



**Tier 4 Final
EPA-Certified for
Nonroad Applications**

Mobile Generator Set

- 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 three-year, 3000-hour limited warranty covers all generator set systems and components. The trailer has a one-year limited warranty.

Generator set features:

- Unit-mounted radiator with 45°C (113°F) ambient air capability at the prime rating.
- 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 when ordered without a selector switch.

Engine features:

- Heavy-duty air cleaner with air restrictor indicator.
- The generator set engine is certified by the Environmental Protection Agency (EPA) to conform to Tier 4 Final nonroad emissions regulations.
- Lockable battery disconnect switch.

Enclosure/tank features:

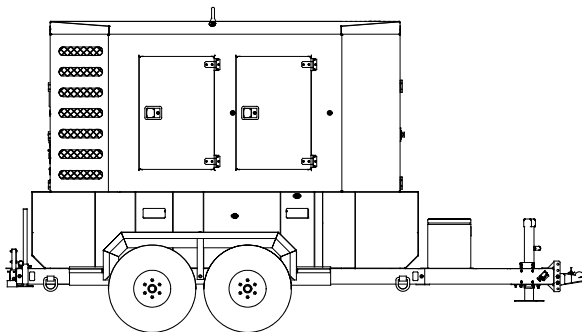
- Durable steel, sound-attenuating housing with quiet operation of 71 dB(A) log average @ 7 m (23 ft.) with full load at the prime rating.
- Stainless steel hinges and lockable latches on doors.
- 125% environmental containment basin for oil and coolant.
- 110% secondary containment tank for fuel.
- Single-point lifting eye and four-point tie down system.
- Subbase fuel tank for 24-hour run time with full load at prime rating (minimum).
- Fuel fill and Diesel Exhaust Fluid (DEF) fill with lockable caps.

Customer connection panel features:

- Decision-Maker® 3500 controller with potted circuitry for protection from vibration and debris.
- Externally mounted, recessed emergency stop switch.
- Adjustable trip main line circuit breaker.
- Remote start/stop capabilities.
- Load lug connections (see page 3 for details).
- Shore power connection points to front of junction box for block heater, battery chargers, and battery heater.

Ratings Range

		60 Hz
Standby:	kW	95- 105
	kVA	95- 131
Prime:	kW	90- 96
	kVA	90- 120
Continuous:	kW	79- 89
	kVA	79- 111



Standard Skid Model with Available Options

Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		125°C Rise Prime Rating		125°C Rise Continuous Rating		Ordering Options*
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	
4R12X	120/208	3	60	105/131	364	96/120	333	89/111	308	A
	120/240	3	60	100/125	300	93/116	279	84/105	252	B
	120/240	1	60	95/95	395	90/90	375	79/79	329	A
	277/480	3	60	105/131	157	96/120	144	89/111	133	A
	347/600	3	60	105/131	126	96/120	115	89/111	107	C

* Ordering Options: A- Reconnectable or selector switch, B- Reconnectable, C- Stand alone

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. **Continuous Ratings:** At constant or nonvarying load, the number of generator set operating hours is unlimited. There is no overload capability for this rating. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time 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	12, Reconnectable 6, 600 Volt
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	150°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	±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	4R12X (12 lead)
	448

- 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.
- The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine: model, type	4045HFG09 4-Cycle Turbocharged, Charge Air-Cooled
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	4.5 (275)
Bore and stroke, mm (in.)	106 x 127 (4.2 x 5.0)
Compression ratio	17.2:1
Piston speed, m/min. (ft./min.)	457.2 (1500)
Rated rpm	1800
Max. power at rated rpm, kW (HP)	124 (166)
Valve (exhaust) material	Silicon-Chrome stem with Inconel head (NiCr)
Valve (intake) material	CrMo Alloy
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.5%
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	17.0 (600)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	496 (925)
Maximum allowable back pressure, kPa (in. Hg)	22.7 (6.7)

Engine Electrical

Engine Electrical System	
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	14
Ampere rating	90
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Qty., rating for 0°C (32°F)	One, 450
Battery voltage (DC)	12

Fuel

Fuel System	
Fuel supply line, min. ID, mm (in.)	8 (0.31)
Fuel return line, min. ID, mm (in.)	5 (0.19)
Max. lift, fuel pump: type, m (ft.)	Electronic, 3.5 (11.5)
Max. fuel flow, Lph (gph)	58.3 (15.4)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel prime pump	Automatic
Fuel filter	
Primary	2 Microns
Recommended fuel	ASTM D975 or EN 590 Ultra Low Sulfur Diesel (ULSD) with sulfur content <15 mg/kg (15 ppm)

Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.) §	20.5 (21.7)
Oil pan capacity with filter, L (qt.) §	21.0 (22.2)
Oil filter: quantity, type §	One, Cartridge
Oil type §	API CJ-4 or ACEA E6- E9
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Cooling

Radiator System	
Radiator system capacity, including engine, L (gal.)	26.1 (6.9)

Operation Requirements

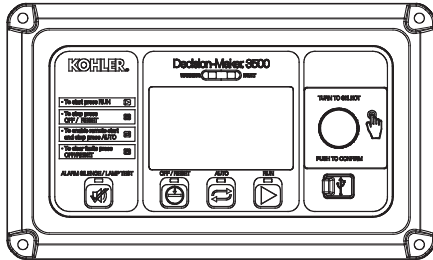
Air Requirements	
Radiator-cooled cooling air, m ³ /min. (scfm) †	283 (10000)
Combustion air, m ³ /min. (cfm)	7.6 (268)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	14.5 (825)
Alternator, kW (Btu/min.)	11.6 (660)
† Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)	

Fuel Consumption

Diesel, Lph (gph) at % load	Standby Ratings	Prime Ratings
100%	30.8 (8.1)	28.0 (7.4)
75%	22.9 (6.0)	21.2 (5.6)
50%	16.3 (4.3)	15.4 (4.1)
25%	10.4 (2.7)	9.8 (2.6)
0%	3.2 (0.8)	3.2 (0.8)

Note: For continuous rating fuel consumption, use the prime ratings data.

Controller



Decision-Maker® 3500 Paralleling Controller

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

- Paralleling capability with bus sensing, first-on logic, synchronizer, and (isochronous, droop, and external controlled) load sharing
- Digital display with adjustable contrast 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 $\pm 0.5\%$ regulation
- Potted circuitry for protection from vibration and debris
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Fuel and DEF Tanks

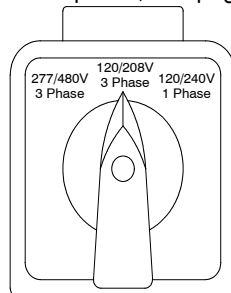
- Subbase fuel tank for 24-hour run time with full load at prime rating (minimum).
- Fuel tank includes the fuel level gauge, fuel fill with lockable cap, and an atmospheric vent.
- The secondary containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- DEF tank with DEF quality sensor.

Tank Specifications

Diesel tank capacity	727 L (192 gal.)
DEF tank capacity	30.1 L (8.0 gal.)
Recommended DEF	AUS 32 according to ISO 22241-1

Available Voltage Selector Switch

(Available Options, see page 4)

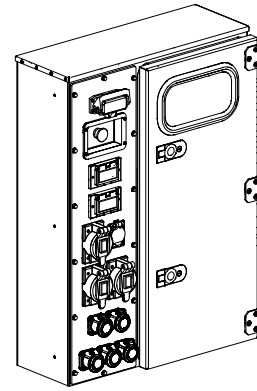


3-Position

- Voltage selector switch, 3-position lockable, wired for:
 - 120/240 volt, 1 phase
 - 120/208 volt, 3 phase
 - 277/480 volt, 3 phase

Modbus® is a registered trademark of Schneider Electric.

Customer Connection Panel



- Viewable generator set controller with security cover
- Emergency stop switch
- Shore power connector, 120 V, 15 amp (for battery charger(s) and battery heater)
- Shore power connector, 120 V, 15 amp (for block heater)
- Remote start connection
- Mobile paralleling box connection
- Main line circuit breaker
 - Reconnectable and selector switch models: Rating 400 amps, field adjustable based on voltage selected
 - 600 volt models: Rating 150 amps, field adjustable
- Available Options, see page 4
 - Two 15-amp 120 V, 1 phase, GFCI duplex receptacles (includes circuit breakers)
 - Three 50-amp 240 V twistlock receptacles (includes circuit breakers)
 - Color-coded camlock connectors

Load Lug Connections, Qty., Min./Max., Rating

1 load lug per phase #6- 350MCM, 400 amp

Available Trailer

(Available Options, see page 4)

- Dual-axle trailer with electric brake system on both axles with battery back-up breakaway system.
- DOT and TC (Transport Canada) compliant per current specifications published by both agencies, at the time of trailer manufacture.
- 2 5/16 in. ball hitch coupler with adaptability for an optional Lunette eye.
- Lockable utility tool box with bottle jack, lug wrench, and fire extinguisher. Common key to enclosure.
- Running lights with 7-wire harness and connector.
- Front tongue jack.
- Rear stabilizer trailer jacks.
- Weight bearing fenders up to 227 kg (500 lbs.)

Trailer Specifications

Axle Rating	Dual, 2268 kg (5000 lb.) per axle
Tires	ST225/75R15 LRE with 1284 kg (2830 lb.) load rating
Wheels	Steel, 15 x 6, 6-bolt

Available Field Draggable Skid

(Available Options, see page 4)

- Heavy gauge steel skid with integrated drains and pull bars.

Standard Features

- Alternator Protection
- Battery, Battery Rack, and Battery Cables
- Engine Oil and Coolant Added
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil and Coolant Drain Extension
- Operation Literature

Tier 4 Final Technologies Applied

- Diesel Oxidation Catalyst (DOC)
- Diesel Particulate Filter (DPF)
- High Pressure Common Rail (HPCR)
- Selective Catalytic Reduction (SCR)

Available Options

Approvals and Listings

- CSA Certified

Controller

- 15-Relay Dry Contact

Electrical System

- Battery Charger
- Cold Weather Package
(includes block heater and battery heater)
- Voltage Selector Switch and Convenience Receptacles
(3- 240 volt, 2- 120 volt)
- Camlock Style Load Connectors, Color Coded

Fuel System

- Two-Way Fuel Valve
(for connection of a user-supplied external fuel tank)

Paralleling System

- Mobile Paralleling Box

Skid

- Field Draggable Skid

Trailer and Options

- Trailer
- Lunette Eye (for pintle hitch tow vehicles)
- Spare Tire
- Wheel Chock Blocks

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

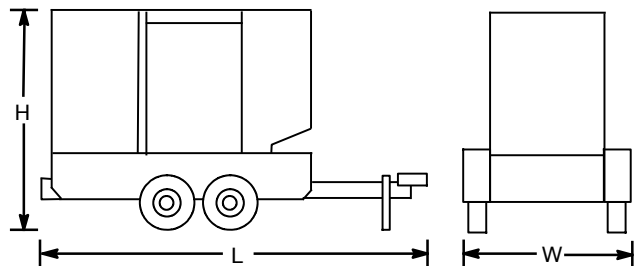
Other Options

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

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 4772 x 2018 x 2682
 Standard Skid (187.9 x 79.4 x 105.6)
 Weight with engine fluids and no fuel in tank kg (lb.): 3241 (7145)

Overall Size, L x W x H, mm (in.): 4772 x 2018 x 2682
 Field Draggable Skid (187.9 x 79.4 x 105.6)
 Weight with engine fluids and no fuel in tank kg (lb.): 3320 (7320)



Note: This drawing is provided for reference only and should not be used for planning. Contact your local distributor for more detailed information.

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