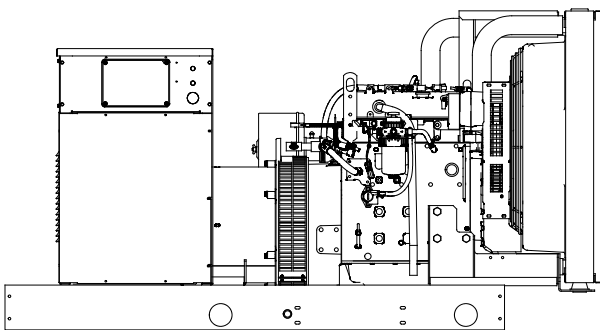




Tier 3 EPA-Certified for Stationary Emergency Applications

Ratings Range

		60 Hz
Standby:	kW	33-40
	kVA	33-50
Prime:	kW	30-38
	kVA	30-48



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® 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:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
4P5	120/208	3	60	40/50	139	37/46	128
	127/220	3	60	40/50	131	38/48	125
	120/240	3	60	40/50	120	37/46	111
	120/240	1	60	33/33	138	30/30	125
	139/240	3	60	40/50	120	38/48	114
	220/380	3	60	35/44	66	32/40	61
	277/480	3	60	40/50	60	38/48	57
	347/600	3	60	40/50	48	38/48	46
4Q5	120/240	1	60	38/38	158	34/34	143
4Q7	120/240	1	60	40/40	167	36/36	150

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 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 the 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 4, 110-120/220-240 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 4P5 (12 lead)	140
240 V 4Q5 (4 lead)	95
240 V 4Q7 (4 lead)	104

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

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine model	4024HF285B
Engine type	4-Cycle, Turbocharged
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	2.4 (149)
Bore and stroke, mm (in.)	86 x 105 (3.39 x 4.13)
Compression ratio	18.2:1
Piston speed, m/min. (ft./min.)	375 (1230)
Main bearings: quantity, type	5, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	60 (80)
Cylinder head material	Cast Iron
Crankshaft material	Ductile Iron
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	JDEC Electronic, Level 18, EUP
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	10.0 (355)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	538 (1000)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	63.5 (2.5)

Engine Electrical

Engine Electrical System		
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):		
Quantity, CCA rating		One, 640
Battery voltage (DC)		12

Fuel

Fuel System		
Fuel supply line, min. ID, mm (in.)		11.0 (0.44)
Fuel return line, min. ID, mm (in.)		6.0 (0.25)
Max. lift, engine-driven fuel pump, m (ft.)		3.0 (10.0)
Max. fuel flow, Lph (gph)		82 (21.7)
Max. return line restriction, kPa (in. Hg)		35 (10.3)
Fuel prime pump		Manual
Fuel filter		
Secondary		5 Microns @ 98% Efficiency
Water Separator		Yes
Recommended fuel		#2 Diesel

Lubrication

Lubricating System		
Type		Full Pressure
Oil pan capacity, L (qt.) §		7.3 (7.7)
Oil pan capacity with filter, L (qt.) §		8.2 (8.7)
Oil filter: quantity, type §		1, Cartridge
Oil cooler		Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.		

Application Data

Cooling

Radiator System

Ambient temperature, °C (°F)*	50 (122)
Engine jacket water capacity, L (gal.)	2.6 (0.7)
Radiator system capacity, including engine, L (gal.)	10.6 (2.8)
Engine jacket water flow, Lpm (gpm)	98 (26)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	28.4 (1613)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	7.0 (400)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	597 (23.5)
Fan, kWm (HP)	2.9 (3.9)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

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

Operation Requirements

Air Requirements

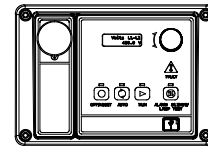
Radiator-cooled cooling air, m ³ /min. (scfm)‡	96 (3400)
Combustion air, m ³ /min. (cfm)	3.7 (130)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	11.0 (626)
Alternator, kW (Btu/min.)	7.6 (435)

‡ Air density = 1.20 kg/m³ (0.075 lbf/ft³)

Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating	
100%	12.9	(3.4)
75%	9.8	(2.6)
50%	6.8	(1.8)
25%	3.4	(0.9)
Diesel, Lph (gph) at % load	Prime Rating	
100%	11.7	(3.1)
75%	9.1	(2.4)
50%	6.1	(1.6)
25%	3.4	(0.9)

Controllers

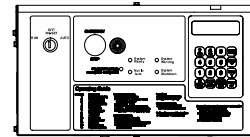


APM402 Controller

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.

Additional Standard Features

- Alternator Protection
- Battery Rack and Cables
- Oil Drain and Coolant Drain w/Hose Barb
- Oil Drain Extension (with narrow skid and enclosure models only)
- Operation and Installation Literature
- Radiator Drain Extension (with enclosure only)

Available Options

Approvals and Listings

- California OSHPD Approval
- CSA Certified
- IBC Seismic Certification
- UL2200 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 Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

Controller

- Common Failure Relay
- Communication Products and PC Software (Decision-Maker® 550 controller only)
- Customer Connection (Decision-Maker® 550 controller only)
- Dry Contact (isolated alarm) (Decision-Maker® 550 controller only)
- Input/Output Module (APM402 controller only)
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay

Cooling System

- Block Heater, 1000 W, 110-120 V
Required for ambient temperature below 0°C (32°F)
- Radiator Duct Flange

Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)

Paralleling System

- Reactive Droop Compensator
- Remote Speed Adjust Control/Electronic Governor
- Voltage Adjust Control
- Voltage Regulator Relocation (Decision-Maker® 550 controller only)

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Closed Crankcase Vent
- 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

- _____
- _____
- _____
- _____
- _____

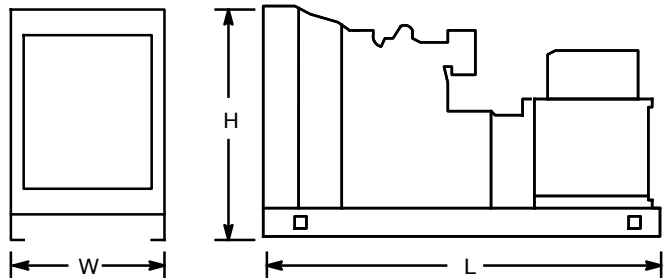
Dimensions and Weights

Overall Size, L x W x H, mm (in.):

Wide Skid: 2300 x 1041 x 1133 (90.55 x 40.98 x 44.61)

Narrow Skid: 1998 x 780 x 1067 (78.66 x 30.71 x 42.01)

Weight (radiator model), wet, kg (lb.): 694 (1530)



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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