Industrial Generator Set - 1500REOZM

380-480 V **Diesel**

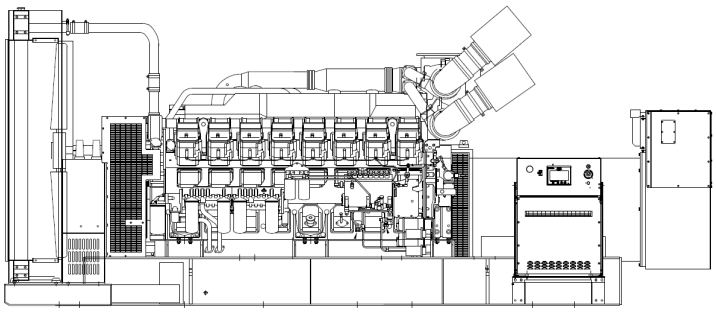
ISO 9001 KOHLER NATIONALLY REGISTERED

Tier 1 EPA-Comparable for Stationary Emergency Applications

Ratings Range

		60 Hz	50 Hz
Standby:	**kW**	1500-1510	1250-1324
	kVA	1875-1887	1563-1655
Prime:	**kW**	1365-1370	1168-1204
	kVA	1706-1713	1460-1505

APPROVED FOR HVO RENEWABLE FUEL



Standard Features

- Rehlko 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
- 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:
  - Rehlko 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 Standby Rating kW/kVA	Amps	125°C Rise Prime Rating kW/kVA	Amps
7M4052	220/380	3	50	1320/1650	2507	1200/1500	2279
	230/400	3	50	1324/1655	2390	1204/1505	2172
	240/415	3	50	1320/1650	2295	1204/1505	2094
	277/480	3	60	1510/1887	2270	1370/1713	2059
7M4174	220/380	3	60	1505/1881	2858	1365/1708	2592
7M4050	220/380	3	50	1250/1563	2374	1168/1460	2218
	230/400	3	50	1310/1638	2364	1204/1505	2172
	240/415	3	50	1310/1638	2278	1204/1505	2093
	277/480	3	60	1500/1875	2255	1365/1706	2052

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).

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	125% 60 Hz, 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)
415 V, 480 V 7M4050 (4 bus bar)	3600 (50Hz), 4500 (60Hz)
480 V, 380 V 7M4052 (4 bus bar)	5500 (60Hz), 4000 (50Hz)
380 V 7M4174 (4 bus bar)	4200 (60Hz)

- 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

Specifications	60 Hz	50 Hz
Engine model	S16R-Y1 PTA-2	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.)	648 (2126)	540 (1772)
Main bearings: quantity, type	-	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	1750 (2346)	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	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m^3 /min. (cfm)	373 (13164)	321 (11327)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	520 (968)	498 (928)
Maximum allowable back pressure, kPa (in. Hg)	5.9 (1.7)	
Exhaust outlet size at engine hookup, mm (in.)	See ADV drawing	

Electrical

Electrical System	60 Hz	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	60 Hz	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)	560 (148)	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	60 Hz	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	
Oil Cooler	Water-Cooled	

Application Data

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature °C (°F)	40 (104)	
Engine jacket water capacity, L (gal.)	170 (44.9)	
Radiator system capacity, including engine, L (gal.)	305 (80.7)	
Engine jacket water flow, Lpm (gpm)	1850 (489)	1650 (436)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	1029 (58492)	885 (50316)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	1800 (70.9)	
Fan, kWm (HP)	45.6 (61.1)	43.7 (58.6)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.125 (0.5)	

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m^3/min. (scfm) ~	2395 (84579)	1996 (70488)
Combustion air, m^3/min. (cfm)	141 (4982)	121 (4283)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	123 (7019)	106 (6038)
Generator, kW (Btu/min.)	74.4 (4233)	55.3 (3148)

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	**Standby Rating**	
100%	398 (105.2)	342 (90.4)
75%	301 (79.5)	258 (68.2)
50%	212 (56.0)	181 (47.8)
25%	125 (33.0)	107 (28.3)
Diesel, Lph (gph) at % load	**Prime Rating**	
100%	360.3 (95.2)	312.8 (82.8)
75%	276.3 (73.0)	240.2 (63.5)
50%	198.7 (52.5)	171.8 (45.4)
25%	120.7 (31.9)	103.6 (27.4)

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

Controllers

APM603 Controller

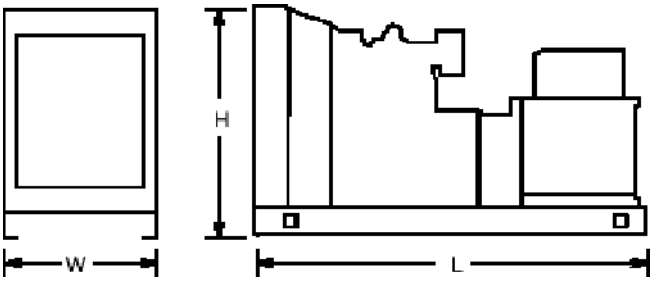
A 7-inch color TFT touchscreen for easy local access to data. Home screen can be customized to show critical data at a glance. Create a custom favorites list for quick access to important data.
Measurements are selectable in metric or English units.
Supports Modbus protocol through serial bus and Ethernet networks, and supports SNMP and BACnet through Ethernet networks.

Dimensions and Weights

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

w/ 7M4052/7M4174	5768 x 2212 x 2516 (227.1 x 87.1 x 99.05)
w/ 7M4050	5611 x 2212 x 2516 (220.9 x 87.1 x 99.05)

Weight (radiator model), wet, max., kg (lb.): 13200 (29075)



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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