



Ratings Range

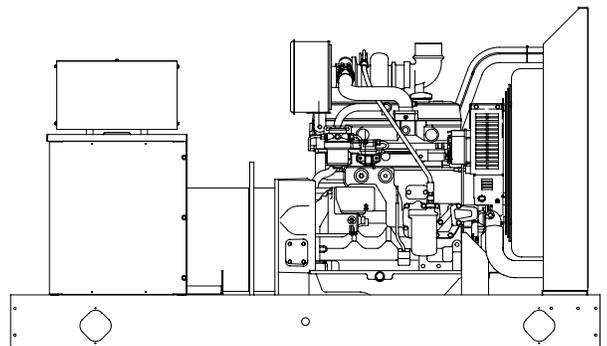
		60 Hz	50 Hz
Standby:	kW	61-85	55-70
	kVA	61-106	55-88
Prime:	kW	56-77	51-64
	kVA	56-96	51-80

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
4S7	120/208	3	60	80/100	278	73/91	253
	127/220	3	60	80/100	262	74/93	243
	120/240	3	60	80/100	241	72/90	217
	120/240	1	60	61/61	254	56/56	233
	139/240	3	60	81/101	244	75/94	226
	220/380	3	60	75/94	142	69/86	131
	277/480	3	60	81/101	122	75/94	113
	347/600	3	60	81/101	97	75/94	90
	110/190	3	50	68/85	258	62/77	234
	115/200	3	50	68/85	245	62/77	222
	120/208	3	50	68/85	236	62/77	214
	110/220	3	50	66/83	218	60/75	197
	110/220	1	50	55/55	250	51/51	232
	220/380	3	50	68/85	129	62/77	117
230/400	3	50	68/85	123	62/77	111	
240/416	3	50	68/85	118	62/77	107	
4S9	120/208	3	60	85/106	295	77/96	267
	127/220	3	60	85/106	279	77/96	253
	120/240	3	60	85/106	256	77/96	232
	120/240	1	60	80/80	333	71/71	296
	139/240	3	60	85/106	256	77/96	232
	220/380	3	60	85/106	161	77/96	146
	277/480	3	60	85/106	128	77/96	116
	347/600	3	60	85/106	102	77/96	93
	110/190	3	50	70/88	267	64/80	243
	115/200	3	50	70/88	254	64/80	231
	120/208	3	50	70/88	244	64/80	222
	110/220	3	50	70/88	231	64/80	210
	110/220	1	50	66/66	300	60/60	273
	220/380	3	50	70/88	134	64/80	122
230/400	3	50	70/88	127	64/80	115	
240/416	3	50	70/88	122	64/80	111	
4V9	120/240	1	60	80/80	333	72/72	300
	110/220	1	50	66/66	300	60/60	273

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 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.
- Alternator features:
 - The unique Fast-Response™ II excitation system delivers excellent voltage response and short-circuit capability using a permanent magnet (PM)-excited alternator.
 - 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).
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.



RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 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
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	
Permanent magnet (PM) alternator	±2% Average
550 controller (with 0.5% drift due to temperature 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)
480 V, 380 V 4S7 (12 lead)	270 (60 Hz), 187 (50 Hz)
480 V, 380 V 4S9 (12 lead)	320 (60 Hz), 250 (50 Hz)
240 V, 220 V 4V9 (4 lead)	246 (60 Hz), 213 (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 drip-proof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Fast-Response™ II brushless alternator with brushless exciter for excellent load response.

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	John Deere	
Engine model	4045TF250	4045TF220
Engine type	4-Cycle, Turbocharged	
Cylinder arrangement	4 Inline	
Displacement, L (cu. in.)	4.5 (276)	
Bore and stroke, mm (in.)	106 x 127 (4.19 x 5.00)	
Compression ratio	17.0:1	
Piston speed, m/min. (ft./min.)	457 (1500)	381 (1250)
Main bearings: quantity, type	5, Replaceable Insert	
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	100 (134)	83 (111)
Cylinder head material	Cast Iron	
Crankshaft material	Forged Steel	
Valve material:		
Intake	Chromium-Silicon Steel	
Exhaust	Stainless Steel	
Governor: type, make/model	Mechanical, Stanadyne/DB4	
Frequency regulation, no-load to full-load	3-5%	
Frequency regulation, steady state	±0.33% (mech. governor) ±0.25% (elect. isoch. gov.)	
Frequency	Field-Convertible	
Air cleaner type, all models	Dry	

Engine Electrical

Engine Electrical System (12/24 Volt*)	60 Hz	50 Hz
Battery charging alternator:	12 Volt/24 Volt	
Ground (negative/positive)	Negative	
Volts (DC)	12/24	
Ampere rating	55/45	
Starter motor rated voltage (DC)	12/24	
Battery, recommended cold cranking amps (CCA):	12 Volt/24 Volt	
Quantity, CCA rating each	One, 640/Two, 570	
Battery voltage (DC)	12	

*12-volt or 24-volt engine electrical systems are available.

Fuel

Fuel System	60 Hz	50 Hz
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)	
Fuel return line, min. ID, mm (in.)	6.0 (0.25)	
Max. lift, fuel pump: type, m (ft.)	Engine-Driven, 1.8 (6.0)	
Max. fuel flow, Lph (gph)	113 (29.9)	
Fuel prime pump	Manual	
Fuel filter		
Secondary	8 Microns @ 98% Efficiency	
Water Separator	Yes	
Recommended fuel	#2 Diesel	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	12.5 (13.2)	
Oil pan capacity with filter, L (qt.)	13.5 (14.3)	
Oil filter: quantity, type	1, Cartridge	
Oil cooler	Water-Cooled	

Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m ³ /min. (cfm)	18.5 (652)	13.3 (470)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	584 (1084)	591 (1095)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)	
Exhaust outlet size at engine hookup, mm (in.)	98 (3.86)	

Application Data

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F)	50 (122)	
Engine jacket water capacity, L (gal.)	8.5 (2.25)	
Radiator system capacity, including engine, L (gal.)	18.2 (4.8)	
Engine jacket water flow, Lpm (gpm)	125 (33)	106 (28)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	59 (3328)	49 (2784)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	533 (21)	
Fan, kWm (HP)	4.3 (5.8)	2.5 (3.4)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)	

Remote Radiator System†	60 Hz	50 Hz
Exhaust manifold type	Dry	
Connection sizes:		
Water inlet, ID hose, mm (in.)	51 (2.0)	
Water outlet, ID hose, mm (in.)	44 (1.75)	
Static head allowable above engine, kPa (ft. H ₂ O)	63 (21)	

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

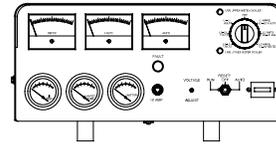
Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm)‡	144 (5100)	119 (4200)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise and ambient temp. of 29°C (85°F), m ³ /min. (cfm)	108 (3800)	105 (3700)
Combustion air, m ³ /min. (cfm)	6.9 (242)	6.0 (211)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	20.7 (1175)	19.9 (1130)
Alternator, kW (Btu/min.)	9.0 (510)	8.8 (500)

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

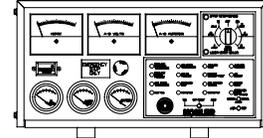
Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby Rating	
100%	25.5 (6.7)	24.6 (6.5)
75%	19.5 (5.2)	17.8 (4.7)
50%	14.3 (3.8)	12.8 (3.4)
25%	8.5 (2.2)	7.3 (1.9)
Diesel, Lph (gph) at % load	Prime Rating	
100%	23.2 (6.1)	22.5 (5.9)
75%	18.1 (4.8)	16.3 (4.3)
50%	13.1 (3.5)	11.8 (3.1)
25%	7.8 (2.1)	6.9 (1.8)

Controllers



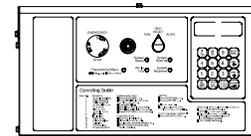
Decision-Maker® 1 Controller

Single-light annunciation and basic controls with NFPA capability. Relay logic, AC meters, and engine gauge features. 12-volt engine electrical system capability only. Remote or automatic start options. Refer to G6-29 for additional controller features and accessories. **Note:** Not available with 600-volt alternator.



Decision-Maker® 3+, 16-Light Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Microprocessor logic, AC meters, and engine gauge features. 12- or 24-volt engine electrical system capability. Remote start, prime power, and remote annunciation options. Refer to G6-30 for additional controller features and accessories.



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.

Standard Features

- Alternator Protection (standard with Decision-Maker® 550 controller)
- Battery Rack and Cables
- Integral Vibration Isolation
- Local Emergency Stop Switch (standard with Decision-Maker® 550)
- Low Coolant Level Shutdown
- Oil Drain Extension
- Operation and Installation Literature

Available Options

Approvals and Listings

- CSA Approval

Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)
- Weather Housing (with roof-mounted critical silencer)

Open Unit

- Exhaust Silencer, Critical (kit: PA-324470)
- Exhaust Silencer, Hospital (kit: GM32386-KP1)
- Flexible Exhaust Connector, Stainless Steel

Fuel System

- Auxiliary Fuel Pump
- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

Controller (Decision-Maker® 3+ and 550 Controllers)

- Common Failure Relay
- Communication Products and PC Software (Decision-Maker® 550 controller only)
- Customer Connection
- Dry Contact (isolated alarm)
- Engine Prealarm Senders (Decision-Maker® 3+ controller only)
- Local Emergency Stop Switch (Decision-Maker® 3+ controller only)
- Prime Power Switch (Decision-Maker® 550 controller only)
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop
- Remote Mounting Cable
- Remote Serial Annunciator Panel
- Run Relay

Cooling System

- Block Heater, 1500 W, 110-120V, 1 Ph
- Block Heater, 1500 W, 190-240 V, 1 Ph (recommended for ambient temperatures below 0°C [32°F])
- Radiator Duct Flange
- Remote Radiator Setup

Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)
- Safeguard Breaker (not available with Decision-Maker® 550 controller)

Paralleling System

- Reactive Droop Compensator (Decision-Maker® 3+ controller)
- Remote Speed Adjust Control
- Remote Voltage Adjust Control
- Voltage Regulator Relocation (Decision-Maker® 3+ controller)

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Bus Bar
- Closed Crankcase Vent
- Electronic Isochronous Governor ($\pm 0.25\%$ freq. reg. steady state)
- Engine Fluids Added
- Rated Power Factor Testing
- Rodent Guards
- Skid End Caps

Literature

- General Maintenance Literature
- NFPA 110 Literature
- Overhaul Literature
- Production Literature

Warranty

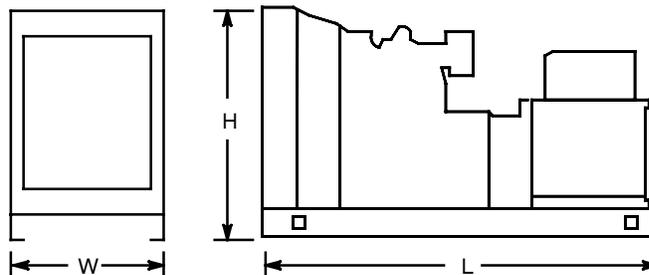
- 2-Year Basic
- 2-Year Prime
- 5-Year Basic
- 5-Year Comprehensive
- 10-Year Major Components

Miscellaneous Accessories

- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.):
 Wide Skid: 2200 x 1040 x 1274 (86.61 x 40.94 x 50.15)
 Narrow Skid: 2200 x 864 x 1274 (86.61 x 34.02 x 50.15)
 Weight (radiator model), wet, kg (lb.): 1125 (2480)



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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