Model: 350ROZD

KOHLER POWER SYSTEMS

Diesel

ISO 9001 KOHLER GENERATORS INTERNATIONALLY REGISTERED U.S.A. Plant ISO Registered

Ratings Range

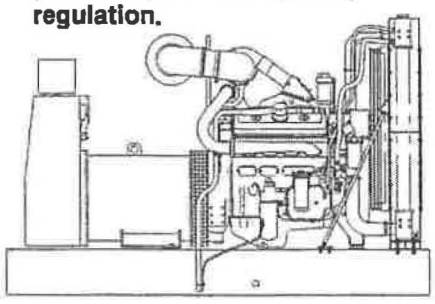
		60 Hz	50 Hz
Standby:	**kW**	**305-360**	**288-320**
	kVA	**381-450**	**360-400**
Prime:	**kW**	**275-325**	**260-288**
	kVA	**344-406**	**325-360**

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
4M4019	120/208	3	60	350/438	320/400	355/444	320/400
	127/220	3	60	355/444	320/400	355/444	320/400
	139/240	3	60	360/450	325/406	360/450	325/406
	220/380	3	60	305/381	275/344	305/381	275/344
	240/416	3	60	350/438	320/400	355/444	320/400
	277/480	3	60	360/450	325/406	360/450	325/406
	110/190	3	50	300/375	272/340	316/395	288/360
	115/200	3	50	296/370	268/335	316/395	288/360
	120/208	3	50	288/360	260/325	316/395	288/360
	220/380	3	50	300/375	272/340	316/395	288/360
	230/400	3	50	296/370	268/335	316/395	288/360
	240/416	3	50	288/360	260/325	316/395	288/360
4M4021	120/208	3	60	360/450	325/406	360/450	325/406
	127/220	3	60	360/450	325/406	360/450	325/406
	139/240	3	60	360/450	325/406	360/450	325/406
	220/380	3	60	315/394	285/356	315/394	285/356
	240/416	3	60	360/450	325/406	360/450	325/406
	277/480	3	60	360/450	325/406	360/450	325/406
	110/190	3	50	320/400	288/360	320/400	288/360
	115/200	3	50	320/400	288/360	320/400	288/360
	120/208	3	50	320/400	288/360	320/400	288/360
	220/380	3	50	320/400	288/360	320/400	288/360
	230/400	3	50	320/400	288/360	320/400	288/360
	240/416	3	50	320/400	288/360	320/400	288/360
5M4027	120/208	3	60	360/450	325/406	360/450	325/406
	127/220	3	60	360/450	325/406	360/450	325/406
	139/240	3	60	360/450	325/406	360/450	325/406
	220/380	3	60	360/450	325/406	360/450	325/406
	240/416	3	60	360/450	325/406	360/450	325/406
	277/480	3	60	360/450	325/406	360/450	325/406
	110/190	3	50	320/400	288/360	320/400	288/360
	115/200	3	50	320/400	288/360	320/400	288/360
	120/208	3	50	320/400	288/360	320/400	288/360
	220/380	3	50	320/400	288/360	320/400	288/360
	230/400	3	50	320/400	288/360	320/400	288/360
	240/416	3	50	320/400	288/360	320/400	288/360
4M4158	220/380	3	60	360/450	325/406	360/450	325/406
5M4162	220/380	3	60	360/450	325/406	360/450	325/406
4M4266	347/600	3	60	360/450	325/406	360/450	325/406
5M4272	347/600	3	60	360/450	325/406	360/450	325/406

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.**
  - **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.**
  - **Integral vibration isolation eliminates the need for installation of vibration spring isolators under the unit.**
  - **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. (1005 m). *TEMPERATURE*: Derate 1.0% per 10°F (5.5°C) temperature increase above 77°F (25°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)
480V/416V	4M4019 (12 lead)	1350 (60Hz), 1000 (50Hz)
408V/416V	4M4021 (12 lead)	1350 (60Hz), 1000 (50Hz)
480V/416V	5M4027 (12 lead)	1550 (60Hz), 1250 (50Hz)
380V	4M4158 (4 lead)	1000 (60Hz)
380V	5M4162 (4 lead)	2100 (60Hz)
600V	4M4266 (4 lead)	1300 (60Hz)
600V	5M4272 (4 lead)	1750 (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.
- Digital solid-state, volts-per-hertz voltage regulator with ±0.25% no-load to full-load regulation.
- 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	8V-92TA, (8083-7405) 2-Cycle, Turbocharged, Aftercooled	
Cylinder arrangement	8-V	
Displacement, cu. in. (L)	736 (12.1)	
Bore and stroke, in. (mm)	4.84 (123) x 5.00 (127)	
Compression ratio	17.0:1	
Piston speed, ft/min. (m/sec.)	1500 (7.6)	1250 (6.3)
Main bearings: number, type	5, Replaceable Insert	
Rated rpm	1800	1500
Max. power at rated rpm, hp (kW)	568 (424)	500 (373)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve (exhaust) material	Pyromet 31	
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 (m^3/min.)	3310 (93.7)	2955 (83.7)
Exhaust temperature at rated kW, dry exhaust, °F (°C)	705 (374)	690 (366)
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 (7.9)	
Max. lift, engine-driven fuel pump, ft. (m)	6.8 (2.1)	
Max. fuel flow, gph (Lph)	88 (333)	85 (322)
Fuel prime pump	Not Available	
Fuel filter	2, Primary/Secondary	
Recommended fuel	#2 Diesel	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, qts. (L)	23.0 (21.9)	
Oil pan capacity with filter, qts. (L)	25.0 (23.8)	
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)	110 (43)	
Engine jacket water capacity, gal. (L)	7.3 (27.0)	
Radiator system capacity, including engine, gal. (L)	23.3 (87.6)	
Engine jacket water flow, gpm (Lpm)	160 (606)	133 (505)
Heat rejected to cooling water at rated kW, dry exhaust Btu/min.	17608	15500
Water pump type	Centrifugal	
Fan diameter, including blades, in. (mm)	40 (1016)	
Fan hp (kW)	30 (22.4)	17 (12.7)
Max. restriction of cooling air, intake and discharge side of rad., in. H_2O (kPa)	0.5 (0.125)	

Cooling (Optional Systems)

High Ambient Radiator System	60 Hz	50 Hz
Ambient temperature °F (°C)	122 (50)	
Engine jacket water capacity, gal. (L)	7.3 (27.0)	
Radiator system capacity, including engine, gal. (L)	—	
Engine jacket water flow, gpm (Lpm)	160 (606)	133 (505)
Heat rejected to cooling water at rated kW, dry exhaust Btu/min.	17608	15500
Water pump type	Centrifugal	
Fan diameter, including blades, in. (mm)	43 (1092)	
Fan hp (kW)	29 (21.6)	17 (12.7)
Max. restriction of cooling air, intake and discharge side of rad., in. H_2O (kPa)	0.5 (0.125)	

Remote Radiator System†	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:		
Water inlet, in. (mm)	3.0 (76) ID Hose	
Water outlet, in. (mm)	(2) 2.25 (57) 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)	12.3 (46.5)	
City water consumption,* gpm (Lpm) at 50°F (10°C)	25 (95)	21 (79)
Connection sizes:*		
Water inlet, in.	1.5 NPT	
Water outlet, in.	1.0 NPT	

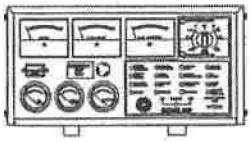
* Data based on Modine C-820-438 heat exchanger with thermostatically controlled water-saver valve, electric solenoid valve, and surge tank.

† 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^3/min.)	22600 (640)	18800 (532)
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^3/min.)	9100 (257)	8900 (252)
Combustion air, cfm (m^3/min.)	1525 (43)	1380 (39)
Heat rejected to ambient air:		
Engine Btu/min.	2660	2500
Generator Btu/min.	1310	1370
Fuel Consumption	**60 Hz**	**50 Hz**
Diesel, gph (Lph) at % load		
100%	27.2 (102.9)	22.2 (83.9)
75%	20.8 (78.7)	16.4 (62.0)
50%	15.0 (56.7)	11.8 (44.6)
25%	9.6 (36.3)	7.1 (26.9)

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.