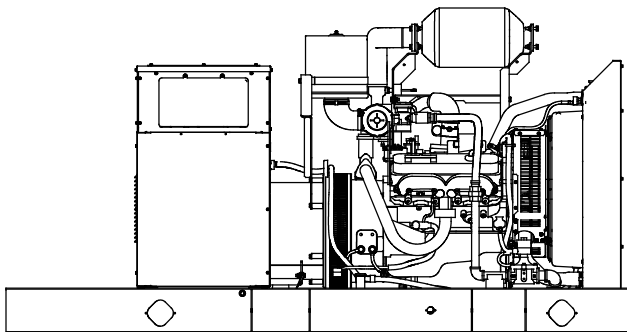




**EPA-Certified for Stationary
Emergency Applications**

Ratings Range

Standby:	kW	60 Hz
	kVA	63-80
		63-100



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 generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
 - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
 - The electronic, isochronous governor incorporates an integrated drive-by-wire throttle body actuator delivering precise frequency regulation.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	Natural Gas 130°C Rise Standby Rating	
				kW/kVA	Amps
4P10X	120/208	3	60	77/96	267
	127/220	3	60	80/100	262
	120/240	3	60	77/96	231
	120/240	1	60	63/63	262
	139/240	3	60	80/100	240
	220/380	3	60	70/87	132
	277/480	3	60	80/100	120
	347/600	3	60	80/100	96
4R9X	120/208	3	60	80/100	277
	127/220	3	60	80/100	262
	120/240	3	60	80/100	240
	120/240	1	60	77/77	320
	139/240	3	60	80/100	240
	220/380	3	60	80/100	151
	277/480	3	60	80/100	120
347/600	3	60	80/100	96	
4T9X	120/240	1	60	80/80	333

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, Rare-Earth Permanent Magnet
Leads: quantity, type	
4PX, 4RX	12, Reconnectable
4TX	4, 120/240 V
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	Controller Dependent
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 4P10X (12 lead)	275 (60 Hz)
480 V 4R9X (12 lead)	385 (60 Hz)
240 V 4T9X (4 lead)	237 (60 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.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Application Data

Engine

Engine Specifications	
Manufacturer	General Motors
Engine: model, type	Industrial Powertrain Vortec 5.7 L, 4-Cycle Turbocharged
Cylinder arrangement	V-8
Displacement, L (cu. in.)	5.7 (350)
Bore and stroke, mm (in.)	101.6 x 88.4 (4.00 x 3.48)
Compression ratio	9.1:1
Piston speed, m/min. (ft./min.)	318 (1044)
Main bearings: quantity, type	5, M400 Copper Lead
Rated rpm	1800
Max. power at rated rpm, kW (HP)	99 (133)
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	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	18.9 (670)
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 Catalyst see ADV drawing

Engine Electrical

Engine Electrical System	
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	
Fuel type	Natural Gas
Fuel supply line inlet	1 1/4 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 (7-11)

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, MJ/m ³ (Btu/ft ³), min.	33.2 (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

Type	Full Pressure
Oil pan capacity, L (qt.) ‡	4.7 (5.0)
Oil pan capacity with filter, L (qt.) ‡	6.2 (6.5)
Oil filter: quantity, type ‡	1, Cartridge
‡ Kohler recommends the use of Kohler Genuine oil and filters.	

Cooling

Radiator System

Ambient temperature, °C (°F) *	50 (122)
Engine jacket water capacity, L (gal.)	6.8 (1.8)
Radiator system capacity, including engine, L (gal.)	22.5 (6.0)
Engine jacket water flow, Lpm (gpm)	144 (38)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	62 (3540)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	599 (23.6)
Fan, kWm (HP)	6.7 (9.0)
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 10°C (18°F).	

Operation Requirements

Air Requirements

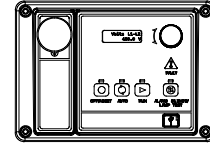
Radiator-cooled cooling air, m ³ /min. (scfm) ‡	156 (5500)
Combustion air, m ³ /min. (cfm)	6.8 (237)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	47 (2700)
Alternator, kW (Btu/min.)	14.5 (825)
† Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)	

Fuel Consumption ‡

Natural Gas, m ³ /hr. (cfh) at % load	Standby Ratings
100%	33.6 (1185)
75%	27.8 (981)
50%	22.0 (777)
25%	16.2 (573)
0%	10.4 (369)

‡ Nominal fuel rating: Natural gas, 37 MJ/m³ (1000 Btu/ft.³)

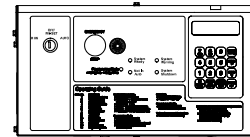
Controllers



APM402 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 thru a PC via network or serial configuration
 - Controller supports Modbus® protocol
 - Integrated hybrid voltage regulator with ±0.5% regulation
 - Built-in alternator thermal overload protection
 - NFPA 110 Level 1 capability
- Refer to G6-161 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.

Modbus® is a registered trademark of Schneider Electric.

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
- Three-Way Exhaust Catalyst

Available Options

Approvals and Listings

- CSA Certified
- IBC Seismic Certification
- UL 2200 Listing
- Hurricane Rated Enclosure

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
- Customer Connection (Decision-Maker® 550 controller only)
- Dry Contact (isolated alarm)
(Decision-Maker® 550 controller only)
- Two Input/Five Output Module (APM402 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
(Decision-Maker® 550 controller only)
- Remote Emergency Stop
- Run Relay
- Manual Speed Adjust

Cooling System

- Block Heater, 1500 W, 110–120 V
- Block Heater, 1500 W, 190–240 V
Required 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 Added
- Rated Power Factor Testing
- Rodent Guards

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

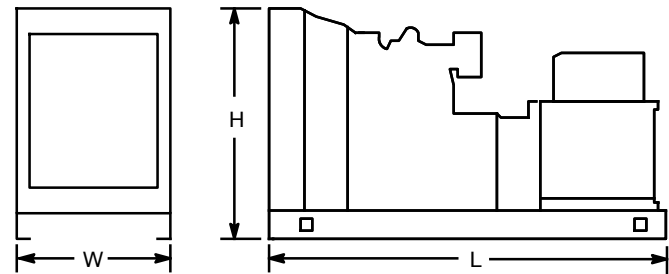
- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

Other Options

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

Dimensions and Weights

Overall Size, L x W x H, mm (in.) :
 Wide Skid 2800 x 1120 x 1456 (110.2 x 44.1 x 57.3)
 Narrow Skid 2800 x 864 x 1456 (110.2 x 34.0 x 57.3)
 Weight (radiator model), wet, kg (lb.): 1300 (2865)



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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