

Model: 1800REOZM

KOHLER

380-415 V

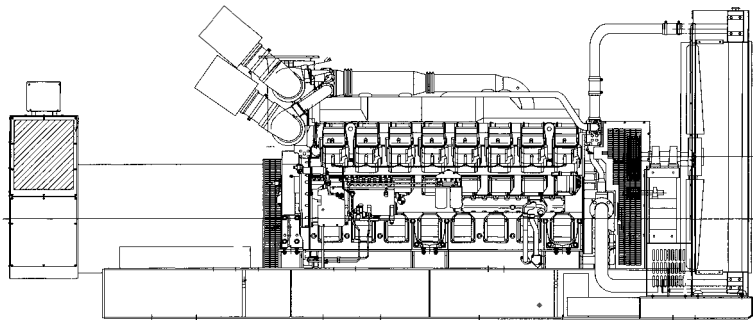
4-Cycle
Diesel



*Tier 1 EPA-Comparable
for Stationary
Emergency Applications*

Ratings Range

Standby:	kW	1580-1600
	kVA	1975-2000
Prime:	kW	1440-1452
	kVA	1800-1815



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO) / Renewable Diesel (RD) fuels compliant with EN15940/ ASTM D975.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- The generator set accepts rated load in one step.
- A standard one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Alternator Protection (standard with Decision-Maker® 550)
- Electronic, Isochronous Governor
- Oil Drain Extension
- Operation and Installation Literature
- Alternator Features:
 - The pilot-excited, permanent magnet generator (PMG) provides superior short-circuit capability.
 - The brushless, rotating-field generator has broad range reconnectability.
- Other features:
 - Kohler designed controllers for guaranteed system integration and remote communication. See Controllers on page 3.
 - An electronic, isochronous governor delivers precise frequency regulation.
 - Multiple circuit breaker configurations.

Generator Ratings

Alternator	Voltage	Ph	Hz	150°C Rise		125°C Rise	
				Standby Rating kW/kVA	Amps	Prime Rating kW/kVA	Amps
7M4054	220/380	3	50	1580/1975	3001	1440/1800	2735
	230/400	3	50	1580/1975	2851	1440/1800	2598
	240/415	3	50	1580/1975	2747	1444/1805	2511
7M4058	220/380	3	50	1600/2000	3039	1452/1815	2758
	230/400	3	50	1600/2000	2886	1448/1810	2613
	240/415	3	50	1600/2000	2782	1448/1810	2518

RATINGS: All three-phase units are rated at 0.8 power factor. Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Prime Power Ratings: 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 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for rating guidelines and complete ratings definitions. GENERAL GUIDELINES FOR DERATION : Altitude: Derate 5.0 % per 500 m (1640 ft) elevation above 1000m (3280 ft) up to maximum altitude of 4000m (13120 ft). Temperature: Derate 6.0 % per 10°C (18°F) temperature above 40°C (104°F) up to maximum temperature of 60° C (140° F).

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Alternator Specifications

Specifications	Generator
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent Magnet Generator
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	125°C Prime, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing	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
Peak motor starting kVA:	(35% dip for voltages below)
380 V 7M4054 (4 bus bar) . .	4800 (50Hz)
380 V 7M4058 (4 bus bar) . .	6600 (50Hz)

- 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.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Brushless alternator with brushless pilot exciter for excellent load response.

Application Data

Engine

Engine Specifications	50 Hz
Engine model	S16R-Y1 PTA-4
Engine type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	16-V
Displacement, L (cu. in.)	65.4 (3989)
Bore and stroke, mm (in.)	170 x 180 (6.69 x 7.09)
Compression ratio	15.0:1
Piston speed, m/min. (ft./min.)	540 (1772)
Main bearings: quantity, type	-
Rated rpm	1500
Max. power at rated rpm, kWm (BHP)	1701 (2280)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Governor: type, make/model	Electronic, Woodward PROACT II
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	50 Hz
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	385 (13594)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	519 (966)
Maximum allowable back pressure, kPa (in. Hg)	5.9 (1.7)
Exhaust outlet size at engine hookup, mm (in.)	See ADV drawing

Engine Electrical

Engine Electrical System	50 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	30
Starter motor rated voltage (DC)	Dual, 24
Battery, recommended cold cranking amps (CCA):	
Qty., CCA rating	4, 1150
Battery voltage (DC)	12

Fuel

Fuel System	50 Hz
Fuel supply line, min. ID, mm (in.)	25 (1.0)
Fuel return line, min. ID, mm (in.)	19 (0.75)
Max. lift, engine-driven fuel pump, m (ft.)	1 (3)
Max. fuel flow, Lph (gph)	510 (135)
Max. fuel pump restriction, kPa (in. Hg)	10 (3.0)
Fuel filter: quantity, type	4, Secondary
Recommended fuel	Diesel / RD / HVO

Lubrication

Lubricating System	50 Hz
Type	Full Pressure
Oil pan capacity, L (qt.)	200 (211)
Oil pan capacity with filter, L (qt.)	230 (243)
Oil filter: quantity, type	4, Cartridge
Cooler	Water-Cooled

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Application Data

Controllers

Cooling

Radiator System	50 Hz
Ambient temperature °C (°F)	40 (104)
Engine jacket water capacity, L (gal.)	170 (44.9)
Radiator system capacity, including engine, L (gal.)	250 (66.1)
Engine jacket water flow, Lpm (gpm)	1650 (436)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	1063 (60452)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	1800 (70.9)
Fan, kWm (HP)	35 (47)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

Operation Requirements

Air Requirements	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm) ~	2039 (72000)
Combustion air, m ³ /min. (cfm)	146 (5155)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	127 (7254)
Generator, kW (Btu/min.)	66 (3755)

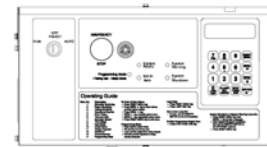
Fuel Consumption 50 Hz

Diesel, Lph (gph) at % load	Standby Rating
100%	410 (108.4)
75%	302 (79.9)
50%	208 (55.0)
25%	116 (30.7)

Fuel Consumption 50 Hz

Diesel, Lph (gph) at % load	Prime Rating
100%	369 (97.6)
75%	277 (73.1)
50%	193 (51.1)
25%	112 (29.6)

** Fuel consumption is up to 4% higher when using HVO/RD than Diesel.

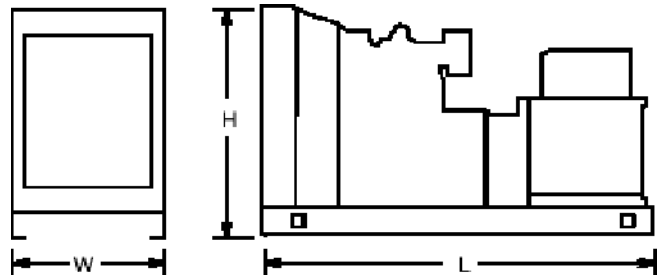


Decision-Maker® 550 Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. Generator safeguard circuit protection. 12- or 24-volt engine electrical system capability. Remote start, remote annunciation, and remote communication options. Refer to G6-46 for additional controller features and accessories.

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 5933 x 2212 X 2516 (233.6 x 87.1 X 99.05)
 Weight (radiator model), wet, max., kg (lb.): 14000 (30837)



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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