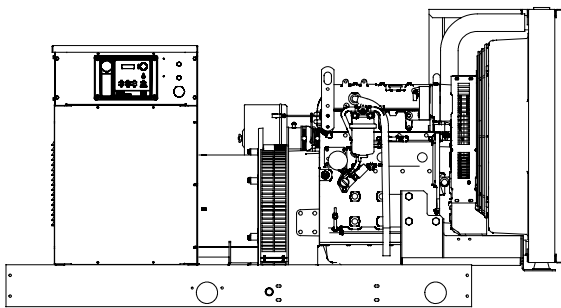




## Ratings Range

		<b>60 Hz</b>
<b>Standby:</b>	<b>kW</b>	27-30
	<b>kVA</b>	27-38
<b>Prime:</b>	<b>kW</b>	24-26
	<b>kVA</b>	24-33



## 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.
- The generator set engine is certified by the Environmental Protection Agency (EPA) to conform to interim Tier 4 nonroad emissions regulations.
- A 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:
  - Controllers are available for all applications. See controller features inside.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).
  - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

## Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
4P5	120/208	3	60	30/38	104	25/31	87
	127/220	3	60	30/38	98	25/31	82
	120/240	3	60	30/38	90	25/31	75
	120/240	1	60	27/27	113	24/24	100
	139/240	3	60	30/38	90	25/31	75
	220/380	3	60	30/38	57	25/31	47
	277/480	3	60	30/38	45	25/31	38
	347/600	3	60	30/38	36	25/31	30
4P7	120/208	3	60	30/38	104	26/33	90
	127/220	3	60	30/38	98	26/33	85
	120/240	3	60	30/38	90	26/33	78
	120/240	1	60	28/28	117	25/25	104
	139/240	3	60	30/38	90	26/33	78
	220/380	3	60	30/38	57	26/33	49
	277/480	3	60	30/38	45	26/33	39
	347/600	3	60	30/38	36	26/33	31
4Q4	120/240	1	60	28/28	117	25/25	104

**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:* Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. *Prime Power Ratings:* Prime power ratings apply to installations where utility power is unavailable or unreliable. 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, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** *Altitude:* Derate 0.5% per 100 m (328 ft.) elevation above 2100 m (6890 ft.). *Temperature:* Derate 1.0% per 10°C (18°F) temperature above 25°C (77°F).

# Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Leads: quantity, type	
4Q4	4, 110-120/220-240
4P5, 4P7	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	
Decision-Maker 550 controller (with 0.5% drift due to temp. variation)	3-Phase Sensing, ±0.25%
Decision-Maker 3000 controller	3-Phase Sensing, ±0.5%
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 4P5 (12 lead)	140
480 V 4P7 (12 lead)	194
240 V 4Q4 (4 lead)	72

- 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	
Manufacturer	John Deere
Engine model	4024TF281B
Engine type	4-Cycle, Turbocharged
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	2.4 (149)
Bore and stroke, mm (in.)	86 x 105 (3.39 x 4.13)
Compression ratio	20.5:1
Piston speed, m/min. (ft./min.)	375 (1230)
Main bearings: quantity, type	5, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	36 (49)
Cylinder head material	Cast Iron
Crankshaft material	Ductile Iron
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	Electronic, Stanadyne/Unit Pump
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, m <sup>3</sup> /min. (cfm)	8.0 (283)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	552 (1026)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	63.5 (2.5)

### Engine Electrical

Engine Electrical System		
Battery charging alternator:		
Ground (negative/positive)		Negative
Volts (DC)		12
Ampere rating		70
Starter motor rated voltage (DC)		12
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating		One, 640
Battery voltage (DC)		12

### Fuel

Fuel System	
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)
Fuel return line, min. ID, mm (in.)	6.0 (0.25)
Max. lift, engine-driven fuel pump, m (ft.)	3.0 (10.0)
Max. fuel flow, Lph (gph)	99 (26.1)
Fuel prime pump	Manual
Fuel filter	
Secondary	5 Microns @ 98% Efficiency
Water Separator	Yes
Recommended fuel	#2 Diesel

### Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	7.3 (7.7)
Oil pan capacity with filter, L (qt.)	8.2 (8.7)
Oil filter: quantity, type	1, Cartridge
Oil cooler	Water-Cooled

# Application Data

## Cooling

### Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	2.6 (0.7)
Radiator system capacity, including engine, L (gal.)	11.4 (3.0)
Engine jacket water flow, Lpm (gpm)	91 (24)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	24.8 (1412)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	597 (23.5)
Fan, kWm (HP)	2.9 (3.9)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)

### Remote Radiator System†

Exhaust manifold type	Dry
Connection sizes:	
Water inlet, ID hose, mm (in.)	51 (2.00)
Water outlet, ID hose, mm (in.)	48 (1.88)
Static head allowable above engine, kPa (ft. H <sub>2</sub> O)	63 (21)

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

## Operation Requirements

### Air Requirements

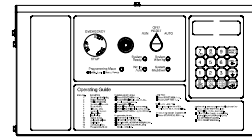
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm)‡	96 (3400)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise and ambient temp. of 29°C (85°F), m <sup>3</sup> /min. (cfm)	48 (1700)
Combustion air, m <sup>3</sup> /min. (cfm)	3.0 (106)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	8.6 (490)
Alternator, kW (Btu/min.)	4.4 (250)

‡ Air density = 1.20 kg/m<sup>3</sup> (0.075 lbm/ft<sup>3</sup>)

### Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating	
100%	10.6	(2.8)
75%	8.0	(2.1)
50%	5.8	(1.5)
25%	3.9	(1.0)
Diesel, Lph (gph) at % load	Prime Rating	
100%	9.4	(2.5)
75%	7.2	(1.9)
50%	5.2	(1.4)
25%	3.4	(0.9)

# Controllers

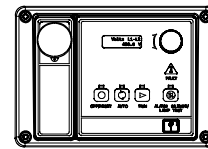


### Decision-Maker® 550 Controller

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 personal computer 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® 3000 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Scrolling display shows critical data at a glance
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-100 for additional controller features and accessories.

## Additional Standard Features

- Alternator Protection
- Battery Rack and Cables
- Oil Drain and Coolant Drain w/Hose Barb
- Oil Drain Extension (with narrow skid and enclosure models only)
- Operation and Installation Literature
- Radiator Drain Extension (with enclosure only)

## Available Options

### Approvals and Listings

- CSA Approval
- IBC Seismic Certification
- UL2200 Listing

### Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)

### Open Unit

- Exhaust Silencer, Critical (kit: PA-352663)
- 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

- Common Failure Relay
- Communication Products and PC Software (550 controller only)
- Customer Connection (550 controller only)
- Dry Contact (isolated alarm) (550 controller only)
- Input/Output Module (3000 controller only)
- Prime Power Switch
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel (550 controller only)
- Remote Emergency Stop
- Remote Mounting Cable (550 controller only)
- Run Relay

### Cooling System

- Block Heater; 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)

### Paralleling System

- Reactive Droop Compensator
- Voltage Adjust Control
- Voltage Regulator Relocation (550 controller only)

### Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Closed Crankcase Vent
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards
- Skid End Caps

### Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

### Warranty

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

### Other Options

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

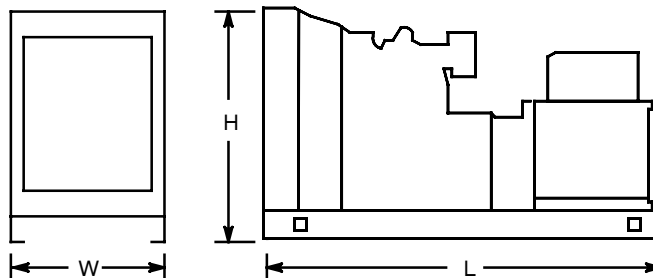
## Dimensions and Weights

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

Wide Skid: 2300 x 1040 x 1133 (90.55 x 40.94 x 44.61)

Narrow Skid: 1998 x 780 x 1067 (78.66 x 30.71 x 42.01)

Weight (radiator model), wet, kg (lb.): 735 (1620)



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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