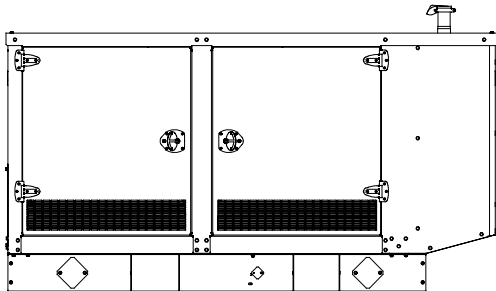




Ratings Range

| Standby: | kW kVA | 60 Hz | 50 Hz |
|----------|-----------|----------------|----------------|
| | | 33-40 33-50 | 24-34 26-40 |



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.
- UL 2200 listing is available. (60 Hz only)
- The generator set accepts rated load in one step.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to the New Source Performance Standard (NSPS) for stationary spark-ignited emissions.
- A one-year limited warranty covers all systems and components. Two- and five-year extended warranties are also available.
- Alternator features:
 - The unique Fast-Response™ II 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.
- Other features:
 - Controllers are available for all applications. See controller features inside.
 - The electronic, isochronous governor incorporates an integrated drive-by-wire throttle body actuator delivering precise frequency regulation.
- Quick-ship (QS) models with selected features and a five-year basic warranty are available. See your Kohler distributor for details.

Generator Set Ratings

| Alternator | Voltage | Ph | Hz | Natural Gas 130°C Rise Standby Rating | | LP Gas 130°C Rise Standby Rating | |
|------------|---------|----|----|---------------------------------------------|------|----------------------------------------|------|
| | | | | kW/kVA | Amps | kW/kVA | Amps |
| 4P5 | 120/208 | 3 | 60 | 39/49 | 135 | 39/49 | 135 |
| | 127/220 | 3 | 60 | 39/49 | 128 | 40/50 | 131 |
| | 120/240 | 3 | 60 | 39/49 | 117 | 39/49 | 117 |
| | 120/240 | 1 | 60 | 33/33 | 138 | 33/33 | 138 |
| | 139/240 | 3 | 60 | 39/49 | 117 | 40/50 | 120 |
| | 220/380 | 3 | 60 | 35/44 | 66 | 35/44 | 66 |
| | 277/480 | 3 | 60 | 39/49 | 58 | 40/50 | 60 |
| | 110/190 | 3 | 50 | 31/39 | 119 | 32/40 | 122 |
| 4Q5 | 115/200 | 3 | 50 | 28/35 | 101 | 28/35 | 101 |
| | 120/208 | 3 | 50 | 24/30 | 83 | 24/30 | 83 |
| | 110/220 | 1 | 50 | 26/26 | 118 | 26/26 | 118 |
| | 110/220 | 3 | 50 | 31/39 | 102 | 32/40 | 105 |
| | 220/380 | 3 | 50 | 31/39 | 59 | 32/40 | 61 |
| | 230/400 | 3 | 50 | 28/35 | 51 | 28/35 | 51 |
| 4Q7 | 240/416 | 3 | 50 | 24/30 | 42 | 24/30 | 42 |
| | 120/240 | 1 | 60 | 38/38 | 158 | 38/38 | 158 |
| 4Q7 | 110/220 | 1 | 50 | 30/30 | 136 | 32/32 | 145 |
| | 120/240 | 1 | 60 | 40/40 | 167 | 40/40 | 167 |
| | 110/220 | 1 | 50 | 32/32 | 145 | 34/34 | 155 |

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, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. 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 DERATING: *Altitude:* Derate 1.3% per 100 m (328 ft.) elevation above 200 m (656 ft.). *Temperature:* Derate 3.0% per 10°C (18°F) temperature above 25°C (77°F). For dual fuel engines, use the natural gas ratings for both the primary and secondary fuels.

Alternator Specifications

| Specifications | Alternator |
|-----------------------------------------------------------------------|-------------------------------|
| Manufacturer | Kohler |
| Type | 4-Pole, Rotating-Field |
| Exciter type | Brushless, Permanent-Magnet |
| Leads: quantity, type | |
| 4P5 | 12, Reconnectable |
| 4Q5, 4Q7 | 4, 110-120/220-240 |
| Voltage regulator | Solid State, Volts/Hz |
| Insulation: | NEMA MG1 |
| Material | Class H |
| Temperature rise | 130°C, Standby |
| Bearing: quantity, type | 1, Sealed |
| Coupling | Flexible Disc |
| Amortisseur windings | Full |
| Voltage regulation, no-load to full-load | |
| Decision-Maker 3000 controller | 3-Phase Sensing, ±0.5% |
| Decision-Maker 550 controller (with 0.5% drift due to temp variation) | 3-Phase Sensing, ±0.25% |
| Unbalanced load capability | 100% of Rated Standby Current |
| One-step load acceptance | 100% of Rating |
| Peak motor starting kVA: | (35% dip for voltages below) |
| 480 V, 380 V 4P5 (12 lead) | 140 (60 Hz), 98 (50 Hz) |
| 240 V, 220 V 4Q5 (4 lead) | 95 (60 Hz), 78 (50 Hz) |
| 240 V, 220V 4Q7 (4 lead) | 104 (60 Hz), 91 (50 Hz) |

- 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.
- Fast-Response™ II brushless alternator with brushless exciter for excellent load response.

Application Data

Engine

| Engine Specifications | 60 Hz | 50 Hz |
|--------------------------------------------|----------------------------------------------------------------------|-----------|
| Manufacturer | General Motors | |
| Engine: model, type | Industrial Powertrain Vortec 4.3 L, 4-Cycle Natural Aspiration | |
| Cylinder arrangement | V-6 | |
| Displacement, L (cu. in.) | 4.3 (262) | |
| Bore and stroke, mm (in.) | 101.6 x 88.4 (4.00 x 3.48) | |
| Compression ratio | 9.05:1 | |
| Piston speed, m/min. (ft./min.) | 318 (1044) | 265 (870) |
| Main bearings: quantity, type | 4, Babbitt | |
| Rated rpm | 1800 | 1500 |
| Max. power at rated rpm, kW (HP) | 56 (75) | 44.8 (60) |
| Engine power at standby rating, kW (HP) | | |
| Natural Gas | 41.9 (56) | 40.3 (54) |
| LP Gas | 45.3 (61) | 42.5 (57) |
| Cylinder head material | Cast Iron | |
| Piston type and material | High Silicon Aluminum | |
| Crankshaft material | Nodular Iron | |
| Valve (exhaust) material | Forged Steel | |
| Governor type | Electronic | |
| Frequency regulation, no-load to full-load | Isochronous | |
| Frequency regulation, steady state | ±0.5% | |
| Frequency | Fixed | |
| Air cleaner type, all models | Dry | |

Exhaust

| Exhaust System | 60 Hz | 50 Hz |
|-------------------------------------------------------|-------------|-----------|
| Exhaust manifold type | Dry | |
| Exhaust flow at rated kW, m ³ /min. (cfm) | 8.8 (310) | 7.4 (260) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 649 (1200) | |
| Maximum allowable back pressure, kPa (in. Hg) | 10.2 (3.0) | |
| Exhaust outlet size at engine hookup, mm (in.) | 76 (3.0) OD | |

Engine Electrical

| Engine Electrical System | 60 Hz | 50 Hz |
|------------------------------------------------|-------------------------|-------|
| Ignition system | Electronic, Distributor | |
| Battery charging alternator: | | |
| Ground (negative/positive) | Negative | |
| Volts (DC) | 12 | |
| Ampere rating | 70 | |
| Starter motor rated voltage (DC) | 12 | |
| Battery, recommended cold cranking amps (CCA): | | |
| Qty., rating for -18°C (0°F) | One, 630 | |
| Battery voltage (DC) | 12 | |

Fuel

| Fuel System | 60 Hz | 50 Hz |
|-----------------------------------------------------------------------------------------|-----------------------------------|-------|
| Fuel type | LP Gas, Natural Gas, or Dual Fuel | |
| Fuel supply line inlet | 1 NPTF | |
| Natural gas fuel supply pressure, kPa (in. H ₂ O) | 1.74-2.74 (7-11) | |
| LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O) | 1.24-2.74 (5-11) | |
| Dual fuel engine, LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O) | 1.24 (5) | |

| Fuel Composition Limits * | Nat. Gas | LP Gas |
|---------------------------------------------------------------------|------------|-------------|
| Methane, % by volume | 90 min. | — |
| Ethane, % by volume | 4.0 max. | — |
| Propane, % by volume | 1.0 max. | 85 min. |
| Propene, % by volume | 0.1 max. | 5.0 max. |
| C ₄ and higher, % by volume | 0.3 max. | 2.5 max. |
| Sulfur, ppm mass | 25 max. | |
| Lower heating value, MJ/m ³ (Btu/ft ³), min. | 33.2 (890) | 84.2 (2260) |

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Application Data

Lubrication

| Lubricating System | 60 Hz | 50 Hz |
|---------------------------------------|---------------|-------|
| Type | Full Pressure | |
| Oil pan capacity, L (qt.) | 4.3 (4.5) | |
| Oil pan capacity with filter, L (qt.) | 5.7 (6.0) | |
| Oil filter: quantity, type | 1, Cartridge | |

Cooling

| Radiator System | 60 Hz | 50 Hz |
|----------------------------------------------------------------------------------------------------|-------------|-------------|
| Ambient temperature, °C (°F) | 45 (113) | |
| Engine jacket water capacity, L (gal.) | 6.8 (1.8) | |
| Radiator system capacity, including engine, L (gal.) | 19.7 (5.2) | |
| Engine jacket water flow, Lpm (gpm) | 106.0 (28) | 87.1 (23) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 39.2 (2230) | 34.6 (1970) |
| Water pump type | Centrifugal | |
| Fan diameter, including blades, mm (in.) | 533 (21) | |
| Fan, kWm (HP) | 1.5 (2.0) | 1.0 (1.2) |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O) | 0.125 (0.5) | |

Operation Requirements

| Air Requirements | 60 Hz | 50 Hz |
|-----------------------------------------------------------------------|------------|------------|
| Radiator-cooled cooling air, m ³ /min. (scfm) [†] | 142 (5000) | 113 (4000) |
| Combustion air, m ³ /min. (cfm) | 2.61 (92) | 2.20 (78) |
| Heat rejected to ambient air: | | |
| Engine, kW (Btu/min.) | 16.0 (910) | 15.4 (860) |
| Alternator, kW (Btu/min.) | 6.3 (360) | 6.2 (350) |

[†] Air density = 1.20 kg/m³ (0.075 lbm/ft³)

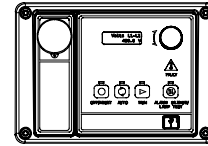
| Fuel Consumption [‡] | Standby Rating | |
|-------------------------------------------------------|----------------|------------|
| | 60 Hz | 50 Hz |
| Natural Gas, m³/hr. (cfh) at % load | | |
| 100% | 16.5 (584) | 13.5 (477) |
| 75% | 13.8 (486) | 10.4 (367) |
| 50% | 10.2 (360) | 8.0 (281) |
| 25% | 7.7 (272) | 5.8 (206) |

| LP Gas, m ³ /hr. (cfh) at % load | Standby Rating | |
|---------------------------------------------|----------------|-----------|
| | 60 Hz | 50 Hz |
| 100% | 6.9 (242) | 5.4 (190) |
| 75% | 5.4 (191) | 4.2 (148) |
| 50% | 4.0 (141) | 3.1 (111) |
| 25% | 2.9 (101) | 2.3 (81) |

[‡] Nominal Fuel Rating: Natural gas, 37 MJ/m³ (1000 Btu/ft³)
LP Vapor, 93 MJ/m³ (2500 Btu/ft³)

LP vapor conversion factors:
8.58 ft.³ = 1 lb.
0.535 m³ = 1 kg.
36.39 ft.³ = 1 gal.

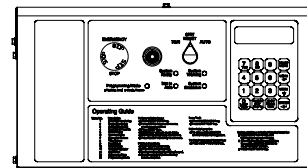
Controllers



Decision-Maker[®] 3000 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
 - Measurements are selectable in metric or English units
 - Remote communication through a PC via network or serial configuration
 - Integrated hybrid voltage regulator with ±0.5% regulation
 - Built-in alternator thermal overload protection
- Refer to G6-100 for additional controller features and accessories.



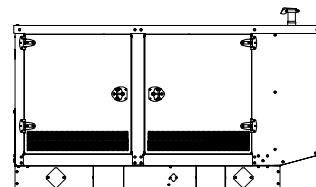
Decision-Maker[®] 550 Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities.

- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication through a PC via network or modem configuration
- Controller supports Modbus[®] protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection

Refer to G6-46 for additional controller features and accessories.

Sound Enclosure



- Sound level at 7 m (23 ft.) with full load: 69 dB(A)
- Sound attenuating enclosure uses acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.
- Vertical air inlet and outlet discharge with 90 degree bends to redirect air and reduce noise.
- Internal-mounted critical silencer and flexible exhaust connector.
- Skid-mounted, steel (standard) or aluminum (optional) construction with hinged doors.
- Fade-, scratch-, and corrosion-resistant Kohler[®] Cashmere Power Armor[™] textured e-coat paint.
- Lockable, flush-mounted door latches.
- Certified to withstand 241 kph (150 mph) wind load rating (aluminum enclosures only).

Additional Standard Features

- Alternator Protection
- Battery Rack and Cables
- Electronic, Isochronous Governor
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature
- Steel Sound Enclosure

Available Options

Approvals and Listings

- CSA Approval
- UL 2200 Listing (60 Hz only)

Enclosure

- Aluminum Sound Enclosure

Fuel System

- Dual Fuel NG/LPG (automatic changeover)
- Flexible Fuel Line (required when the generator set skid is spring mounted)
- Gas Filter
- Additional Gas Solenoid Valve

Controller

- Common Fault Relay
- Communication Products and PC Software (550 controller only)
- Customer Connection (550 controller only)
- Dry Contact (isolated alarm) (550 controller only)
- Input/Output Module (3000 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel (550 controller only)
- Remote Emergency Stop
- Run Relay

Cooling System

- Block Heater, 1500 W, 110–120 V
- Block Heater, 1500 W, 190–240 V [recommended for ambient temperatures below 10°C (50°F)]

Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Line Circuit Breaker (NEMA1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA1 enclosure)

Miscellaneous

- Air Cleaner Restrictor Indicator
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards

Literature

- General Maintenance
- Overhaul
- Production

Warranty

- 2-Year Basic
- 5-Year Basic
- 5-Year Comprehensive

Other Options

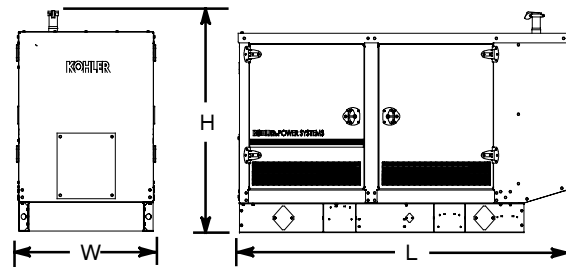
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Dimensions and Weights

Overall Size, L x W x H, mm (in.): 2585 x 1078 x 1509
(102 x 42.4 x 59.4)

Weight, wet, kg (lb.):
 With steel sound enclosure 982 (2165)
 With aluminum sound enclosure 890 (1962)

Weight includes generator set with engine fluids and largest alternator option, sound enclosure, and silencer.



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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