

Model: **1500ROZD**

KOHLER POWER SYSTEMS

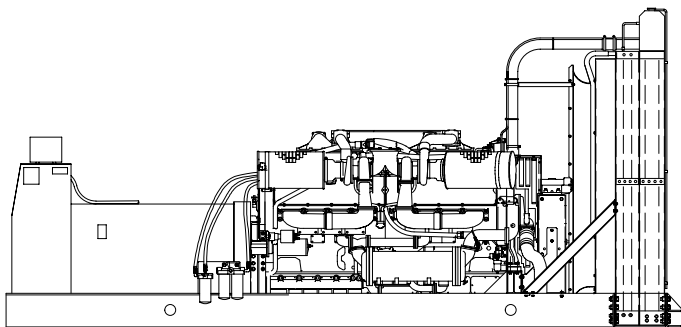
Diesel



U.S.A. Plant ISO Registered

Ratings Range

		60 Hz	50 Hz
Standby:	kW	1160-1500	1200-1360
	kVA	1450-1875	1500-1700
Prime:	kW	1055-1360	1088-1236
	kVA	1319-1700	1360-1545



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
7M4050	220/380	3	60	1160/1450	1055/1319	1160/1450	1055/1319
	240/416	3	60	1370/1713	1245/1556	1410/1763	1280/1600
	277/480	3	60	1500/1875	1360/1700	1500/1875	1360/1700
	220/380	3	50	1200/1500	1088/1360	1248/1560	1132/1415
	240/416	3	50	1228/1535	1116/1395	1308/1635	1188/1485
	230/400	3	50	1248/1560	1132/1415	1308/1635	1188/1485
7M4052	220/380	3	60	1480/1850	1345/1681	1480/1850	1345/1681
	240/416	3	60	1500/1875	1360/1700	1500/1875	1360/1700
	277/480	3	60	1500/1875	1360/1700	1500/1875	1360/1700
	220/380	3	50	1360/1700	1236/1545	1360/1700	1236/1545
	240/416	3	50	1280/1600	1164/1455	1360/1700	1236/1545
	230/400	3	50	1348/1685	1224/1530	1360/1700	1236/1545
7M4174	220/380	3	60	1500/1875	1360/1700	1500/1875	1360/1700
7M4176	220/380	3	60	1500/1875	1360/1700	1500/1875	1360/1700
7M4290	346/600	3	60	1500/1875	1360/1700	1500/1875	1360/1700
7M4368	2400/4160	3	60	1500/1875	1360/1700	1500/1875	1360/1700
	1905/3300	3	50	1340/1675	1216/1520	1352/1690	1228/1535
7M4370	2400/4160	3	60	1500/1875	1360/1700	1500/1875	1360/1700
	1905/3300	3	50	1360/1700	1236/1545	1360/1700	1236/1545

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 four bus bar connections.
 - 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. **DERATION:** Maximum altitude before generator set deration, ft. (m): 3300 (1006). Altitude deration factor, % per 1000 ft. (305 m): 1.5. Maximum intake air temperature before generator set deration, °F (°C): 105 (40). Temperature deration factor, % per 10°F (5.5°C): 2.75.

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 shown below)
480 V, 416 V	7M4050 (4 bus bar) .. 4500 (60Hz), 3600 (50Hz) 7M4052 (4 bus bar) .. 5500 (60Hz), 4700 (50Hz)
380 V	7M4174 (4 bus bar) .. 4200 (60Hz) 7M4176 (4 bus bar) .. 5400 (60Hz)
600 V	7M4290 (4 bus bar) .. 5700 (60Hz)
4160 V, 3300 V	7M4368 (4 bus bar) .. 4900 (60Hz), 2900 (50Hz) 7M4370 (4 bus bar) .. 5500 (60Hz), 3000 (50Hz)

- 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	16V-149TIB, (9163-7416) 2-Cycle, Quad Turbocharged	
Cylinder arrangement	16-V	
Displacement, cu. in. (L)	2389 (39.156)	
Bore and stroke, in. (mm)	5.75 (146) x 5.75 (146)	
Compression ratio	15.0:1	
Piston speed, ft/min. (m/sec.)	1725 (8.8)	1438 (7.3)
Main bearings: number, type	10, Precision Half Shells	
Rated rpm	1800	1500
Max. power at rated rpm, hp (kW)	2340 (1746)	1950 (1454)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve (exhaust) material	Cast Iron	
Governor, type, make/model	Electronic, Barber-Colman, Dyna 8200	
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.)	15425 (437)	13460 (381)
Exhaust temperature at rated kW, dry exhaust, °F (°C)	835 (446)	795 (424)
Maximum allowable back pressure, in. Hg (kPa)	1.5 (5.0)	1.0 (3.4)
Exhaust outlet size at hookup, in. (mm)	Dual, 10 (254)	

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)	Dual, 24	
Recommended battery cold cranking amps (CCA) rating	950 above 32°F 1250 below 32°F	
Quantity of batteries	4 above 32°F, 8 below 32°F	
Battery voltage (DC)	12	
Rolling current at 32°F	-	

Fuel

Fuel System	60 Hz	50 Hz
Fuel supply line, min. ID, in. (mm)	0.75 (19)	
Fuel return line, min. ID, in. (mm)	0.75 (19)	
Max. lift, engine-driven fuel pump, ft. (m)	6.8 (2.1)	
Max. fuel flow, gph (Lph)	350 (1324)	290 (1097)
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)	160 (151.4)	
Oil pan capacity with filter, qts. (L)	200 (189.3)	
Oil filter, quantity, type	6, 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)	46.8 (177)	
Radiator system capacity, including engine, gal. (L)	104 (394)	
Engine jacket water flow, gpm (Lpm)	475 (1798)	380 (1438)
Charge cooler water flow, gpm (Lpm)	140 (530)	116 (439)
Heat rejected to cooling water at rated kW, dry exhaust Btu/min.	45630	40560
Heat rejected to charge cooling water at rated kW, Btu/min.	26900	16770
Water pump type	Centrifugal	
Fan diameter, including blades, in. (mm)	72 (1829)	
Fan hp (kW)	87 (65)	51 (38)
Max. restriction of cooling air, intake and discharge side of rad., in. H ₂ O (in. Hg)	0.5 (0.037)	

Cooling (Optional Systems)

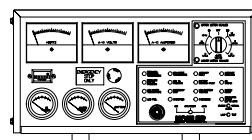
Remote Radiator System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:	Class 150 ANSI Flange	
Water inlet, in. (mm)	8.5 (208) Bolt Circle	
Water outlet, in. (mm)	8.5 (208) Bolt Circle	
Intercooler inlet/outlet, in. (mm)	6.0 (152) Bolt Circle	
Remote radiator:		
Make	**	
Model	**	
Mounting	**	
Discharge	**	
Fan motor: phase, hp (kW)	**	
Radiator capacity, gal. (L)	**	
Static head allowable above engine, ft. (m)	50 (15.25)	
Tank top (inlet), in.	**	
Bottom tank (outlet), in.	**	
Dry weight, lb. (kg)	**	

City Water Cooling System	60 Hz	50 Hz
Exhaust manifold type	Dry	
System capacity, gal. (L)	**	
City water consumption*, gpm (Lpm) at 50°F (10°C)	**	
Connection sizes:*		
Water inlet, in.	**	
Water outlet, in.	**	
* Data based on __ 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 requirements.		

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, cfm (m ³ /min.)	78000 (2209)	68800 (1948)
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.)	30700 (870)	25400 (719)
Combustion air, cfm (m ³ /min.)	6200 (176)	5600 (159)
Heat rejected to ambient air:		
Engine BTU/min.	8500	7300
Generator BTU/min.	4210	3800
Fuel Consumption	60 Hz	50 Hz
Diesel, gph (Lph) at % load		
100%	111.8(423)	102.8(389)
75%	86.0(326)	77.0(291)
50%	60.2(228)	53.8(204)
25%	34.1(129)	29.1(110)

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
- ☐ High Ambient Radiator
- ☐ Radiator Duct Flange
- ☐ Remote Radiator Cooling

Fuel System

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

Electrical System

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

Engine and Generator

- ☐ Air Cleaner, Heavy Duty
- ☐ Air Cleaner Restriction Indicator
- ☐ Bus Bar Kits (standard on 7M generators)
- ☐ Generator Strip Heater
- ☐ Line Circuit Breaker
- ☐ Line Circuit Breaker with Shunt Trip
- ☐ NFPA 110 Literature
- ☐ Optional Generators
- ☐ Rated Power Factor Testing
- ☐ Safeguard Breaker
- ☐ Spring Isolators

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
- ☐ 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

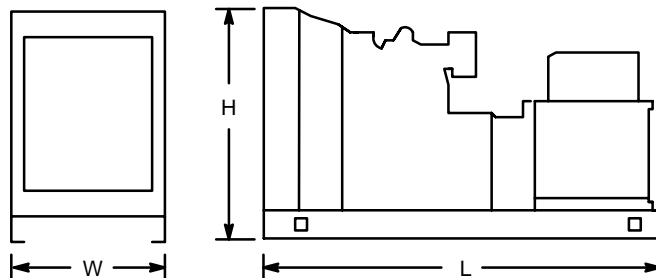
Miscellaneous Accessories

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

WEIGHTS AND DIMENSIONS

Overall Size, L x W x H, in. (mm): 243.62 x 87.88 x 114.50
 (6188 x 2232 x 2908)

Weight (Radiator Model), wet lb. (kg): 27925 (12667)



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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