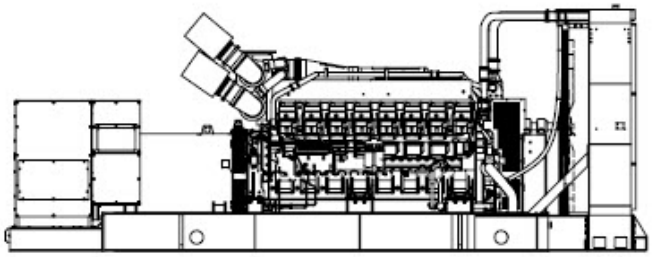
rehlko

2000REOZMD
Diesel



Standard Features

- Discovery Energy, LLC and its affiliates dba Rehlko 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.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A standard one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.
- Tier 2 EPA-certified for Stationary Emergency Applications
- Alternator Protection
- Alternator Strip Heater (standard on 3300 volt and above)
- Customer Connection (standard with Decision-Maker® 6000 controller only)
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature
- Radiator Core Guard

Alternator Features

- The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
- The brushless, rotating-field alternator has broad range reconnectability.
- Additional alternator voltages are available including 12.47 kV, 13.2 kV, and 13.8 kV medium voltages. Contact your local distributor for more detailed information.

Other Features

- Rehlko designed controllers for guaranteed system integration and remote communication.
- The low coolant level shutdown prevents overheating (standard on radiator models only).An electronic, isochronous governor delivers precise frequency regulation.
- Multiple circuit breaker configurations.

Generator Set Rating

Standby 130C Rise Ratings

Alternator	Voltage	Ph	Hz	Peak kVA	kW/kVA	Amps
7M4054	277/480	3	60	7000	2000/2500	3007

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 ratings guidelines, complete ratings definitions, and site condition derates.
The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Model: 2000REOZMD, continued

Alternator Specifications

Specifications	Alternator
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet Pilot Exciter
Voltage regulator	Solid State, Volts/Hz
Insulation	NEMA MG1
Insulation: Material	Class H, Synthetic, Nonhydroscopic
Insulation: Temperature Rise	130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing (60Hz)	125%
Voltage regulation, no-load to full-load RMS	Controller Dependent
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 down stream circuit breakers to trip without collapsing the alternator field.
• Self-ventilated and dripproof construction.
• Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
• 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.

Engine

Engine Specification

Engine Manufacturer	Mitsubishi
Engine Model	S16R-Y2PTAW2-1
Engine: type	4-Cycle, Turbocharged
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	14.0:1
Piston speed, m/min. (ft./min.)	648 (2126)
Main bearings: quantity, type	9, Precision Half-Shell
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	2180 (2923)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Governor: type, make/model	Electronic
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

Exhaust Manifold Type	Dry
Exhaust flow at rated kW, m3/min. (cfm)	544 (19209)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	526 (979)
Maximum allowable back pressure, kPa (in. Hg)	5.9 (1.7)

Engine Electrical

Engine Electrical System

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

Fuel

Fuel System

Fuel type	Diesel
Fuel supply line, min. ID, mm (in.)	19 (0.75)
Fuel return line, min. ID, mm (in.)	19 (0.75)
Max. lift, engine-driven fuel pump, m (ft.)	1.0 (3.0)
Max. fuel flow, Lph (gph)	660 (174)
Max. fuel pump restriction, kPa (in. Hg)	10 (3.0)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel filter: quantity, type	4, Secondary
Recommended fuel	#2 Diesel/HVO/RD

Lubrication

Lubrication System

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
Oil cooler	Water-Cooled

Cooling

Radiator System

Ambient temperature, °C (°F)	40 (104)
Engine jacket water capacity, L (gal.)	170 (44.9)
Radiator system capacity, including engine, L (gal.)	367 (96.9)
Engine jacket water flow, Lpm (gpm)	1850 (489)
Charge cooler water flow, Lpm (gpm)	920 (243)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	780 (44374)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	780 (44374)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	2057 (81)
Fan, kWm (HP)	81 (109)
Max. restriction of cooling air, intake and discharge side of radiator, kPA (in. H20)	0.125 (0.5)

High Ambient Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	170 (44.9)
Radiator system capacity, including engine, L (gal.)	386 (102)
Engine jacket water flow, Lpm (gpm)	1850 (489)
Charge cooler water flow, Lpm (gpm)	920 (243)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	780 (44374)
Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.)	780 (44374)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	2362 (93)
Fan, kWm (HP)	63 (84)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H2O)	0.125 (0.5)

Remote Radiator System

Exhaust manifold type	Dry
Jacket water engine inlet, mm (in.)	95 (3.75)
Jacket water engine outlet, mm (in.)	95 (3.75)
Intercooler water engine inlet, mm (in.)	83 (3.25)
Intercooler water engine outlet, mm (in.)	83 (3.25)
Static head allowable above engine, kPa (ft. H2O)	98 (32.8)
Note:	Contact your local distributor for cooling system options and specifications based on your specific application.

Model: 2000REOZMD, continued

Operation Requirements

Air Requirements

Radiator-cooled cooling air, m3/min. (scfm) *	2209 (78000)
High ambient radiator-cooled cooling air, m3/min. (scfm)	2718 (96000)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m3/min. rise and ambient temp. of 29°C (85°F) m3/min. (cfm)	991 (35100)
Combustion air, m3/min. (cfm)	206 (7274)
Heat rejected to ambient air: Engine, kW (Btu/min.)	180 (10240)
Heat rejected to ambient air: Alternator, kW (Btu/min.)	97 (5516)

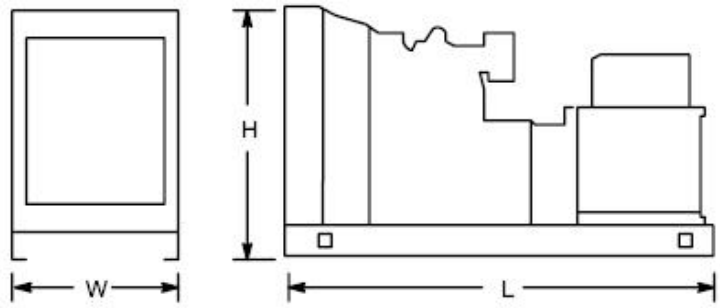
*Air density = 1.20 kg/m3 (0.075 lbm/ft3)

Fuel Consumption

Diesel, Lph (gph), at % load	Rating
Standby Fuel Consumption at 100% load	606 Lph (160.1 gph)
Standby Fuel Consumption at 75% load	442 Lph (116.8 gph)
Standby Fuel Consumption at 50% load	299 Lph (79.0 gph)
Standby Fuel Consumption at 25% load	164 Lph (43.2 gph)
Prime Fuel Consumption at 100% load	536 Lph (141.6 gph)
Prime Fuel Consumption at 75% load	403 Lph (106.6 gph)
Prime Fuel Consumption at 50% load	271 Lph (71.6 gph)
Prime Fuel Consumption at 25% load	154 Lph (40.6 gph)
Continuous Fuel Consumption at 0% load	Volumetric Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.

Dimensions and Weights

Dim Weight Spec	Dim Weight Value
Fuel	Diesel
Engine Manufacturer	Mitsubishi
Overall size, L x W x H, mm (in.), 40C Radiator	6790 x 2426 x 2602 (267.3 x 95.5 x 102.4)
Overall size, L x W x H, mm (in.), 50C Radiator	6831 x 2766 x 3091 (268.9 x 108.9 x 121.7)
Weight (40 C radiator model), wet, kg (lb.):	15422 (34000)
Weight (50 C radiator model), wet, kg (lb.):	16329 (36000)



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