

# Model: **200ROZJ**

# KOHLER POWER SYSTEMS

## 190-600 V      4 Cycle Diesel



### Ratings Range

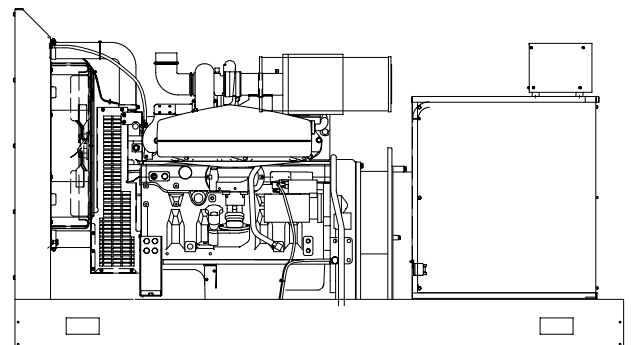
		60 Hz	50 Hz
Standby:	kW	200-205	188-192
	kVA	250-256	235-240
Prime:	kW	180-185	168-172
	kVA	225-231	210-215

### Generator Ratings

Generator	Voltage	Ph	Hz	130° C Rise		105° C Rise	
				Standby Rating	Amps	Prime Rating	Amps
4UA9	120/208	3	60	200/250	694	180/225	625
	120/240	3	60	200/250	601	180/225	541
	127/220	3	60	205/256	672	185/231	607
	139/240	3	60	205/256	616	185/231	556
	220/380	3	60	200/250	380	180/225	342
	240/416	3	60	200/250	347	180/225	312
	277/480	3	60	205/256	308	185/231	278
	347/600	3	60	205/256	247	185/231	223
	110/190	3	50	188/235	714	168/210	638
	110/220	3	50	188/235	617	168/210	551
	115/200	3	50	188/235	678	168/210	606
	120/208	3	50	188/235	652	168/210	583
	220/380	3	50	188/235	357	168/210	319
	230/400	3	50	188/235	339	168/210	303
240/416	3	50	188/235	326	168/210	291	
4UA13	120/208	3	60	205/256	711	185/231	642
	120/240	3	60	205/256	616	185/231	556
	127/220	3	60	205/256	672	185/231	607
	139/240	3	60	205/256	616	185/231	556
	220/380	3	60	205/256	389	185/231	351
	240/416	3	60	205/256	356	185/231	321
	277/480	3	60	205/256	308	185/231	278
	347/600	3	60	205/256	247	185/231	223
	110/190	3	50	192/240	729	172/215	653
	110/220	3	50	192/240	630	172/215	564
	115/200	3	50	192/240	693	172/215	621
	120/208	3	50	192/240	666	172/215	597
	220/380	3	50	192/240	365	172/215	327
	230/400	3	50	192/240	346	172/215	310
240/416	3	50	192/240	333	172/215	298	

### 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 generator set accepts rated load in one step.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to Tier 1 nonroad emissions regulations.
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Generator features:
  - Kohler's unique Fast-Response™ excitation system delivers the fastest voltage response in the industry.
  - The brushless, rotating-field generator has broadrange reconnectability.
  - Kohler's permanent magnet-excited generator (PMG) provides superior short-circuit capability.
- Other features:
  - Controllers are available for all applications. See controller features inside.
  - The low coolant level shutdown prevents overheating.
  - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.



**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 ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. *Prime Power Ratings:* Prime power ratings apply to installations where utility power is unavailable or unreliable. 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, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** *ALTITUDE:* No derate up to 3050 m (10000 ft.). *TEMPERATURE:* Derate 0.5% per 5.5°C (10°F) temperature above 40°C (104°F).

# Alternator Specifications

Specifications	Generator
Manufacturer	Kohler
Type	4-Pole, Rotating Field
Exciter type	Brushless, Permanent-Magnet
Leads: quantity, type	12, Reconnectable
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	±2%
Unbalanced load capability	100% of Rated Standby Current
One-step load acceptance	100% of Rating
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 380 V 4UA9 (12 lead)	700 (60 Hz)
480 V, 380 V 4UA13 (12 lead)	980 (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 generator field.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Solid-state, volts-per-hertz voltage regulator with ±2% no-load to full-load regulation.
- Fast-Response™ brushless alternator with brushless exciter for excellent load response.

## Application Data

### Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	John Deere	
Engine: model, type	6081AF001, 4-Cycle, Turbocharged, Aftercooled	
Cylinder arrangement	6 Inline	
Displacement, L (cu. in.)	8.1 (496)	
Bore and stroke, mm (in.)	116 x 129 (4.56 x 5.06)	
Compression ratio	16.5:1	
Piston speed, m/sec. (ft./min.)	7.7 (1515)	6.5 (1265)
Main bearings: quantity, type	7, Replaceable Insert	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	259 (347)	225 (302)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve material:		
Intake	Chromium-Silicon Steel	
Exhaust	Stainless Steel	
Governor: type, make/model	Mechanical, Robert Bosch P3000	
Frequency regulation, no-load to full-load	3-5%	
Frequency regulation, steady state	±0.33% (mech. governor) ±0.25% (elect. isoch. gov.)	
Frequency	Fixed	
Air cleaner type, all models	Dry	

### Engine Electrical

Engine Electrical System (12/24 V*)	60 Hz	50 Hz
Battery charging alternator:	24 Volt	
Ground (negative/positive)	Negative	
Volts (DC)	24	
Ampere rating	40	
Starter motor rated voltage (DC)	24	
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating	2, 570	
Battery voltage (DC)	12	

### Fuel

Fuel System	60 Hz	50 Hz
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)	255 (67.4)	205 (54.2)
Fuel prime pump	Manual	
Fuel filter	Primary 8 Microns @ 98% Efficiency	
Recommended fuel	#2 Diesel	

### Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	31 (32.75)	
Oil pan capacity with filter, L (qt.)	32 (33.75)	
Oil filter: quantity, type	1, Cartridge	
Oil cooler	Water-Cooled	

### Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	49 (1735)	41 (1451)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	495 (920)	531 (988)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)	
Exhaust outlet size at engine hookup, mm (in.)	101.6 (4)	

# Application Data

## Cooling (Standard Radiator)

Cooling System	60 Hz	50 Hz
Ambient temperature, °C (°F)*	50 (122)	45 (113)
Engine jacket water capacity, L (gal.)	14.4 (3.8)	
Radiator system capacity, including engine, L (gal.)	30 (7.8)	
Engine jacket water flow, Lpm (gpm)	285 (75)	210 (55)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	135 (7700)	131 (7425)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	660 (26)	
Fan, kWm (HP)	10.4 (14.0)	6.0 (8.1)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)	

\* Weather housing reduces ambient temperature capability by 9°F (5°C).

## Cooling (Optional Systems)

Remote Radiator System†	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:		
Water inlet, ID hose, mm (in.) . . . .	51 (2.0)	
Water outlet, ID hose, mm (in.) . . .	64 (2.5)	
Static head allowable above engine, kPa (ft. H <sub>2</sub> O)	60 (20)	

City Water Cooling (CWC) System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:		
Water inlet, in. . . . .	0.75 NPT	
Water outlet, in. . . . .	1.5 NPT	

† Contact your local distributor for cooling system options and specifications based on your specific application.

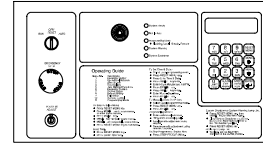
## Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm)‡	241 (8500)	199 (7015)
Cooling air required for gen. set when equipped with CWC or remote radiator, based on 14°C (25°F) rise and ambient temp. of 29°C (85°F), m <sup>3</sup> /min. (cfm)	235 (8300)	215 (7582)
Combustion air, m <sup>3</sup> /min. (cfm)	20.0 (710)	14.7 (519)
Heat rejected to ambient air:		
Engine, kW (Btu/min.) . . . . .	44.6 (2540)	43.1 (2456)
Generator, kW (Btu/min.) . . . . .	18.8 (1070)	16.8 (956)

‡ Air density = 1.20 kg/m<sup>3</sup> (0.075 lbm/ft<sup>3</sup>)

Fuel Consumption	60 Hz	50 Hz
<b>Diesel, Lph (gph) at % load</b>	<b>Standby</b>	
100%	60.8(16.1)	53.3(14.1)
75%	44.9(11.9)	40.0(10.6)
50%	30.1 (8.0)	26.7 (7.1)
25%	16.8 (4.4)	13.4 (3.5)
<b>Diesel, Lph (gph) at % load</b>	<b>Prime</b>	
100%	55.0(14.5)	45.4(12.0)
75%	40.9(10.8)	34.0 (9.0)
50%	27.8 (7.3)	22.7 (6.0)
25%	15.6 (4.1)	11.4 (3.0)

## Controllers



### Available Controllers

#### Decision-Maker™ 340 Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. 12- or 24-volt engine electrical system capability. Remote start, prime power, remote annunciation, and remote communication options.

#### Decision-Maker™ 3+, 16-Light Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options.

#### Decision-Maker™ 3+, 7-Light Controller

Audiovisual annunciation with NFPA 110 Level 2 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options.

#### Decision-Maker™ 1 Controller

Single-light annunciation and basic controls with NFPA capability. Relay logic features included with three controller options: standard, standard with engine gauges, and expanded with AC meters and engine gauges. 12-volt engine electrical system capability only. Remote or automatic start options.

#### Manual Controller

Single-light annunciation and basic control functions. Relay logic with AC meters and engine gauge features. Prime power and mobile application design. 12-volt engine electrical system capability only.

#### Engine Gauge Box Controller for Paralleling Switchgear

Generator set-to-switchgear interface for paralleling switchgear applications. Engine gauges and emergency stop switch features. 12- or 24-volt engine electrical system capability.

**Note:** See the respective controller spec sheet for additional controller features and accessories.

## Standard Features and Accessories

### Additional Standard Features

- Battery Rack and Cables
- Integral Vibration Isolation
- Oil Drain Extension
- Operation and Installation Literature
- Permanent Magnet-Excited Generator (PMG)

### Accessories

#### Enclosed Unit

- Exhaust Silencer, Critical (kit: PA-336803)
- Exhaust Silencer, Residential (kit: PA-324542)
- Silencer Mounting Kit for Housing
- Sound Shield Enclosure
- Tail Pipe and Rain Cap Kit
- Weather Housing

#### Open Unit

- Exhaust Silencer, Critical (kits: PA-336173, PA-336176)
- Exhaust Silencer, Residential (kits: PA-336174, PA-336175)
- Flexible Exhaust Connector, Stainless Steel

#### Cooling System

- Block Heater
- City Water Cooling
- Radiator Duct Flange
- Remote Radiator Cooling

#### Fuel System

- Auxiliary Fuel Pump
- Day Tanks
- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

#### Electrical System

- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

#### Engine and Generator

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Bus Bar Kits
- CSA Certification
- Current Transformer Kit
- Electronic Isochronous Governor ( $\pm 0.25\%$  freq. reg. steady state)
- Generator Strip Heater
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)
- NFPA 110 Literature
- Optional Generators
- Rated Power Factor Testing
- Rodent Guards
- Safeguard Breaker
- Skid End Caps
- Voltage Regulation, 1%
- Voltage Regulator Sensing, Three-Phase

#### Paralleling System

- Load-Sharing Module
- Reactive Droop Compensator
- Remote Speed Adjust Potentiometer/Electronic Governor
- Voltage Adjust Potentiometer
- Voltage Regulator Relocation Kit

#### Maintenance

- General Maintenance Literature Kit
- Maintenance Kit (includes standard air, oil, and fuel filters)
- Overhaul Literature Kit
- Production Literature Kit

#### Controller (Decision-Maker™ 340 and Decision-Maker™ 3+)

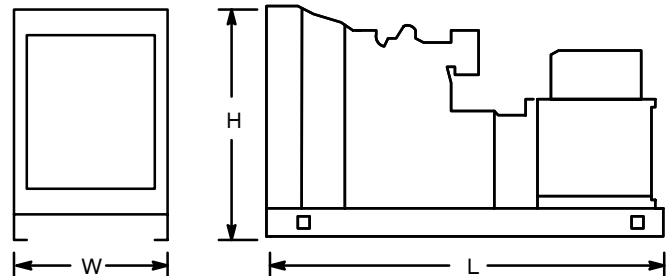
- Common Failure Relay Kit
- Communication Products and PC Software (Decision-Maker™ 340 controller only)
- Controller Cable, 12 m (40 ft.)
- Customer Connection Kit
- Dry Contact Kit (isolated alarm)
- Engine Prealarm Sender Kit
- Prime Power Switch (Decision-Maker™ 340 controller only)
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- Run Relay Kit

#### Miscellaneous Accessories

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Weights and Dimensions

Overall Size, L x W x H, mm (in.): 2819 x 1143 x 1574  
 (111.00 x 45.00 x 61.97)  
 Weight (radiator model), wet, kg (lb.): 1919 (4230)



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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