

# Model: 600ROZD

# KOHLER POWER SYSTEMS

# Diesel



U.S.A. Plant ISO Registered

## Ratings Range

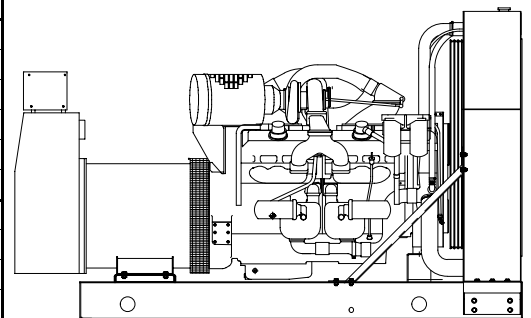
		60 Hz	50 Hz
Standby:	kW	470-615	436-488
	kVA	588-769	545-610
Prime:	kW	425-560	396-444
	kVA	531-700	495-555

## Generator Ratings

Generator	Voltage	PH	Hz	130°C Rise Standby Rating kW/kVA	105°C Rise Prime Rating kW/kVA	150°C Rise Standby Rating kW/kVA	125°C Rise Prime Rating kW/kVA
5M4028	120/208	3	60	525/656	475/594	535/669	485/606
	127/220	3	60	560/700	510/638	560/700	510/638
	139/240	3	60	560/700	510/638	600/750	545/681
	220/380	3	60	470/588	425/531	470/588	425/531
	240/416	3	60	525/656	475/594	535/669	485/606
	277/480	3	60	560/700	510/638	600/750	545/681
	110/190	3	50	476/595	432/540	480/600	436/545
	115/200	3	50	464/580	420/525	480/600	436/545
	120/208	3	50	436/545	396/495	448/560	408/510
	220/380	3	50	476/595	432/540	480/600	436/545
5M4030	230/400	3	50	464/580	420/525	480/600	436/545
	240/416	3	50	436/545	396/495	448/560	408/510
	120/208	3	60	565/706	510/638	600/750	545/681
	127/220	3	60	590/738	535/669	600/750	545/681
	139/240	3	60	600/750	545/681	605/756	550/688
	220/380	3	60	485/606	440/550	485/606	440/550
	240/416	3	60	565/706	510/638	600/750	545/681
	277/480	3	60	600/750	545/681	605/756	550/688
	110/190	3	50	484/605	440/550	484/605	440/550
	115/200	3	50	484/605	440/550	484/605	440/550
5M4032	120/208	3	50	484/605	440/550	484/605	440/550
	220/380	3	50	484/605	440/550	484/605	440/550
	230/400	3	50	484/605	440/550	484/605	440/550
	240/416	3	50	484/605	440/550	484/605	440/550
	120/208	3	60	605/756	550/688	605/756	550/688
	127/220	3	60	605/756	550/688	605/756	550/688
	139/240	3	60	610/763	555/694	610/763	555/694
	220/380	3	60	595/744	540/675	595/744	540/675
	240/416	3	60	605/756	550/688	605/756	550/688
	277/480	3	60	610/763	555/694	610/763	555/694
5M4032	110/190	3	50	488/610	444/555	488/610	444/555
	115/200	3	50	488/610	444/555	488/610	444/555
	120/208	3	50	488/610	444/555	488/610	444/555
	220/380	3	50	488/610	444/555	488/610	444/555
	230/400	3	50	488/610	444/555	488/610	444/555
	240/416	3	50	488/610	444/555	488/610	444/555
5M4164	220/380	3	60	610/763	555/694	610/763	555/694
5M4272	347/600	3	60	600/750	545/681	605/756	550/688
5M4276	347/600	3	60	615/769	560/700	615/769	560/700

## Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- All generator sets and components are prototype tested, factory built, and production tested.
- Generator set provides one-step load acceptance per NFPA 110.
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are available.
- Generator features:
  - Brushless, rotating-field generator has broadrange reconnectability.
  - A permanent-magnet, pilot-excited generator (PMG) provides superior short-circuit capability.
- Other features:
  - Controllers are available to meet all applications. See controller features inside.
  - Low coolant level shutdown protects generator set from overheating.
  - Electronic, isochronous governor provides precise frequency regulation.



RATINGS: Standby ratings are continuous for the duration of any power outage. No overload capacity is specified at this rating. Prime ratings are continuous per BS 5514, DIN 6271, ISO-3046, and IEC 34-1 with 10% overload capacity one hour in twelve hours. All single-phase units are rated at 1.0 power factor. All 3-phase units are rated at 0.8 power factor. Contact the factory for ratings of city water-cooled and remote radiator models. Larger alternators may be used to meet special application requirements. Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler Co. generator distributor for availability. GENERAL GUIDELINES FOR DERATION: ALTITUDE: Derate 1.5% per 1000 ft. (305 m) elevation above 3300 ft. (1006 m). TEMPERATURE: Derate 2.75% per 10°F (5.5°C) temperature above 105°F (40°C).

# Alternator Specifications

Specifications	TR II-Series™ Generator
Type .....	4-Pole, Rotating Field
Exciter type .....	Brushless Permanent Magnet Pilot Exciter
Voltage regulator .....	Solid State, Volts/Hz
Insulation: NEMA MG1-1.66,	
Material .....	Class H, Synthetic, Nonhygroscopic
Temperature rise .....	130°C, 150°C Standby
Bearing, number, type .....	1, Sealed
Coupling .....	Flexible Disc
Amortisseur windings .....	Full
Rotor balancing .....	125% (60Hz) 150% (50Hz)
Voltage regulation, no load to full load (with <0.5% drift due to temp. variation) ...	±0.25%
One-step load acceptance per NFPA 110	100% of Rating
Peak motor starting kVA:	(35% dip for voltages listed)
480/416V      5M4028 (10 lead) ....	1800 (60Hz), 1450 (50Hz)
480/416V      5M4030 (10 lead) ....	1775 (60Hz), 1325 (50Hz)
480/416V      5M4032 (10 lead) ....	2200 (60Hz), 1650 (50Hz)
380V          5M4164 (4 lead) .....	2300 (60Hz)
600V          5M4272 (4 lead) .....	1750 (60Hz)
600V          5M4276 (4 lead) .....	2800 (60Hz)

- Compliance with NEMA, IEEE, and ANSI standards for temperature rise.
- Sustained short-circuit current up to 300% of rated current for up to 10 seconds.
- Sustained short-circuit capability enabling downstream circuit breakers to trip without collapsing the generator field.
- Self-ventilation and drip-proof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- A digital solid-state, volts-per-hertz voltage regulator with ±0.25% no-load to full-load regulation.
- A brushless alternator with brushless pilot exciter for excellent load response.

## Application Data

### Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Detroit Diesel	
Engine, model, type	12V-92TA, (8123-7416) 2-Cycle, Twin-Turbo, Aftercooled	
Cylinder arrangement	12-V	
Displacement, cu. in. (L)	1104 (18.1)	
Bore and stroke, in. (mm)	4.84 (123) x 5.00 (127)	
Compression ratio	15.0:1	
Piston speed, ft/min. (m/sec.)	1500 (7.6)	1250 (6.3)
Main bearings: number, type	8, Precision Half Shells	
Rated rpm	1800	1500
Max. power at rated rpm, hp (kW)	947 (706)	747 (557)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve (exhaust) material	Cast Iron	
Governor, type, make/model	Electronic, Barber-Colman, Dyna 8000	
Frequency regulation, no load to full load	Isochronous	
Frequency regulation, steady state	±0.25%	
Air cleaner type, all models	Dry	

### Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust flow at rated kW, cfm (m³/min.)	6370 (180)	5140 (146)
Exhaust temperature at rated kW, dry exhaust, °F (°C)	765 (407)	750 (399)
Maximum allowable back pressure, in. Hg (kPa)	2.0 (6.8)	1.4 (4.7)
Engine exhaust outlet size, in. (mm)	see ADV drawing	

### Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Battery charging alternator:		
Ground (negative/positive) .....	Negative	
Volts (DC) .....	24	
Ampere rating .....	65	
Starter motor rated voltage (DC)	24	
Recommended battery cold cranking amps (CCA) rating	950 above 32°F (0°C) 1250 below 32°F (0°C)	
Quantity of batteries	2 above 32°F (0°C), 4 below 32°F (0°C)	
Battery voltage (DC)	12	
Rolling current at 32°F (0°C)	-	

### Fuel

Fuel System	60 Hz	50 Hz
Fuel supply line, min. ID, in. (mm)	0.5 (13)	
Fuel return line, min. ID, in. (mm)	0.31 (8)	
Max. lift, engine-driven fuel pump, ft. (m)	6.8 (2.1)	
Max. fuel flow, gph (Lph)	140 (530)	125 (473)
Fuel prime pump	N/A	
Fuel filter	2, Primary/Secondary	
Recommended fuel	#2 Diesel	

### Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, qts. (L)	36 (34.1)	
Oil pan capacity with filter, qts. (L)	38 (36.1)	
Oil filter, quantity, type	2, Cartridge	
Oil cooler	Water-Cooled	

# Application Data

## Cooling (Standard Radiator)

Cooling System	60 Hz	50 Hz
Ambient temperature °F (°C)	105 (40)	
Engine jacket water capacity, gal. (L)	12.75 (48)	
Radiator system capacity, including engine, gal. (L)	37.5 (142)	
Engine jacket water flow, gpm (Lpm)	232 (878)	189 (715)
Heat rejected to cooling water at rated kW, dry exhaust Btu/min.	29357	23157
Water pump type	Centrifugal	
Fan diameter, including blades, in. (mm)	52 (1321)	
Fan hp (kW)	42 (31)	24 (18)
Max. restriction of cooling air, intake and discharge side of rad., in. H <sub>2</sub> O (kPa)	0.5 (0.125)	

## Cooling (Optional Systems)

Remote Radiator System†	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:		
Water inlet, in. (mm) . . . . .	4 (102) ID Hose	
Water outlet, in. (mm) . . . . .	(2) 3 (76) ID Hose	
Static head allowable above engine, ft. (m) . . . . .	50 (15.25)	

City Water Cooling System	60 Hz	50 Hz
Exhaust manifold type	Dry	
System capacity, gal. (L)	20.1 (76)	
City water consumption,* gpm (Lpm) at 50°F (10°C)	40 (151)	32 (121)
Connection sizes:*		
Water inlet, in. . . . .	1.5 NPT	
Water outlet, in. . . . .	1.0 NPT	

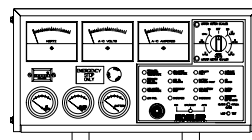
\* Data based on Transfer Products B-1604-88279 heat exchanger with thermostatically controlled water-saver valve, electric solenoid valve, and surge tank.

† 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, cfm (m <sup>3</sup> /min.)	33100 (937)	27600 (782)
Cooling air required for gen. set when equipped with CWC or remote radiator, based on 25°F (14°C) rise and ambient temp. of 85°F (29°C), cfm (m <sup>3</sup> /min.)	14600 (413)	12500 (354)
Combustion air, cfm (m <sup>3</sup> /min.)	2740 (78)	2240 (63)
Heat rejected to ambient air:		
Engine BTU/min. . . . .	3800	3380
Generator BTU/min. . . . .	2570	2070
Fuel Consumption	60 Hz	50 Hz
<b>Diesel, gph (Lph) at % load</b>		
100%	47.5 (179.8)	39.2 (148.4)
75%	36.0 (136.3)	30.5 (115.4)
50%	25.6 (96.9)	22.1 (83.6)
25%	16.7 (63.2)	12.0 (45.4)

## Controllers



### Standard Controller

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

Audio/visual annunciation with NFPA-110, Level 1 capability  
Microprocessor logic with AC meters and engine gauges  
Compatible with 12-volt and 24-volt engine electrical systems  
Remote start, prime power, and remote annunciation capability

### Optional Controllers

#### Decision-Maker™ 340 Controller

Audio/visual annunciation with NFPA-110, Level 1 capability  
Programmable microprocessor logic with digital display  
Compatible with 12-volt and 24-volt engine electrical systems  
Remote start, prime power, remote annunciation, and remote communication capability

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

Audio/visual annunciation with NFPA-110, Level 2 capability  
Microprocessor logic with AC meters and engine gauges  
Compatible with 12-volt and 24-volt engine electrical systems  
Remote start, prime power, and remote annunciation capability

#### Oversized Meterbox Controllers

Provides additional space for optional engine oil temperature gauge, tachometer, and wattmeter  
Available with 16-light or 7-light annunciation and microprocessor logic  
Same features as Decision-Maker™ 3+ controller  
Compatible with 12-volt and 24-volt engine electrical systems

#### Engine Gauge Box Controller for Paralleling Switchgear

Interfaces between generator set and switchgear for paralleling switchgear applications  
Engine gauges with emergency stop switch  
Compatible with 24-volt engine electrical systems only

#### Manual Paralleling Controller

Provides capability to parallel two or more generator sets without large switchgear-style cubicles  
Uses 16-light annunciation and microprocessor logic  
Same features as Decision-Maker™ 3+ controller  
Compatible with 12-volt and 24-volt engine electrical systems

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

## Accessories

### Open Unit

- ☐ Exhaust Silencer, Critical or Residential
- ☐ Flexible Exhaust Connector, Stainless Steel

### Cooling System

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

### Fuel System

- ☐ Day Tanks
- ☐ Flexible Fuel Lines
- ☐ Fuel Pressure Gauge
- ☐ Subbase Fuel Tanks

### Electrical System

- ☐ Battery
- ☐ Battery Charger, Equalize/Float Type
- ☐ Battery Charger, Trickle Type
- ☐ Battery Heater
- ☐ Battery Rack and Cables (standard)

### Engine and Generator

- ☐ Air Cleaner, Heavy Duty
- ☐ Air Cleaner Restriction Indicator
- ☐ Bus Bar Kits
- ☐ Generator Strip Heater
- ☐ Line Circuit Breaker
- ☐ Line Circuit Breaker with Shunt Trip
- ☐ NFPA 110 Literature
- ☐ Oil Drain Extension with Valve Kit
- ☐ Optional Generators
- ☐ Rated Power Factor Testing
- ☐ Safeguard Breaker
- ☐ Vibration Spring Isolator

### 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 air, oil, and fuel filters)
- ☐ Overhaul Literature Kit

### Controller (Standard Controller)

- ☐ Common Failure Relay Kit
- ☐ Customer Connection Kit
- ☐ Decision Monitor™ Remote Annunciator Panel
- ☐ Dry Contact Kit (Isolated Alarm)
- ☐ Extension Wiring Harness for Remote Mounting of Controller
- ☐ FASTCHECK® Diagnostic Fault Detector
- ☐ Prealarm Sender Kit
- ☐ Remote Audio/Visual Alarm Panel
- ☐ Remote Emergency Stop Kit
- ☐ Run Relay Kit
- ☐ Tachometer Kit/Oversize Meterbox
- ☐ Wattmeter Kit/Oversize Meterbox

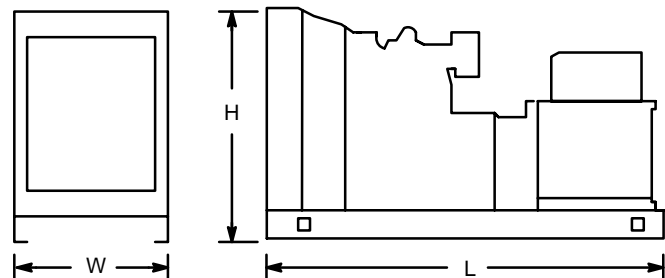
### Miscellaneous Accessories

- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_
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## WEIGHTS AND DIMENSIONS

Overall Size, L x W x H, in. (mm): 141.21 x 63.00 x 82.67  
 (3587 x 1600 x 2100)

Weight (Radiator Model), wet lb. (kg): 10060 (4563)



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

## DISTRIBUTED BY: