



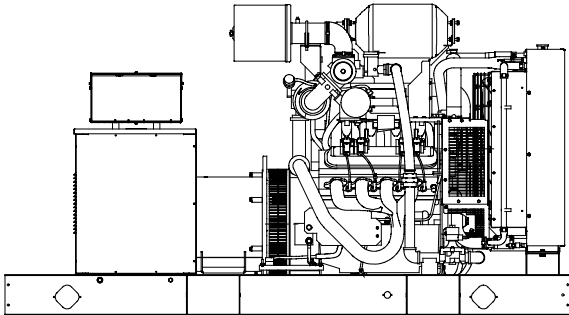
**EPA-Certified for Stationary
Emergency Applications**

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.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- 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.

Ratings Range

Standby:		60 Hz	50 Hz
	kW	100-150	90-125
	kVA	100-187.5	90-156



Generator Set Ratings

Alternator	Voltage	Ph	Hz	Natural Gas 130°C Rise Standby Rating	
				kW/kVA	Amps
4S13	120/208	3	60	150/187.5	520
	127/220	3	60	150/187.5	492
	120/240	3	60	150/187.5	451
	120/240	1	60	100/100	417
	139/240	3	60	150/187.5	451
	220/380	3	60	145/181.3	275
	277/480	3	60	150/187.5	226
	347/600	3	60	150/187.5	180
	110/190	3	50	125/156	474
	115/200	3	50	125/156	450
	120/208	3	50	125/156	433
	110/220	1	50	90/90	409
	110/220	3	50	125/156	409
	220/380	3	50	125/156	237
	230/400	3	50	125/156	225
	240/416	3	50	125/156	217
4S15	120/208	3	60	150/187.5	520
	127/220	3	60	150/187.5	492
	120/240	3	60	150/187.5	451
	120/240	1	60	110/110	458
	139/240	3	60	150/187.5	451
	220/380	3	60	145/181.3	275
	277/480	3	60	150/187.5	226
	347/600	3	60	150/187.5	180
	110/190	3	50	125/156	474
	115/200	3	50	125/156	450
	120/208	3	50	125/156	433
	110/220	3	50	125/156	409
	220/380	3	50	125/156	237
	230/400	3	50	125/156	225
	240/416	3	50	125/156	217

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: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Prime Power Ratings: 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 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Leads: quantity, type	12, Reconnectable
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® 550 and 6000 controller (with 0.5% drift due to temperature variation)	3-Phase Sensing, ±0.25%
Decision-Maker® 3000 controller	3-Phase Sensing, ±0.5%
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 380 V 4S13 (12 lead)	515 (60 Hz), 370 (50 Hz)
480 V, 380 V 4S15 (12 lead)	620 (60 Hz), 420 (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 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.
- 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 8.1 L, 4-Cycle, Turbocharged and Charge Cooled	
Cylinder arrangement	V-8	
Displacement, L (cu. in.)	8.1 (496)	
Bore and stroke, mm (in.)	108 x 111 (4.25 x 4.37)	
Compression ratio	9.1:1	
Piston speed, m/min. (ft./min.)	399 (1311)	332 (1092)
Main bearings: quantity, type	Alum. Lead Silicon Alloy	
Rated rpm	1800	
Max. power at rated rpm, kW (HP)	170 (228)	149 (200)
Cylinder head material	Cast Iron	
Piston type and material	Strutless Flat Top, Hypereutectic Cast Alum.	
Crankshaft material	Cast Nodular Undercut Rolled Fillet	
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)	30.1 (1063)	23.7 (837)
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.)	Flanged Outlet at Catalystr see ADV drawing	

Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Ignition system	Individual Coil Near Plug Ignition	
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)	1, 630	
Battery voltage (DC)	12	

Fuel

Fuel System	60 Hz	50 Hz
Fuel type	Natural Gas	
Fuel supply line inlet	1.5 NPTF	
Gas fuel supply pressure, measured at the generator set fuel inlet downstream of any fuel system equipment accessories, kPa (in. H ₂ O)	1.74-2.74 (7.0-11.0)	

Fuel Composition Limits *	Nat. Gas
Methane, % by volume	90 min.
Ethane, % by volume	4.0 max.
Propane, % by volume	1.0 max.
Propene, % by volume	0.1 max.
C ₄ and higher, % by volume	0.3 max.
Sulfur, ppm mass	25 max.
Lower heating value, kJ/m ³ (Btu/ft ³), min.	26.6 (890)

* 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.)	8.0 (8.5)	
Oil pan capacity with filter, L (qt.)	8.5 (9.0)	
Oil filter: quantity, type	1, Cartridge	

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F) *	50 (122)	
Engine jacket water capacity, L (gal.)	10.0 (2.6)	
Radiator system capacity, including engine, L (gal.)	24.2 (6.4)	
Engine jacket water flow, Lpm (gpm)	125 (33)	102 (27)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	129 (7320)	91 (5190)
Heat rejected to charge cooling air at rated kW, dry exhaust, kW (Btu/min.)	13.2 (750)	11.0 (625)
Heat rejected to engine oil at rated kW, dry exhaust, kW (Btu/min.)	1.7 (95)	1.5 (86)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	599 (23.6)	
Fan, kWm (HP)	6.7 (9.0)	3.7 (5.0)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)	

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

Operation Requirements

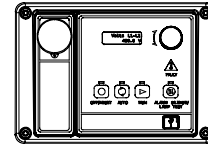
Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm) †	340 (12000)	258 (9100)
Combustion air, m ³ /min. (cfm)	10.3 (365)	7.9 (278)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	84.2 (4790)	60.6 (3450)
Alternator, kW (Btu/min.)	16.0 (912)	12.5 (709)

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

Fuel Consumption	60 Hz	50 Hz
Natural Gas, m ³ /hr. (cfh) at % load‡	Standby Ratings	
100%	54.7(1930)	50.2(1770)
75%	42.9(1512)	38.0(1340)
50%	31.5(1112)	27.4 (965)
25%	20.0 (707)	17.2 (607)
0%	10.4 (369)	8.8 (310)

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

Controllers

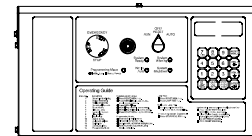


Decision-Maker® 3000 Controller

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
- Scrolling display shows critical data at a glance
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-100 for additional controller features and accessories.

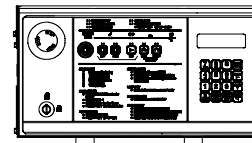


Decision-Maker® 550 Controller

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 thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

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



Decision-Maker® 6000 Paralleling Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities for paralleling multiple generator sets.

- Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-107 for additional controller features and accessories.

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
- Oil Drain Extension
- Operation and Installation Literature
- Three-Way Exhaust Catalyst

Available Options

Approvals and Listings

- CSA Approval
- IBC Seismic Certification
- UL 2200 Listing

Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)

Open Unit

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

Fuel System

- Flexible Fuel Line
(required when the generator set skid is spring mounted)
- Gas Filter
- Secondary Gas Solenoid Valve

Controller

- Common Fault Relay
- Communication Products and PC Software
(Decision-Maker® 550 and 6000 controllers only)
- Customer Connection
(Decision-Maker® 550 controller only)
- Dry Contact (isolated alarm)
(Decision-Maker® 550 and 6000 controllers only)
- Input/Output Module
(Decision-Maker® 3000 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
(Decision-Maker® 550 and 6000 controllers only)
- Remote Emergency Stop
- Run Relay

Cooling System

- Block Heater
[recommended for ambient temperatures below 10°C (50°F)]
- Radiator Duct Flange

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
- Certified Test Report
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

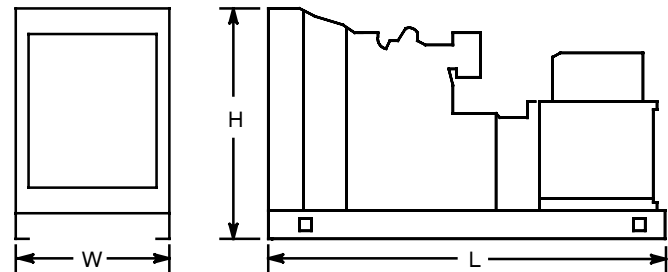
- 2-Year Basic
- 5-Year Basic
- 5-Year Comprehensive

Other Options

- _____
- _____
- _____
- _____
- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 2800 x 1120 x 1538
 (110.2 x 44.1 x 60.6)
 Weight (radiator model), wet, kg (lb.): 1244 (2744)



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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