

### Ratings Range

		<b>60 Hz</b>
<b>Standby:</b>	<b>kW</b>	2050-2250
	<b>kVA</b>	2563-2813
<b>Prime:</b>	<b>kW</b>	2040
	<b>kVA</b>	2550



### Standard Features

- Kohler Co. 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.
- cULus listing (UL 2200 and CSA C22.2 No. 100).
- The generator set accepts rated load in one step.
- A standard three-year unlimited-hour limited warranty for standby applications in the U.S. And Canada. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.
- Other features:
  - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 4.

### Conscious Care™ Qualified

- Reduce operating costs, fuel consumption, and greenhouse gas emissions with Conscious Care™ maintenance program

### General Specifications

Manufacturer	Kohler
Engine: model	KD62V12A
Alternator Choices	KH07001TO4D KH07630TO4D KH07771TO4D KH07801TO4D KH08431TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	Wye, 600 V, 416 V, 480 V, 4160 V, or 12470-13800 V
Controller	APM603, APM802
Fuel Tank Capacity, L (gal.)	8577-16383 (2266-4328)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	611.8 (161.6)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	566.9 (149.8)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	—
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

### Generator Set Ratings

Alternator	Voltage	Ph	Hz	150°C Rise			130°C Rise			105°C Rise			125°C Rise			105°C Rise		
				Standby Rating			Standby Rating			Standby Rating			Prime Rating			Prime Rating		
				kW	kVA	Amps	kW	kVA	Amps	kW	kVA	Amps	kW	kVA	Amps	kW	kVA	Amps
KH07001TO4D	2400/4160	3	60	2250	2813	391	2250	2813	391	2250	2813	391	2040	2550	354	2040	2550	354
KH07771TO4D	347/600	3	60	2250	2813	2707	2250	2813	2707	2250	2813	2707	2040	2550	2454	2040	2550	2454
KH07801TO4D	240/416	3	60	2250	2813	3904	2250	2813	3904	2050	2563	3557	2040	2550	3540	2040	2550	3540
	277/480	3	60	2250	2813	3383	2250	2813	3383	2250	2813	3383	2040	2550	3068	2040	2550	3068
KH08431TO4D	347/600	3	60	2250	2813	2707	2250	2813	2707	2180	2725	2623	2040	2550	2454	2040	2550	2454
	240/416	3	60	2250	2813	3904	2250	2813	3904	2250	2813	3904	2040	2550	3540	2040	2550	3540
KH08431TO4D	277/480	3	60	2250	2813	3383	2250	2813	3383	2250	2813	3383	2040	2550	3068	2040	2550	3068
	2400/4160	3	60	2250	2813	391	2250	2813	391	2050	2563	391	2040	2550	354	2040	2550	354

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.

## Generator Set Ratings, Continued

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating			105°C Rise Standby Rating			105°C Rise Prime Rating		
				kW	kVA	Amps	kW	kVA	Amps	kW	kVA	Amps
	7200/12470	3	60	2250	2813	131	2050	2563	119	2040	2550	119
KH07630TO4D	7620/13200	3	60	2250	2813	124	2050	2563	113	2040	2550	112
	7970/13800	3	60	2250	2813	118	2050	2563	108	2040	2550	107

Engine Specifications		60 Hz	Fuel Consumption		60 Hz
Manufacturer	Kohler		<b>At % load of Engine power rating (Standby)</b>		<b>lph (gph)</b>
Engine model	KD62V12A		100%	611.8 (161.6)	
Engine type	4-Cycle, Turbocharged, Intercooled		75%	529.4 (139.9)	
Cylinder arrangement	12-V		50%	350.0 (92.5)	
Displacement, L (cu. in.)	62 (3783)		25%	198.5 (52.4)	
Bore and stroke, mm (in.)	175 x 215 (6.89 x 8.46)		<b>At % load of Engine power rating (Prime)</b>		<b>lph (gph)</b>
Compression ratio	16.0:1		100%	566.9 (149.8)	
Rated rpm	1800		75%	471.3 (124.5)	
Max. power at rated rpm, kWm (BHP)	2500 (3352)		50%	320.9 (84.8)	
Governor: type, make/model	KODEC Electronic Control		25%	185.9 (49.2)	
Frequency regulation, no-load to full-load	Isochronous		** Assumed volumetric fuel consumption with diesel fuel having an LHV of 42.7kJ/kg and weighing 0.85kg/l.		
Frequency regulation, steady state	±0.25%				
Frequency	Fixed				
<b>Lubricating System</b>		<b>60 Hz</b>	<b>Radiator System</b>		<b>60 Hz</b>
Type	Full Pressure		Ambient temperature, °C (°F) †	50 (122)	
Oil filter: quantity, type§	6, Cartridge		Radiator system capacity, including engine, L (gal.)	877 (232)	
Oil cooler	Water-Cooled		Jacket water capacity, engine only, L (gal.)	180 (48)	
§ Kohler recommends the use of Kohler Genuine oil and filters.			Jacket water capacity, Total: radiator + engine only, L (gal.)	509 (134)	
<b>Fuel System</b>		<b>60 Hz</b>	Engine jacket water flow, Lpm (gpm)	2110 (557)	
Max. fuel flow, Lph (gph)	831 (220)		Heat rejected to jacket water at rated kW, dry exhaust, kW (Btu/min.)	828 (47129)	
Maximum diesel fuel lift, m (ft.)	6 (20)		Charge cooler water capacity, engine only, L (gal.)	80 (21)	
Fuel filter: quantity, type	2, Primary Engine Filter 2, Fuel/Water Separator		Charge cooler water capacity, Total: radiator + engine, L (gal.)	368 (97)	
Recommended fuel	#2 Diesel ULSD/HVO/RD		Charge cooler water flow, Lpm (gpm)	600 (159)	
			Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.)	750 (42690)	
			Fan diameter, including blades, mm (in.)	2235 (88)	
			Fan, kWm (HP)	90 (120.7)	
			Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O)	0.125 (0.5)	
			* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).		
<b>Remote Radiator System</b>		<b>60 Hz</b>			
Exhaust manifold type		Dry			
Connection sizes:		Class 150 ANSI Flange			
Water inlet/outlet, mm (in.)		216 (8.5) Bolt Circle			
Intercooler inlet/outlet, mm (in.)		178 (7.0) Bolt Circle			
Static head allowable above engine, kPa (ft. H <sub>2</sub> O)					
Charge cooling circuit		90 (30.1)			
Jacket water circuit		70 (23.5)			

Exhaust System	60 Hz
Heat rejected to exhaust, kW	1980
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	507 (17919)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	450 (842)
Maximum allowable back pressure, kPa (in. Hg)	8.5 (2.5)
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

Electrical System	60 Hz
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	24
Ampere rating	140
Starter motor qty. at starter motor power rating, rated voltage (DC)	Standard: 2 @ 9 kW, 24; Redundant (optional): 4 @ 9 kW, 24
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each, type (with standard starters)	4, 1110, AGM
Quantity, CCA rating each, type (with redundant starters)	8, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) <sup>l</sup>	50°C 2809 (99200)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m <sup>3</sup> /min. (scfm)‡	1013 (35767)
Combustion air, m <sup>3</sup> /min. (cfm)	202 (7126)
Max. air combustion restriction, kPa	5.0
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	125 (7115)
Alternator, kW (Btu/min.)	160 (9099)

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

Alternator Specifications	60 Hz
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet Pilot Exciter
Voltage regulator	Solid-State, Volts/Hz
Insulation system	Class H, Synthetic, Non-hygroscopic
Ingress Protection rating	IP23
Bearing: quantity, type	1 or 2, Sealed
Coupling type	Flexible Disc or Coupling
Overspeed (rpm)	2250
Voltage regulation, no-load to full-load	±0.25%
Unbalanced load capability	100% of Rated Standby Current

### Alternator Standard Features

- The pilot-excited, permanent magnet (PM) alternator provides superior short-circuit capability.
- All models are brushless, rotating-field alternators.
- 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.
- Brushless alternator with brushless pilot exciter for excellent load response.

#### NOTE:

See TIB-102 Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

### Controllers



#### APM802 Controller

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

- 12-inch graphic display with touch screen and menu control provide easy local data access
- Measurements are selectable in metric or English units
- User language is selectable
- Two USB ports allow connection of a flash drive, mouse, or keypad
- Electrical data, mechanical data, and system settings can be saved to a flash drive
- Ethernet port allows connection to a PC type computer or Ethernet switch
- The controller supports Modbus® RTU and TCP protocols
- NFPA 110 Level 1 capability

Refer to G6-152 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.



#### APM603 Controller

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

- 7-inch graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- **Note:** Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACnet®
- Integrated voltage regulator with  $\pm 0.25\%$  regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.

BACnet® is a registered trademark of ASHRAE.

### Codes and Standards

- Engine-generator set is designed and manufactured in facilities certified to ISO 9001.
- Generator set meets NEMA MG1, BS5000, ISO, DIN EN, and IEC standards, NFPA 110.
- Engine generator set is tested to ISO 8528-5 for transient response.
- The generator set and its components are prototype-tested, factory-built, and production-tested.

### Third-Party Compliance

- Tier 2 EPA-Certified for Stationary Emergency Applications

#### Available Approvals and Listings

- California OSHPD Pre- Approval
- cULus (UL 2200 and CSA C22.2 No. 100)
- IBC Seismic Certification
- Canadian cUL Tank Listing

### Warranty Information

- A standard three-year unlimited-hour limited warranty for standby applications in the U.S. And Canada. Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available.
- A standard two-year or 8700-hour limited warranty for prime power applications.

#### Available Warranties for Standby Applications

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

### Standard Features

- Industrial water cooled internal combustion Engine
- Single electric starter
- Charging alternator 24Vdc
- Single bearing alternator IP23, T<sup>o</sup>rise / Insulation class H/H
- Welded steel skid
- Closed Crankcase Ventilation (CCV) Filters
- Standard air filter
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Fuel/Water Separator
- Generator Heater
- Compensators and flanges for exhaust outlets
- Spring Isolation Under the Skid
- Packaging under plastic film
- Operation and Installation Literature
- Delivered with initial oil fill
- Coolant in generator

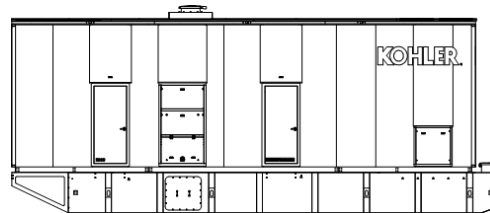
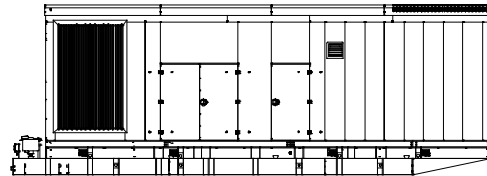
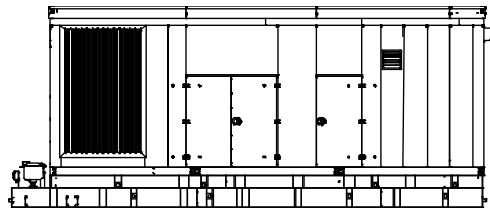
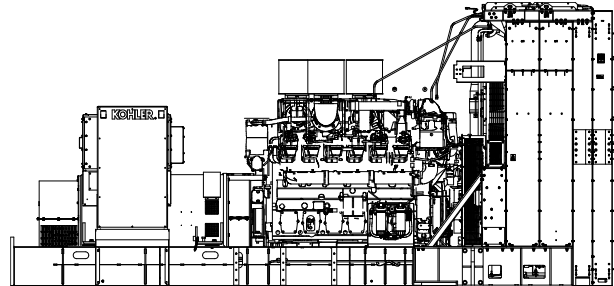
## Dimensions and Weights

Compact version without cooling	60 Hz
Overall Size, L x W x H, max., mm (in.):	6573 x 2901 x 3254 (258.8 x 114.2 x 128.1)
Weight (radiator model), wet, max., kg (lb.):	22900 (50490)
Fuel tank capacity, L (gal.)	0

Sound Level 1 Enclosure	60 Hz
Aluminum sound enclosure with internal-mounted, exhaust silencers, offering noise reduction, allowing complete serviceability, and easy maintenance.	
Overall Size, L x W x H, max., mm (in.):	11418 x 3488 x 4777 (451 x 137 x 188)
Max. weight, kg (lb.)	38914 (85795)
Fuel tank capacity, L (gal.)	Refer to G6-154.
Sound Pressure Level at 60 Hz with full load, dB	88

Sound Level 2 Enclosure	60 Hz
Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, vertical air discharge, and secondary silencers.	
Overall Size, L x W x H, max., mm (in.):	13493 x 3488 x 4777 (531 x 137 x 188)
Max. weight, kg (lb.)	40744 (89829)
Fuel tank capacity, L (gal.)	Refer to G6-154.
Sound Pressure Level at 60 Hz with full load, dB	76

Sound Level 2 Walk-In Enclosure	60 Hz
Aluminum frame enclosure with Internal silencer, acoustic-lined air inlet, vertical outlet hood with 90 angles to redirect air and reduce noise.	
Overall Size, L x W x H, max., mm (in.):	13220 x 4157 x 5725.2 (520.5 x 163.6 x 221.5)
Max. weight, kg (lb.)	40195 (88620)
Fuel tank capacity, L (gal.)	Refer to G6-190.
Sound Pressure Level at 60 Hz with full load, dB	74





**Industrial Diesel Generator Set - KD2250**  
*Emission Optimized - Tier 2 EPA-Certified*  
*for Stationary Emergency Applications*

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