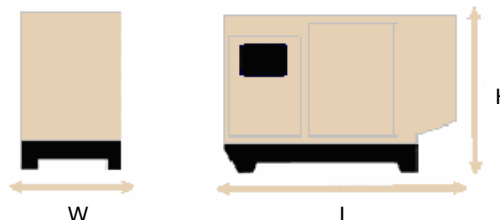
## Dimensions and Weights

### Open Model



Overall Size, L x W x H, mm (in.): 1405 x 715 x 1053 (55 x 28 x 41.5)  
 Weight, wet, kg (lb.): 468 (1031)

### With Available Enclosure Accessory



Overall Size, L x W x H, mm (in.): 1750 x 715 x 1230 (69 x 28 x 48)  
 Weight, wet, kg (lb.): 616 (1358)

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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