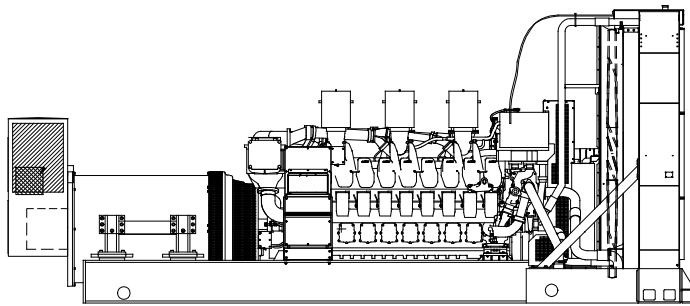




Tier 2 EPA-Certified for Stationary Emergency Applications

Ratings Range

		60 Hz	50Hz
Standby:	kW	2700-2800	2280-2400
	kVA	3375-3500	2850-3000
Prime:	kW	2500-2540	2100-2272
	kVA	3125-3175	2625-2840



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.
- 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 generator set systems and components. Two-, five-, and ten-year extended limited warranties are also available.
- Alternator features:
 - The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for guaranteed system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Electronic engine controls manage the engine.
 - Multiple circuit breaker configurations.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
10M1106	277/480	3	60	2800/3500	4210	2540/3175	3819
	220/380	3	50	2280/2850	4330	2240/2800	4254
10M1108	277/480	3	60	2800/3500	4210	2540/3175	3819
	220/380	3	50	2400/3000	4558	2272/2840	4315
10M1124	347/600	3	60	2800/3500	3368	2500/3125	3007
10M1126	347/600	3	60	2800/3500	3368	2540/3175	3055
10M1182	2400/4160	3	60	2800/3500	486	2500/3125	434
	1905/3300	3	50	2300/2875	503	2100/2625	459
10M1186	2400/4160	3	60	2800/3500	486	2540/3175	441
	1905/3300	3	50	2400/3000	525	2240/2800	490
10M1252	7200/12470	3	60	2700/3375	156	2500/3125	145
	7620/13200	3	60	2800/3500	153	2540/3175	139
	7970/13800	3	60	2700/3375	141	2500/3125	131
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

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.

Alternator Specifications

Specifications	Alternator
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	130°C Standby
Bearing: quantity, type	2, Sealed
Coupling	Flexible Coupling
Amortisseur windings	Full
Rotor balancing	125%
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)
480V/380V 10M1106 (4 bus bar)	6750 (60 Hz) 5150 (50 Hz)
480V/380V 10M1108 (4 bus bar)	6750 (60 Hz) 5150 (50 Hz)
600V 10M1124 (4 bus bar)	7100 (60 Hz) — (50 Hz)
600V 10M1126 (4 bus bar)	7650 (60 Hz) — (50 Hz)
4160V/3300V 10M1182 (6 lead)	6400 (60 Hz) N/A (50 Hz)
4160V/3300V 10M1186 (6 lead)	7700 (60 Hz) N/A (50 Hz)
12470V 10M1252 (6 lead w/4 bus bar)	5500 (60 Hz) — (50 Hz)
13200V 10M1252 (6 lead w/4 bus bar)	6000 (60 Hz) — (50 Hz)
13800V 10M1252 (6 lead w/4 bus bar)	6500 (60 Hz) — (50 Hz)
12470V 10M1428 (6 lead w/4 bus bar)	8000 (60 Hz) — (50 Hz)
13200V 10M1428 (6 lead w/4 bus bar)	8000 (60 Hz) — (50 Hz)
13800V 10M1428 (6 lead w/4 bus bar)	8750 (60 Hz) — (50 Hz)

N/A—not available at time of print.

- 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.

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Detroit Diesel/MTU	
Engine: model	20V4000G83	20V4000G63
Engine: type	4-Cycle, Turbocharged, Intercooled	
Cylinder arrangement	20V	
Displacement, L (cu. in.)	95.4 (5822)	
Bore and stroke, mm (in.)	170 x 210 (6.7 x 8.3)	
Compression ratio	16.5:1	
Piston speed, m/min. (ft./min.)	756 (2480)	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	3010 (4035)	2670 (3580)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve (exhaust) material	High Alloy Steel	
Governor: type, make/model	ADEC Electronic Control	
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)	594 (20977)	486 (17162)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	470 (878)	570 (1058)
Maximum allowable back pressure, kPa (in. Hg)	8.5 (2.5)	
Exhaust outlet size at engine hookup, mm (in.)	3 @ 251 (9.88)	

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):		
Quantity, CCA rating each		Four, 1150
Battery voltage (DC)		12

Application Data

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)	1620 (428.0)	
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	-10/50 (-3/15)	
Max. return line restriction, kPa (in. Hg)	50 (14.7)	
Fuel filter	1, 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	5, Spin-On	
Oil cooler	Water-Cooled	

Cooling

Radiator System	60 Hz	50 Hz
Ambient temp., standby rating, °C (°F)*	40 (104)	45 (113)
Engine water capacity, L (gal.)	205 (54)	
Radiator system capacity, including engine, L (gal.)	742 (196)	
Engine jacket water flow, Lpm (gpm)	1567 (414)	1333 (352)
Charge cooler water flow, Lpm (gpm)	567 (150)	542 (143)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	1040 (59144)	980 (55781)
Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.)	740 (42083)	430 (24475)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	2743 (108)	
Fan, kWm (HP)	86 (116)	62 (83)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)	

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

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 ₂ O)	149 (50)	

† Contact your local distributor for cooling system options and specifications based on your specific requirements.

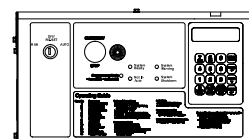
Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	3738 (132000)	2973 (105000)
Cooling air required for generator set when equipped with CWC or remote radiator, based on 14°C (25°F) rise, m ³ /min. (scfm)‡	773 (27300)	
Combustion air, m ³ /min. (cfm)	240 (8476)	180 (6357)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	105 (5971)	
Generator, kW (Btu/min.)	111 (6312)	

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

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby Rating	
100%	707.2 (186.8)	605.2 (159.9)
75%	557.1 (147.2)	453.9 (119.9)
50%	394.5 (104.2)	315.2 (83.3)
25%	226.6 (59.9)	177.3 (46.8)
Diesel, Lph (gph) at % load	Prime Rating	
100%	650.2 (171.8)	542.9 (143.4)
75%	511.9 (135.2)	413.6 (109.3)
50%	368.8 (97.4)	288.6 (76.2)
25%	208.7 (55.1)	162.1 (42.8)

Controllers

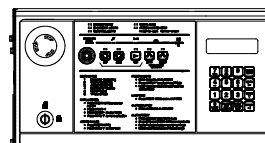


Decision-Maker® 550 Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities.

- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-46 for additional controller features and accessories.



Decision-Maker® 6000 Paralleling Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities for paralleling multiple generator sets.

- Paralleling capability with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-107 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

Standard Features

- Alternator Protection
- Alternator Strip Heater (standard on 3300 volt and above)
- Closed Crankcase Breather System
- Flexible Exhaust Connector, Stainless Steel
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature
- Radiator Core Guard
- Winding RTDs (standard on 3300 volt and above)

Available Options

Approvals and Listings

- California OSHPD Approval
- CSA Approval
- IBC Seismic Certification
- UL 2200 Listing

Enclosed Unit

- Sound Enclosure (Contact Factory)
- Weather Enclosure (Contact Factory)

Open Unit

- Exhaust Silencer, Critical (60 Hz kit: GM30322-KP1)
- Exhaust Silencer, Hospital (60 Hz kit: GM30321-KP1)

Fuel System

- Flexible Fuel Lines
- Fuel/Water Separator
- Subbase Fuel Tank (Contact Factory)

Controller

- Common Failure Relay
- Communication Products and PC Software
- Customer Connection (Standard with Decision-Maker® 6000 controller)
- Decision-Maker® Paralleling System (DPS) (Decision-Maker® 6000 controller only) (Contact Factory)
- Dry Contact (One-, Ten-, or Twenty-Relay Options)
- Prime Power Switch
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop
- Remote Mounting Cable (Decision-Maker® 550 controller only)
- Remote Serial Annunciator Panel
- Run Relay

Cooling System

- Block Heater; 12000 W
Recommended for Ambient Temperatures Below 10°C (50°F)
- Remote Radiator Cooling Setup

Electrical System

- Alternator Strip Heater (available up to 600 volt)
- Battery
- Battery Charger, 10 Amp. Equalize/Float Type
- Battery Heater
- Battery Rack and Cables
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)

Paralleling System

- Manual Speed Adjustment (Decision-Maker® 550 controller only)
- Manual Voltage Control (Decision-Maker® 550 controller only) (Contact Factory)
- Remote Voltage Adjust Control (Decision-Maker® 550 only)

Miscellaneous

- Air Cleaner Restriction Indicator
- Centrifugal Oil Filter (Prime Power only)
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Spring Isolators

Literature

- Decision-Maker® Paralleling System (DPS)
- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

- 2-Year Basic Limited
- 2-Year Prime Limited
- 5-Year Basic Limited
- 5-Year Comprehensive Limited
- 10-Year Major Components Limited

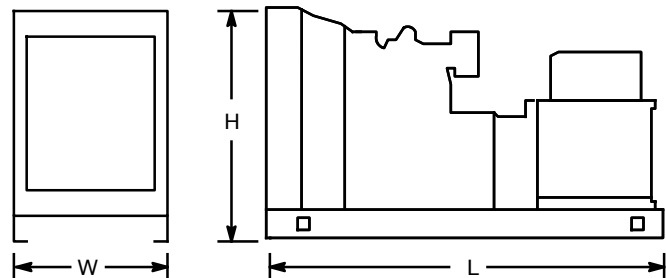
Other Options

- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, max., mm (in.): 7741 x 3062 x 3292
 (304.8 x 120.6 x 129.6)
 Weight (radiator model), wet, max., kg (lb.): 25628 (56500)

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.

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