# Model: 70REZGT

# KOHLER. Power Systems

208-600 V

Gas

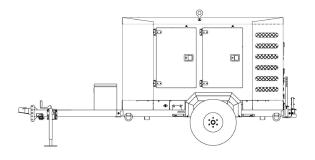


### EPA-Certified for Prime Power and Standby Applications

# **Ratings Range**

Standby:	kW
Prime:	kVA kW
	k\/Δ

60 Hz
55-62
55-77
50-56
50-70



- Convenience Package option (see page 4 for all available options):
  - 24-hour on-board LP tank assembly
  - Battery charger
  - Camlock style load connectors, color coded
  - $\circ~$  Cold weather package (includes block heater
  - and battery heater pad and wrap)
    Duplex receptacles, two 120 V, 15 amp
  - Duplex receptacles, two 120 v, 15 amp
     Twistlock receptacles, three 240 V, 50 amp
  - Voltage selector switch, 3-position lockable

### **Towable 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 systems and components. The trailer has a one-year limited warranty.
- Generator set features:
  - $\circ~$  Unit-mounted radiator with 45°C (113°F) ambient air capability with prime rating.
  - The unique Fast-Response <sup>™</sup> 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:
  - Operates on LP gas, LP liquid withdrawal, or natural gas fuel supply.
  - Heavy-duty air cleaner with air restrictor indicator.
  - Lockable battery disconnect switch.
  - Electronic, isochronous governor.
- Enclosure and trailer features:
  - Durable steel, sound-attenuating housing with quiet operation of 67 dB(A) @ 7 m (23 ft.) (full load).
  - Stainless steel hinges and lockable latches on doors.
  - 110% environmental containment basin for oil and coolant.
  - $\circ~$  Single-axle trailer with electric brakes and battery back-up breakaway system.
  - Single-point lifting eye and four-point tie down system for detaching the generator set and fuel tank from the trailer.
- Customer connection panel features:
- Decision-Maker<sup>®</sup> 3500 controller features 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).
- $\circ\;$  Shore power connection point for block heater and battery charger.

# **Generator Set Ratings**

				LP 0 150°C Standby	Rise	LP C 125°C Prime I	Rise	Natura 150°C Standby	Rise	Natura 125°C Prime F	Rise	Ordering
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	Options*
	120/208	3	60	62/77	215	56/70	194	57/71	197	52/65	180	A
	120/240	3	60	62/77	186	56/70	168	57/71	171	52/65	156	В
4P8X	120/240	1	60	57/57	237	52/52	216	55/55	229	50/50	208	Α
	277/480	3	60	62/77	93	56/70	84	57/71	85	52/65	78	А
	347/600	3	60	62/77	74	56/70	67	57/71	68	52/65	62	С

\* 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. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. 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
Туре	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent Magnet
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	150°C, Standby/
	125°C, Prime
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: 480 V 4P8X (12 lead)	(35% dip for voltages below) 261 (60 Hz)

Engine

Ampere rating

Battery voltage (DC)

amps (CCA):

Starter motor rated voltage (DC)

Battery, recommended cold cranking

Qty., rating for -18°C (0°F)

#### 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<sup>™</sup> X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.

# **Application Data**

### Fuel

Engine Specifications		Fuel System		
Manufacturer	General Motors	Fuel type		s, LP Gas, or
Engine: model, type	Industrial Powertrain			Withdrawal
	Vortec 5.7 L, 4-Cycle	Fuel supply line inlet (gas)	1.25	NPTF
	Natural Aspiration	Fuel supply line inlet (LP liquid)	3/8	NPTF
Cylinder arrangement	V-8	Natural gas fuel supply pressure, kPa		
Displacement, L (cu. in.)	5.7 (350)	(in. H <sub>2</sub> O)	1.74-2.	74 (7-11)
Bore and stroke, mm (in.)	101.6 x 88.4 (4.00 x 3.48)	LPG vapor withdrawal fuel supply		
Compression ratio	9.4:1	pressure, kPa (in. H <sub>2</sub> O)	1.24-2.	74 (5-11)
Piston speed, m/min. (ft./min.)	318 (1044)	Fuel Composition Limits *	Nat. Gas	LP Gas
Rated rpm	1800	Methane, % by volume	90 min.	1.2 max.
Max. power at rated rpm, kW (HP)		Ethane, % by volume	4.0 max.	10 max.
LP Gas	70.0 (93.8)	Propane, % by volume	1.0 max.	96 max.
Natural Gas	69.8 (93.7)	Propene, % by volume	0.1 max.	3 max.
Valve (exhaust) material	Forged Steel	$C_4$ and higher, % by volume	0.3 max.	3 max.
Governor type	Electronic	Sulfur, ppm mass	25	max.
Frequency regulation, no-load to full-load	Isochronous	Lower heating value,		
Frequency regulation, steady state	±0.5%	MJ/m <sup>3</sup> (Btu/ft <sup>3</sup> ), min.	33.2 (890)	78.8 (2116)
Air cleaner type, all models Exhaust	Dry	<ul> <li>Fuels with other compositions may be outside the listed specifications, conta further analysis and advice.</li> </ul>		
Exhaust System		Lubrication		
Exhaust manifold type	Dry	Lubricating System		
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm) Exhaust temperature at rated kW, dry	15.7 (555)		<b>EI</b> . D	ressure
exhaust, °C (°F)	640 (1000)	Type		
	649 (1200)	Oil pan capacity, L (qt.)		(4.5)
Maximum allowable back pressure, kPa (in. Hg)	10.0 (2.0)	Oil pan capacity with filter, L (qt.)		(5.0)
KF a (III. 119)	10.2 (3.0)	Oil filter: quantity, type	One, C	artridge
Engine Electrical		Cooling		
Engine Electrical System		Radiator System		
Ignition system	Electronic	Radiator system capacity, including		
Battery charging alternator:		engine, L (gal.)	16.6	(17.5)
Ground (negative/positive)	Negative	<b>Operation Requirements</b>		
Volts (DC)	12			

Air Requirements	
Radiator-cooled cooling air,	
m <sup>3</sup> /min. (scfm)‡	113 (4000)
Combustion air, m <sup>3</sup> /min. (cfm)	5.2 (182)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	17.5 (995)
Alternator, kW (Btu/min.)	7.3 (415)
† Air density = 1.20 kg/m <sup>3</sup> (0.075 lbm/ft <sup>3</sup> )	

70

12

One, 630

12

# **Application Data**

#### Fuel Consumption #

LP Gas, m <sup>3</sup> /hr. (cfh) at % load	Standby Ratings	Prime Ratings
100%	7.5 (266)	7.2 (254)
75%	6.7 (238)	6.4 (227)
50%	5.4 (189)	5.1 (180)
25%	3.7 (129)	3.5 (123)
0%	2.2 (79)	2.1 (76)
Natural Gas, m <sup>3</sup> /hr. (cfh) at % load	Standby Ratings	Prime Ratings
Natural Gas, m <sup>3</sup> /hr. (cfh) at % load		
, , , , ,	Ratings	Ratings
100%	<b>Ratings</b> 24.6 (870)	<b>Ratings</b> 23.4 (828)
100% 75%	Ratings           24.6         (870)           19.9         (701)	Ratings           23.4         (828)           18.9         (668)

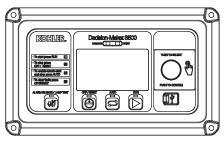
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LP vapor conversion factors:

8.58 ft.<sup>3</sup> = 1 lb. 0.535 m<sup>3</sup> = 1 kg.

## 36.39 ft.<sup>3</sup> = 1 gal.

### Controller



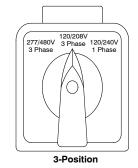
### Decision-Maker<sup>®</sup> 3500 Paralleling Controller

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

# **Available Voltage Selector Switch**

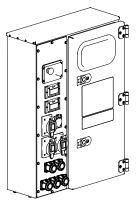
(Available Options, see page 4)



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

Modbus® is a registered trademark of Schneider Electric.

## **Power Panel**



- Viewable generator set controller with security cover
- Emergency stop switch
- Shore power connector, 120 V, 15 amp (for battery charger and block heater)
- Remote start connection
- Main line circuit breaker
  - Reconnectable models: Rating 250 amps, field adjustable based on voltage selected
  - o 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 connections

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

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

# Trailer

- Single-axle trailer with electric brakes and 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	Single, 2722 kg (6000 lb.) axle
Tires	ST235/80R16E with 1597 kg (3520 lb.) load rating
Wheels	Steel, 16 x 6, 6-bolt

## **Available Fuel Tank**

(Available Options-Fuel Tank, see page 4)

- Trailer-mounted LP fuel tanks for 24-hour run time (minimum).
- Lockable fuel tank access doors to each tank fill port.
- Tank assembly fuel level is shown on the DEC 3500 controller display.

#### **Fuel Tank Specifications**

Fuel Tank, qty. capacity	Two, 312 L (82.5 gal.) at 80% full
Fuel Tank, total capacity	625 L (165 gal.) at 80% full

### **Standard Features**

- Alternator Protection
- Battery, Battery Rack, and Cables
- Engine Oil and Coolant Added
- Gaseous 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
- LP Liquid Fuel Filter
- LP Liquid Withdrawal (vaporizer)
- Oil Drain Extension
- Operation and Installation Literature
- Three-Way Exhaust CatalystThree-Way Fuel Valve

(for connection of a user-supplied external fuel source)

### **Available Options**

#### Controller

15-Relay Dry Contact

#### **Electrical System**

- Battery Charger, Equalize/Float Type
- Cold Weather Package
- (includes block heater and battery heater pad and wrap)
- Convenience Package (see page 1 for details)
- Uvltage Selector Switch, Lockable

## Fuel Tank

24-Hour On-Board LP Tank Assembly

#### Trailer

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

### Power Panel

- Camlock Style Load Connectors, Color Coded
- Convenience Receptacles (3-240 volt, 2-120 volt) (includes individual circuit breakers)

### Literature

- General Maintenance
- D NFPA 110
- Overhaul
- Production

### Other Options

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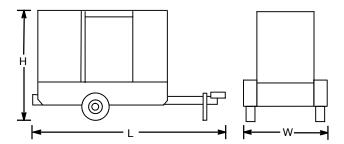
### **Dimensions and Weights**

 Overall Size, L x W x H, mm (in.):
 4339 x 2118 x 2691

 With fuel tank
 (171 x 84 x 98)

 Weight with engine fluids and no fuel in tank, kg (lb.):
 2259 (4970)

Overall Size, L x W x H, mm (in.): Without fuel tank Weight with engine fluids, kg (lb.): 4339 x 2118 x 2032 (171 x 84 x 80) 1771 (3897)



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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