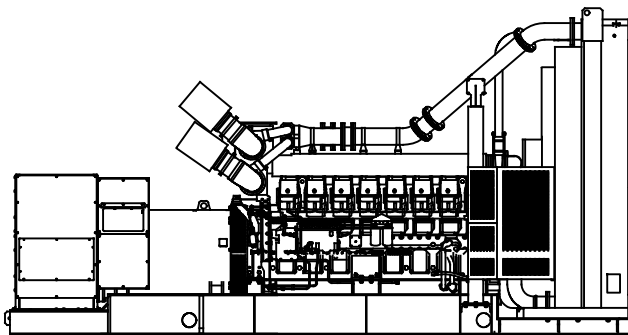




Ratings Range

		60 Hz	50 Hz
Standby:	kW	1590-2000	1496-1760
	kVA	1988-2500	1870-2200
Prime:	kW	1440-1820	1376-1600
	kVA	1800-2275	1720-2000



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 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 one-source system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Multiple circuit breaker configurations.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
7M4054	220/380	3	60	1590/1988	3020	1590/1988	3020	1440/1800	2735	1440/1800	2735
	240/416	3	60	1840/2300	3192	1840/2300	3192	1800/2250	3123	1680/2100	2915
	277/480	3	60	2000/2500	3007	2000/2500	3007	1820/2275	2736	1820/2275	2736
	220/380	3	50	1584/1980	3008	1528/1910	2902	1496/1870	2841	1400/1750	2659
	230/400	3	50	1624/2030	2930	1536/1920	2771	1536/1920	2771	1424/1780	2569
	240/416	3	50	1608/2010	2790	1496/1870	2595	1496/1870	2595	1376/1720	2357
7M4056	220/380	3	60	1850/2313	3513	1790/2238	3400	1750/2188	3324	1650/2063	3134
	240/416	3	60	2000/2500	3470	1950/2438	3383	1820/2275	3157	1780/2225	3088
	277/480	3	60	2000/2500	3007	2000/2500	3007	1820/2275	2736	1820/2275	2736
	220/380	3	50	1760/2200	3343	1760/2200	3343	1600/2000	3039	1600/2000	3039
	230/400	3	50	1760/2200	3175	1760/2200	3175	1600/2000	2887	1600/2000	2887
	240/416	3	50	1760/2200	3053	1736/2170	3012	1600/2000	2776	1568/1960	2720
7M4058	220/380	3	60	2000/2500	3798	1950/2438	3703	1820/2275	3457	1790/2238	3400
	240/416	3	60	2000/2500	3470	2000/2500	3470	1820/2275	3157	1820/2275	3157
	277/480	3	60	2000/2500	3007	2000/2500	3007	1820/2275	2736	1820/2275	2736
	220/380	3	50	1760/2200	3343	1744/2180	3312	1600/2000	3039	1600/2000	3039
	230/400	3	50	1760/2200	3175	1760/2200	3175	1600/2000	2887	1600/2000	2887
	240/416	3	50	1760/2200	3053	1760/2200	3053	1600/2000	2776	1600/2000	2776
7M4176	220/380	3	60	2000/2500	3798	2000/2500	3798	1820/2275	3457	1820/2275	3457
7M4292	347/600	3	60	2000/2500	2406	2000/2500	2406	1820/2275	2189	1820/2275	2189
7M4374	2400/4160	3	60	2000/2500	347	2000/2500	347	1820/2275	316	1820/2275	316
	1905/3300	3	50	1744/2180	381	1600/2000	350	1600/2000	350	1448/1810	317

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 Pilot Exciter
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H, Synthetic, Nonhygroscopic
Temperature rise	130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing	125% 60 Hz
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V, 380 V 7M4054 (4 bus bar)	7000 (60 Hz), 4800 (50 Hz)
480 V, 380 V 7M4056 (4 bus bar)	7200 (60 Hz), 5200 (50 Hz)
480 V, 380 V 7M4058 (4 bus bar)	11000 (60 Hz), 6600 (50 Hz)
380 V 7M4176 (4 bus bar)	5400 (60 Hz)
600 V 7M4292 (4 bus bar)	4250 (60 Hz)
4160 V, 3300 V 7M4374 (6 lead)	6200 (60 Hz), 3750 (50 Hz)

- 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 $\pm 0.25\%$ 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
Engine manufacturer, model	Mitsubishi S16R- S16R- Y1PTAA2-1 Y1PTAA2-3	
Engine type	4-Cycle, Turbocharged, Air-to-Air Charge Cooled	
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)	540 (1772)
Main bearings: quantity, type	9, Precision Half-Shell	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	2150 (2882)	1939 (2599)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Governor type	Electronic	
Frequency regulation, no-load to full-load	Isochronous	
Frequency regulation, steady state	$\pm 0.25\%$	
Frequency	Fixed	
Air cleaner type, all models	Dry	

Engine Electrical

Engine 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):		
Quantity, CCA rating each		Four, 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)	660 (174)	560 (148)
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	

Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m ³ /min. (cfm)	479 (16913)	434 (15325)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	519 (966)	536 (997)
Maximum allowable back pressure, kPa (in. Hg)	5.9 (1.7)	
Exhaust outlet size at engine hookup, mm (in.)	See ADV drawing	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	200 (211)	
Oil pan capacity with filter, L (qt.)	250 (264)	
Oil filter: quantity, type	4, Cartridge	
Oil cooler	Water-Cooled	

Application Data

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature °C (°F)*	40 (105)	
Engine jacket water capacity, L (gal.)	170 (44.9)	
Radiator system capacity, including engine, L (gal.)	413 (109)	
Engine jacket water flow, Lpm (gpm)	1850 (489)	1650 (436)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	686 (38999)	623 (35401)
Heat rejected to charge cooling air at rated kW, dry exhaust, kW (Btu/min.)	633 (36000)	575 (32677)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	1895 (75)	
Fan kWm (HP)	44 (59)	
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).

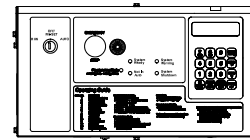
Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	2500 (88275)	
Combustion air, m ³ /min. (cfm)	181 (6391)	164 (5791)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	158 (9000)	144 (8169)
Alternator, kW (Btu/min.)	97 (5516)	
‡ Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)		

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby Rating	
100%	509 (134.5)	462 (122.1)
75%	381 (100.6)	338 (89.2)
50%	261 (69.0)	231 (61.0)
25%	147 (38.9)	128 (33.9)

Diesel, Lph (gph) at % load	Prime Rating	
100%	461 (121.9)	415 (109.7)
75%	348 (92.0)	309 (81.5)
50%	243 (64.2)	214 (56.5)
25%	142 (37.4)	122 (32.2)

Controllers

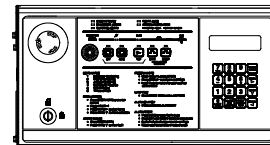


Decision-Maker® 550 Controller

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)
- Customer Connection (Decision-Maker® 6000 controller only)
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature
- Radiator Core Guard

Available Options

Approvals and Listings

- CSA Certified
- UL 2200 Listing

Open Unit

- Exhaust Silencer, Hospital (kit: PA-361627)
- Exhaust Silencer, Critical (kit: PA-361625)
- Flexible Exhaust Connector, Stainless Steel

Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Fuel/Water Separator

Controller

- Common Failure Relay
- Communication Products and PC Software
- Customer Connection (Decision-Maker® 550 controller only)
- Dry Contact Kit (isolated alarm)
- Prime Power Switch
- Remote Audiovisual Alarm Panel (Decision-Maker® 550 controller only)
- Remote Emergency Stop
- Remote Mounting Cable
- Remote Serial Annunciator Panel
- Run Relay

Cooling System

- Block Heater; 9000 W, 208 V, 1 Ph
- Block Heater; 9000 W, 240 V, (Select 1 Ph or 3 Ph)
- Block Heater; 9000 W, 380 V, 3 Ph
- Block Heater; 9000 W, 480 V, (Select 1 Ph or 3 Ph)
Required for Ambient Temperatures Below 20°C (68°F)
- Remote Radiator Cooling Setup

Electrical System

- Alternator Strip Heater (available up to 600 volt)
- Battery
- Battery Charger, 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 and 6000 controllers only)
- Remote Voltage Adjustment Control
- Voltage Sensing (Decision-Maker® 6000 controller only)

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Crankcase Emission Canister
- Engine Fluids (oil and coolant) Added
- Oil Temperature Gauge
- Rated Power Factor Testing
- Spring Isolators

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

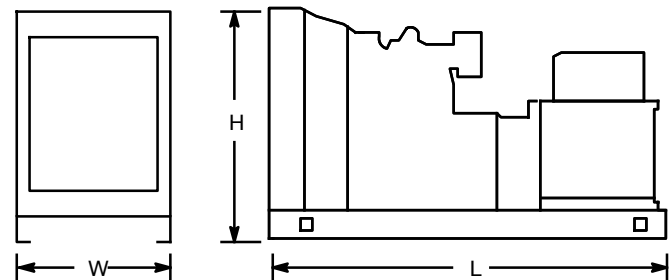
- 2-Year Basic Limited Warranty
- 2-Year Prime Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty
- 10-Year Major Components Limited Warranty

Other Options

- _____
- _____
- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, max., mm (in.): 6363 x 2212 x 3244
 (250.5 x 87.1 x 127.7)
 Weight (radiator model), wet, max., kg (lb.): 15880 (35000)



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

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