# KOHLER

## Model: 145REOZT4

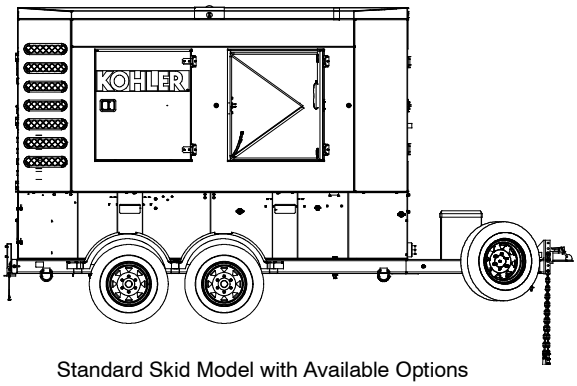
**208- 600 V** **Diesel**

ISO 9001 KOHLER NATIONALLY REGISTERED

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

## Ratings Range

| | | 60 Hz |
|---|---|---|
| **Standby:** | **kW** | 109- 130 |
| | **kVA** | 109- 162.5 |
| **Prime:** | **kW** | 105.5- 117 |
| | **kVA** | 105.5- 146 |
| **Continuous:** | **kW** | 99.5- 117 |
| | **kVA** | 99.5- 146 |




Standard Skid Model with Available Options

## 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 50°C (122°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 70 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.
- 1 load lug per phase #6- 350MCM, 400 amp.
- Remote start/stop capabilities.
- Shore power connection points to front of junction box for block heater, battery chargers, and battery heater.

## Generator Set Ratings

| | | | | 150°C Rise Standby Rating | | 125°C Rise Prime Rating | | 125°C Rise Continuous Rating | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Alternator** | **Voltage** | **Ph** | **Hz** | **kW/kVA** | **Amps** | **kW/kVA** | **Amps** | **kW/kVA** | **Amps** | **Ordering Options*** |
| | 120/208 | 3 | 60 | 130/163 | 451 | 117/146 | 406 | 117/146 | 406 | A |
| | 120/240 | 3 | 60 | 125/156 | 376 | 113/141 | 340 | 113/141 | 340 | B |
| 4R13X | 120/240 | 1 | 60 | 109/109 | 454 | 105/105 | 438 | 99/99 | 413 | A |
| | 277/480 | 3 | 60 | 130/163 | 195 | 117/146 | 176 | 114/143 | 171 | A |
| | 347/600 | 3 | 60 | 130/163 | 156 | 117/146 | 141 | 114/143 | 137 | 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<br>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 4R13X (12 lead) | 540 |

- 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 | 6068HG550<br>4-Cycle Turbocharged, Charge Air-Cooled |
| Cylinder arrangement | 6 Inline |
| Displacement, L (cu. in.) | 6.8 (415) |
| 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) | 150 (201) |
| 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) | 20.1 (710) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 389 (732) |
| Maximum allowable back pressure, kPa (in. Hg) | 11 (3.25) |
| Back pressure available after taking into account losses due to exhaust aftertreatment system, kPa (in. Hg) | 2.3 (0.7) |

## Engine Electrical

| Engine Electrical System | |
|---|---|
| Battery charging alternator: | |
| Ground (negative/positive) | Negative |
| Volts (DC) | 24 |
| Ampere rating | 60 |
| Starter motor rated voltage (DC) | 24 |
| Battery, recommended cold cranking amps (CCA): | |
| Qty., rating for -30°C (-22°F) | Two, 400 |
| Battery voltage (DC) | 12 |

## Fuel

| Fuel System | |
|---|---|
| Fuel supply line, min. ID, mm (in.) | 8 (0.31) |
| Fuel return line, min. ID, mm (in.) | 4.8 (0.19) |
| Max. lift, fuel pump: type, m (ft.) | Electronic, 1.8 (6.0) |
| Max. fuel flow, Lph (gph) | 138.5 (36.6) |
| Max. return line restriction, kPa (in. Hg) | 40 (11.8) |
| 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.) § | 27.5 (29.1) |
| Oil pan capacity with filter, L (qt.) § | 28.5 (30.1) |
| 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.) | 35.6 (9.4) |

## Operation Requirements

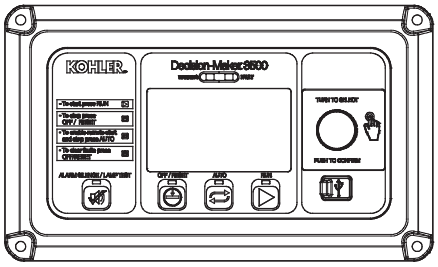
| Air Requirements | |
|---|---|
| Radiator-cooled cooling air, $m^3$/min. (scfm) † | 297 (10500) |
| Combustion air, $m^3$/min. (cfm) | 9.7 (343) |
| Heat rejected to ambient air: | |
| Engine, kW (Btu/min.) | 20 (1138) |
| Alternator, kW (Btu/min.) | 14.8 (1842) |

† Air density = 1.20 kg/$m^3$ (0.075 lbm/$ft^3$)

| Fuel Consumption | | |
|---|---|---|
| Diesel, Lph (gph) at % load | Standby Ratings | Prime Ratings |
| 100% | 34.0 (9.4) | 32.5 (8.6) |
| 75% | 27.2 (7.2) | 25.0 (6.6) |
| 50% | 19.3 (5.1) | 17.8 (4.7) |
| 25% | 11.3 (3.0) | 10.6 (2.8) |
| 0% | 3.0 (0.8) | 3.0 (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 ±0.5% regulation
- Potted circuitry for protection from vibration and debris
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

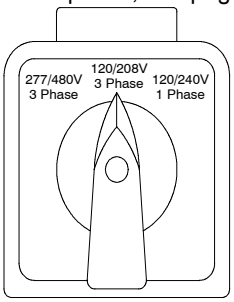
# Fuel and DEF Tanks

- 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 | 1045 L (276 gal.) |
| DEF tank capacity | 44.2 L (11.7 gal.) |
| Recommended DEF | AUS 32 according to ISO 22241-1 |

# Available Voltage Selector Switch

(Available Options, see page 4)

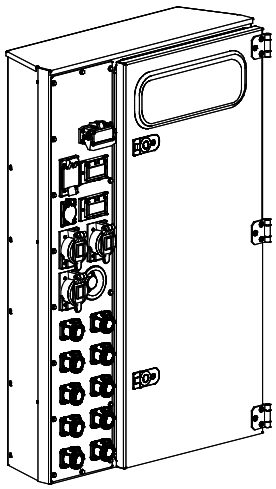



**3-Position**

- 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, battery heater, block heater, and one extra customer outlet)
- Remote start connection
- Mobile paralleling box connection
- Main line circuit breaker
  - Reconnectable and selector switch models: Rating 600 amps, field adjustable based on voltage selected
  - 600 volt models: Rating 250 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

2 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.
- Running lights with 7-wire harness and connector.
- Front tongue jack.

| Trailer Specifications | |
|---|---|
| Axle Rating | Dual, 2722 kg (6000 lb.) per axle |
| Tires | ST225/75R15 LRE with 1284 kg (2830 lb.) load rating |
| Wheels | Steel, 15 x 6, 6-bolt |

# Available Draggable Fuel Tank

(Available Options, see page 4)

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

KOHLER

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

## Standard Features

- Alternator Protection
- Batteries, 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)
- Variable Geometry Turbocharger (VGT)

**Approvals and Listings**

❑ CSA Certified

**Controller**

❑ 15-Relay Dry Contact

**Electrical System**

❑ Battery Chargers (qty. 2)
❑ 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**

❑ Fuel Tank
❑ Draggable Fuel Tank
(heavy gauge steel skid with integrated drains and pull bars)

**Trailer and Options**

❑ Trailer
❑ Lunette Eye (for pintle hitch tow vehicles)
❑ Spare Tire
❑ Wheel Chock Blocks
❑ Lockable Utility Box with Fire Extinguisher
(same common key as enclosure)

**Literature**

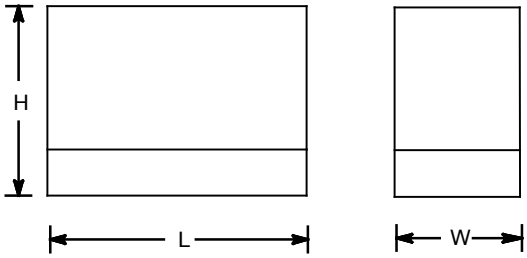
❑ General Maintenance
❑ NFPA 110
❑ Overhaul
❑ Production

**Other Options**

❑ _____
❑ _____
❑ _____
❑ _____
❑ _____
❑ _____
❑ _____
❑ _____

### Dimensions and Weights (Off Trailer)

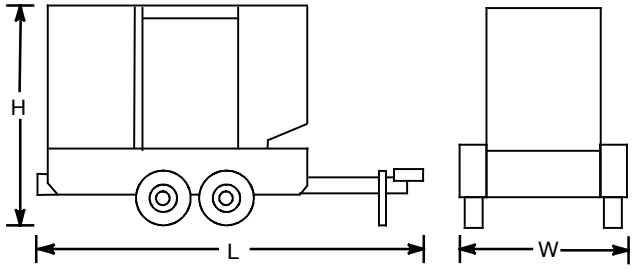
| | |
|---|---|
| Overall Size, L x W x H, mm (in.): | 3834 x 1190 x 2294 |
| Draggable Fuel Tank | (150.9 x 46.8 x 90.3) |
| Weight with engine fluids and no fuel in tank kg (lb.): | 3583 (7899) |




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

### Dimensions and Weights (On Trailer)

| | |
|---|---|
| Overall Size, L x W x H, mm (in.): | 5146 x 2020.6 x 2874.5 |
| Fuel Tank | (202.6 x 79.5 x 113.1) |
| Weight with engine fluids and no fuel in tank kg (lb.): | 4116 (9074) |

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