

(附件七) 1/4

张世林 557014

# KOHLER POWER SYSTEMS

380-13.8kV

4-Cycle Diesel

## Model: 2800REOZD

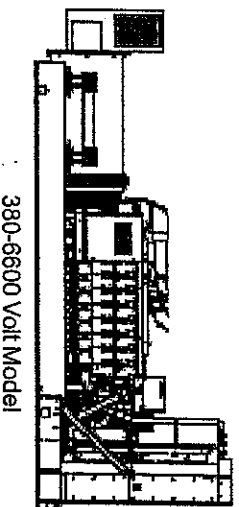
**09001**  
KOHLEPOWER SYSTEMS  
MANUFACTURED IN SWITZERLAND

### Ratings Range

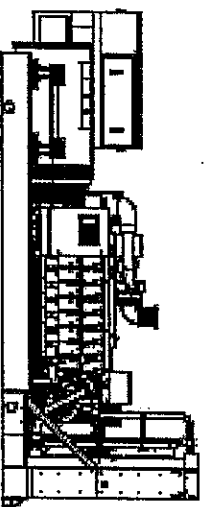
	60 Hz	50 Hz
Standby:	KW 2800	2400-2480
	KVA 3500	3000-3100
Prime:	KW 2500-2540	2240
	KVA 3125-3175	2800

### 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 60 Hz generator set offers a UL 2200 listing.
- At 60 Hz, the generator set accepts rated load in one step.
- The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA)
- A one-year limited warranty covers all systems and components.
- Alternator features:
  - The pilot-excited, permanent magnet (PMG) alternator provides superior short-circuit capability.
  - The brushless, rotating-field alternator has broadrange reconneability.
- Other features:
  - The generator set is direct-mounted to the skid.
  - Electronic engine controls manage the engine.



380-6600 Volt Model



6.9-13.8 kVolt Model

### Generator Ratings

Alternator	Voltage	Ph	Hz	130°C Rise		105°C Rise	
				Standby Rating kW/kVA	Amps	Prime Rating kW/kVA	Amps
10M1004	277/480	3	60	2800/3500	4210	2500/3125	3759
10M1005	277/480	3	60	2800/3500	4210	2540/3175	3819
	220/380	3	50	2400/3000	4558	2240/2800	4254
10M1006	220/380	3	50	2480/3100	4710	2240/2800	4254
10M1014	347/600	3	60	2800/3500	3368	2500/3125	3007
10M1015	347/600	3	60	2800/3500	3368	2540/3175	3055
10M1204	2400/4160	3	60	2800/3500	486	2540/3175	441
	1905/3300	3	50	2400/3000	525	2240/2800	490
10M1211	2400/4160	3	60	2800/3500	486	2500/3125	434
10M1230	1905/3300	3	50	2480/3100	542	2240/2800	490
10M1316	3810/6600	3	50	2400/3000	262	2240/2800	245
10M1317	3810/6600	3	50	2480/3100	271	2240/2800	245
10M1428	7200/12470	3	60	2800/3500	162	2540/3175	147
	7620/13200	3	60	2800/3500	153	2540/3175	139
	7970/13800	3	60	2800/3500	146	2540/3175	133
10M1429	3984/6900	3	60	-	-	2500/3125	261
	7200/12470	3	60	2800/3500	162	2540/3175	147
	7620/13200	3	60	2800/3500	153	2540/3175	139
	7970/13800	3	60	2800/3500	146	2540/3175	133
10M1447	6350/11000	3	50	2400/3000	157	2240/2800	147

RATINGS: All three-phase units are rated at 0.8 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-9046/1, 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-9046/1, overhead power in accordance with ISO-9046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TB-101) on ratings guidelines for the complete ratings definitions. The generator manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. GENERAL GUIDELINES FOR DERATING: ALTITUDE: Derate 1% per 100m (328 ft.) elevation above 400m (1312 ft.). TEMPERATURE: Derate 2.0% per 5C (9F) temperature above 40C (104F).

## Alternator Specifications

Specifications	Generator
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material: .....	Class H (380-4160 V), Class B/F (6.6-13.8 kV)
	Synthetic, Nonhygroscopic
Temperature rise .....	130°C Standby
Bearing: quantity, type	2, Sealed
Coupling	Flexible Coupling
Amortisseur windings	Full
Rotor balancing	125% 60Hz, 150% 50Hz
Voltage regulation, no-load to full-load (with <0.5% drift due to temp. variation)	3-Phase Sensing, ±0.25%
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current

- 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.
- 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.

Peak motor starting kVA:

480V	10M1004 (4 bus bar)	6289 (60 Hz),	—(50 Hz)
380V	10M1005 (4 bus bar)	7600 (60 Hz),	5931 (50 Hz)
380V	10M1006 (4 bus bar)	—(60 Hz),	6612 (50 Hz)
600V	10M1014 (4 bus bar)	7112 (60 Hz),	—(50 Hz)
600V	10M1015 (4 bus bar)	8209 (60 Hz),	—(50 Hz)
4160V, 3300V	10M1204 (6 lead)	6814 (60 Hz),	5247 (50 Hz)
4160V	10M1211 (6 lead)	6402 (60 Hz),	—(50 Hz)
3300V	10M1230	—(60 Hz),	5506 (50 Hz)
6600V	10M1316	—(60 Hz),	5412 (50 Hz)
6600V	10M1317	—(60 Hz),	5794 (50 Hz)
12470V	10M1428	5737 (60 Hz),	—(50 Hz)
13200V	10M1428	6206 (60 Hz),	—(50 Hz)
13800V	10M1428	6591 (60 Hz),	—(50 Hz)
12470V	10M1429	6068 (60 Hz),	—(50 Hz)
13200V	10M1429	6581 (60 Hz),	—(50 Hz)
13800V	10M1429	6986 (60 Hz),	—(50 Hz)
11000V	10M1447	—(60 Hz),	5412 (50 Hz)

## Application Data

Engine Specifications	60 Hz	50 Hz
Exhaust manifold type		Dry
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)		618 (21824) 498 (17586)
Exhaust temperature at rated kW, dry exhaust, °C (°F)		515 (959) 500 (932)
Maximum allowable back pressure kPa (in. Hg)		5.1 (1.5)
Exhaust outlet size at engine hookup, mm (in.)		2 @ 270 (10.63)

### Exhaust

Manufacturer	Detroit Diesel/MTU	
Engine: model	20V4000	20V4000
Engine: type	(T203-7M36)	(T203-7M35)

Cylinder arrangement  
 Displacement, L (cu. in.)  
 Bore and stroke, mm (in.)  
 Compression ratio  
 Piston speed, m/min. (ft./min.)  
 Rated rpm  
 Max. power at rated rpm, kW/m (BHP)

Cylinder head material  
 Crankshaft material  
 Valve (exhaust) material  
 Governor: type, make/model  
 Frequency regulation, no-load to full-load  
 Frequency regulation, steady state  
 Frequency

Air cleaner type, all models

### Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Battery charging alternator:		
Ground (negative/positive) .....		Negative
Volts (DC) .....		24
Ampere rating .....		70
Starter motor rated voltage (DC)		Dual, 24
Battery, recommended cold cranking amps (CCA):		
Qty., CCA rating each .....		Four, 1150
Battery voltage (DC)		12

# Application Data

P. 3/4

## Fuel

Fuel System	60 Hz	50 Hz
Fuel supply line, min. ID, mm (in.)	20 (0.79)	
Fuel return line, min. ID, mm (in.)	20 (0.79)	
Max. fuel flow, Lph (gph)	1860 (491)	1500 (396)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	10 (3)/150(44)	
Fuel filter	2, Secondary	
Recommended fuel	#2 Diesel	

## Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, dipstick mark max., L (qt.)	340 (359)	
Engine oil capacity, initial filling, L (qt.)	390 (412)	
Oil filter: quantity, type	4, Spin-on	
Oil Cooler	Water-Cooled	

## Cooling

Radiator System	60 Hz	50 Hz
Ambient temp., standby rating, °C (°F)	40 (104)	45(113)
Ambient temp., prime rating, °C (°F)	45 (113)	50 (122)
Engine water capacity, L (gal.)	260 (69)	
Radiator system capacity, including engine, L (gal.)	757 (200)	
Engine jacket water flow, Lpm (gpm)	1665 (440)	1383 (365)
Charge cooler water flow, Lpm (gpm)	632 (167)	500 (132)
Heat rejected to cooling water at rated kW, dry exhaust, KW (Btu/min.)	1250	1000
Heat rejected to charge cooling air at rated kW, dry exhaust, KW (Btu/min.)	715 (40661)	550 (31277)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	2362 (93)	
Fan, KW/m (HP)	98 (131)	86 (115)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)	

Remote Radiator System*	60 Hz	50 Hz
Connection sizes:	Class 150 ANSI Flange	
Water inlet, mm (in.)	191 (7.5)	Bolt Circle
Water outlet, mm (in.)	191 (7.5)	Bolt Circle
Intercooler inlet/outlet, mm (in.)	152 (6.0)	Bolt Circle

Static head allowable above engine kPa (ft.H<sub>2</sub>O) 149 (50)

\*Contact your local distributor for cooling options and specifications based on your specific requirements.

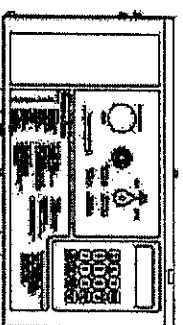
## Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) ~	3539 (125000)	3047 (107600)
Cooling air required for generator set when equipped with CWC or remote radiator, based on 14°C (25°F) rise, m <sup>3</sup> /min. (scfm) ~	773 (27300)	
Combustion air, m <sup>3</sup> /min. (cfm)	234 (8263)	198 (6992)
Heat rejected to ambient air:		
Engine, KW(Btu/min.)	105 (3971)	
Generator, KW (Btu/min.)	111 (6312)	

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

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby Rating	
100%	724.9 (191.5)	611.5 (161.5)
75%	562.4 (148.5)	458.6 (121.1)
50%	389.1 (102.8)	313.6 (82.8)
25%	214.1 (56.5)	171.8 (45.4)
Diesel, Lph (gph) at % load	Prime Rating	
100%	650.2 (171.7)	551.4 (145.6)
75%	507.1 (133.9)	417.8 (110.4)
50%	354.2 (93.6)	287.1 (75.8)
25%	197.3 (52.1)	155.7 (41.1)

## Controller



**Decision-Maker™ 550 Controller**  
 Audiovisual annunciation with NFPA 110 Level 1 capability.  
 Programmable microprocessor logic and digital display features.  
 Alternator safeguard circuit protection.  
 24-volt engine electrical system capability.  
 Remote start, remote annunciation, and remote communication options.  
 Refer to G6-46 for additional controller features and accessories.

KOHLER CO., Kohler, Wisconsin 53044 USA  
 Phone 920-565-3381, Fax 920-459-1646  
 For the nearest sales and service outlet in the  
 US and Canada, phone 1-800-544-2444  
[www.KohlerPowerSystems.com](http://www.KohlerPowerSystems.com)

Kohler Power Systems  
 Asia Pacific Headquarters  
 7 Jurong Pier Road  
 Singapore 619159  
 Phone (65) 6284 6422 Fax (65) 6284 6455  
[www.kohler.com.sg](http://www.kohler.com.sg)

P. 4/4

## Standard Features and Accessories

### Additional Standard Features

- Alternator Protection
- Oil Drain Extension
- Operation and Installation Literature
- Pilot-Excited, Permanent Magnet Generator
- Flexible Exhaust Connector, Stainless Steel

### Accessories

#### Open Unit

- Exhaust Silencer, Critical Kit: GM-30322-KP1
- Exhaust Silencer, Hospital Kit: GM-30321-KP1

#### Cooling System

- Block Heater  
 [recommended for ambient temperatures below 10°C (50°F)]
- City Water Cooling
- Remote Radiator Cooling

#### Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Fuel/Water Separator
- Subbase Fuel Tank with Day Tank

#### Electrical System

- Battery
- Battery Charger, Equalizer/Float Type
- Battery Charger, Equalizer/Float Type Installed
- Battery Heater
- Battery Rack and Cables

#### Engine and Generator

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Engine Fluids (oil and coolant) Added
- Generator Strip Heater (standard on 4160 V—13.8 kV)
- Winding RTDs (standard on 4160 V—13.8 kV)
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)
- Optional Generators
- Rated Power Factor Testing
- Spring Isolators (50/60 Hz)

#### Paralleling System

- Voltage Adjustment Control

### Maintenance and Literature

- General Maintenance Literature Kit
- Maintenance Kit
- NFPA 110 Literature
- Overhaul Literature Kit
- Production Literature Kit

### Controller

- Common Failure Relay Kit
- Communication Products and PC Software
- Customer Connection Kit
- Dry Contact Kit (isolated alarm)
- Prime Power Switch
- Remote Annunciator Panel
- Remote Audio/visual Alarm Panel
- Remote Emergency Stop Kit
- Remote Mounting Cable
- Run Relay Kit

### Miscellaneous Accessories

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

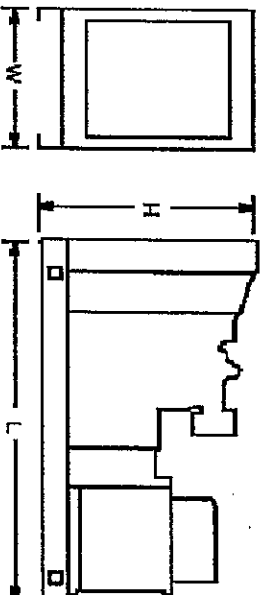
### Dimensions and Weights

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

7601—8158 x 2765 x 3107  
 (299.3—321.2 x 108.9 x 122.3)

Weight (radiator model), wet, max., kg (lb.): 26217 (57800)

Note: See ADV drawing for specific dimensions and weight based on generator selection.



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:

