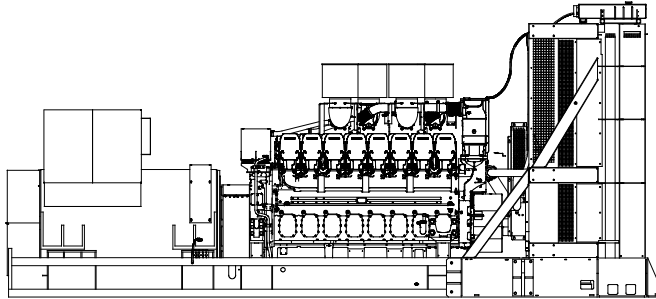


KDxxxx designates a generator set with a Tier 2 EPA-Certified engine.  
KDxxxx-F designates a 60 Hz generator set with a fuel optimized engine.



### Ratings Range

		<b>60 Hz</b>
<b>Standby:</b>	<b>kW</b>	2750-2800
	<b>kVA</b>	3438-3500
<b>Prime:</b>	<b>kW</b>	2500-2540
	<b>kVA</b>	3125-3175



### 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.
- 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 three-year or 1000-hour limited warranty for standby applications. 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.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).

### General Specifications

Orderable Generator Model Number	GMKD2800
Manufacturer	Kohler
Engine: model	KD83V16
Alternator Choices	KH06670TO4D KH07631TO4D KH07632TO4D KH07640TO4D KH07770TO4D KH08430TO4D KH08590TO4D KH09270TO4D KH09370TO4D KH09390TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	480 V, 600 V, 4160 V, 6600 V, or 12470- 13800 V
Controller	APM603, APM802
Fuel Consumption, L/hr (gal./hr) 100% at Standby	707 (186.8)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	695 (183.7)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	99
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

### Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
KH06670TO4D	3810/6600	3	60	2800/3500	307	2540/3175	278
	7200/12470	3	60	2800/3500	163	2540/3175	147
	7620/13200	3	60	2800/3500	154	2540/3175	139
	7970/13800	3	60	2800/3500	147	2540/3175	133
KH07631TO4D	7620/13200	3	60	2800/3500	154	2540/3175	139
	7970/13800	3	60	2800/3500	147	2540/3175	133
KH07632TO4D	3810/6600	3	60	2800/3500	307	2540/3175	278
	7200/12470	3	60	2800/3500	163	2540/3175	147
KH07640TO4D	277/480	3	60	2800/3500	4210	2800/3500	4210
	277/480	3	60	2800/3500	4210	2500/3125	3759
KH07770TO4D	347/600	3	60	2800/3500	3368	2500/3125	3008
	2400/4160	3	60	2800/3500	486	2500/3125	434
KH08430TO4D	277/480	3	60	2800/3500	4210	2540/3175	3819
	2400/4160	3	60	2800/3500	486	2540/3175	441

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	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
KH08590TO4D	277/480	3	60	2800/3500	4210	2800/3500	4210
	347/600	3	60	2800/3500	3368	2800/3500	3368
KH09270TO4D	3810/6600	3	60	2800/3500	307	2500/3125	274
	7200/12470	3	60	2750/3438	160	2500/3125	145
	7620/13200	3	60	2800/3500	154	2500/3125	137
	7970/13800	3	60	2800/3500	147	2500/3125	131
KH09370TO4D	2400/4160	3	60	2800/3500	486	2540/3175	441
KH09390TO4D	277/480	3	60	2800/3500	4210	2800/3500	4210

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model	KD83V16
Engine: type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	16-V
Displacement, L (cu. in.)	83 (5048)
Bore and stroke, mm (in.)	175 x 215 (6.89 x 8.46)
Compression ratio	16.0:1
Piston speed, m/min. (ft./min.)	774 (2539)
Main bearings: quantity, type	9, Precision Half Shells
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	3010 (4036)
Cylinder head material	Cast Iron
Crankshaft material	Steel
Valve (exhaust) material	Steel
Governor: type, make/model	KODEC Electronic Control
Frequency regulation, no-load to-full load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Lubricating System	60 Hz
Type	Full Pressure
Oil pan capacity with filter (initial fill), L (qt.) §	420 (444)
Oil filter: quantity, type §	8, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Fuel System	60 Hz
Fuel supply line, min. ID, mm (in.)	25 (1.0)
Fuel return line, min. ID, mm (in.)	19 (0.75)
Max. fuel flow, Lph (gph)	907 (239.6)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	-30/30 (-8.8/8.8)
Maximum diesel fuel lift, m (ft.)	3.7 (12)
Max. return line restriction, kPa (in. Hg)	30 (8.9)
Fuel filter: quantity, type	3, Primary Engine Filter 2, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD / RD / HVO

Fuel Consumption**	60 Hz
Diesel, Lph (gph) at % load	Standby Rating
100%	707 (186.8)
75%	624 (164.8)
50%	434 (114.5)
25%	259 (68.5)
Diesel, Lph (gph) at % load	Prime Rating
100%	695 (183.7)
75%	577 (152.4)
50%	423 (111.8)
25%	234 (61.8)

\*\* Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.

Radiator System	60 Hz	60 Hz
	EPA Tier 2	Low NOx EPA Tier 2
Ambient temperature, °C (°F)	50 (122)	
Engine jacket water capacity, L (gal.)	375 (99)	
Radiator system capacity, including engine, L (gal.)	1192 (315)	
Engine jacket water flow, Lpm (gpm)	2707 (715)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	1078 (61359)	1164 (66255)
Charge cooler water flow, Lpm (gpm)	700 (185)	
Heat rejected to charge cooling water at rated kW, dry exhaust, kW (Btu/min.)	761 (43316)	860 (48951)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	2438 (96)	
Fan, kWm (HP)	100 (134)	
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†	60 Hz
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)	250 (83.6)

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

Exhaust System	60 Hz
Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)	595 (21012)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	470 (878)
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); 2 @ 15 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)‡	3823 (135000)
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)‡	1136 (40104)
Combustion air, m <sup>3</sup> /min. (cfm)	232 (8193)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	138 (7847)
Alternator, kW (Btu/min.)	179 (10200)

‡ 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:	NEMA MG1, UL 1446, Vacuum Pressure Impregnated (VPI)	
Material	Class H, Synthetic, Nonhygroscopic	
Temperature rise	130°C, 150°C Standby	
Bearing: quantity, type	2, Sealed	
Coupling type	Coupling	
Amortisseur windings	Full	
Alternator winding type	Form Wound	
Rotor balancing	125%	
Voltage regulation, no-load to full-load	±0.25%	
Unbalanced load capability	100% of Rated Standby Current	
Peak motor starting kVA:	(35% dip for voltages below)	
480 V	KH07640TO4D	8996
480 V	KH07770TO4D	7170
480 V	KH08430TO4D	9908
480 V	KH08590TO4D	11616
480 V	KH09390TO4D	11214
4160 V	KH09370TO4D	11625
12470 V	KH07632TO4D	11395
13800 V	KH06670TO4D	9365
13800 V	KH07631TO4D	11757
13800 V	KH09270TO4D	6360

### 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 ±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 HCAI Pre-Approval
- CSA Certified
- IBC Seismic Certification
- UL 2200 Listing
- cULus

### Warranty Information

- A standard three-year or 1000-hour limited warranty for standby applications. 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

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature
- Fan Bearing Grease Extension
- Fuel/Water Separator
- Generator Heater
- Spring Isolation Under the Skid

### Available Options

#### Circuit Breakers

- | Type  | Rating                          |
|---|---------------------------------|
| <input type="checkbox"/> Electronic Trip (LI)                     | <input type="checkbox"/> 100%   |
| <input type="checkbox"/> Electronic Trip with Ground Fault (LSIG) | <input type="checkbox"/> Manual |

#### Enclosed Remote Mounted Circuit Breakers

- NEMA 1 (4000-5000 A)

#### Engine Type

- KDxxxx-F Fuel Optimized Engine  
 KDxxxx Tier 2 NOx Optimized EPA-Certified Engine (contact factory)

#### Approvals and Listings

- California HCAI Pre- Approval  
 CSA Certified  
 IBC Seismic Certification  
 UL 2200 Listing  
 cULus

#### Open Unit

- Exhaust Silencer, Critical  
 Exhaust Silencer, Hospital  
 Flexible Exhaust Connector, Stainless Steel

#### Controller

- Input/Output, Digital  
 Load Shed (APM802 only)  
 Manual Key Switch  
 Remote Emergency Stop Switch  
 Lockable Emergency Stop Switch  
 Remote Serial Annunciator Panel

#### Cooling System

- Block Heater; 10500 W, 208 V, (Select 1 Ph or 3 Ph) \*  
 Block Heater; 12000 W, 240 V, (Select 1 Ph or 3 Ph) \*  
 Block Heater; 12000 W, 380 V, 3 Ph \*  
 \* Required for Ambient Temperatures Below 5°C (41°F).

#### Electrical System

- Battery, AGM (kit with qty. 4)  
 Battery Charger  
 Battery Rack and Cables  
 Redundant Starters

#### Fuel System

- Flexible Fuel Lines  
 Restriction Gauge (for fuel/water separator)

#### Literature

- General Maintenance  
 NFPA 110  
 Overhaul  
 Production

#### Miscellaneous

- Air Cleaner, Heavy Duty (loose)  
 Air Cleaner Restriction Indicator  
 Automatic Oil Replenishment System  
 Engine Fluids (oil and coolant) Added  
 Rated Power Factor Testing

#### Warranty (Standby Applications only)

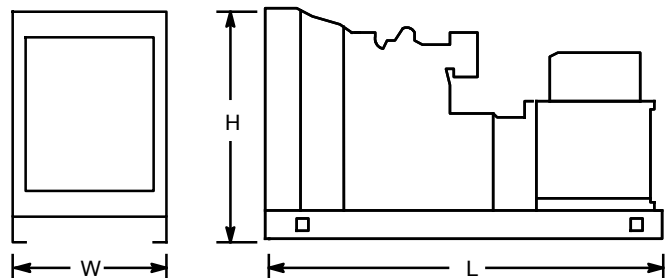
- 5-Year Basic Limited Warranty  
 5-Year Comprehensive Limited Warranty  
 10-Year Major Components Limited Warranty

#### Other

- 

#### Dimensions and Weights

Overall Size, max., L x W x H, mm (in.): 7650 x 3172 x 3451  
 (301.2 x 124.9 x 135.8)  
 Weight, radiator model, max. wet, kg (lb.): 32513 (71707)



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

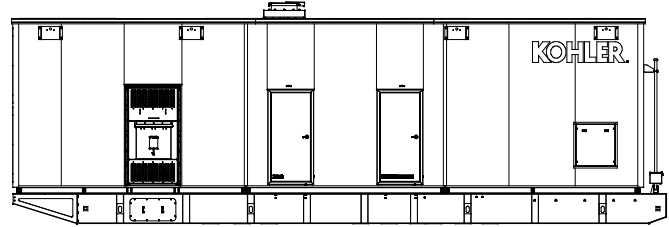
KOHLER CO., Kohler, Wisconsin 53044 USA  
Phone 920-457-4441, Fax 920-459-1646  
For the nearest sales and service outlet in the  
US and Canada, phone 1-800-544-2444  
KOHLERPower.com

### Sound Level 2 Walk-In Enclosure Standard Features

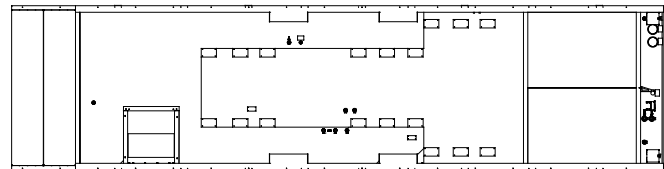
- Kohler Factory Sound Attenuated, Aluminum Skin and Aluminum Frame Enclosure.
- Internal silencer, acoustic-lined air inlet, vertical outlet hood with 90° angles to redirect air and reduce noise
- Mounts to subbase fuel tank.
- Aluminum construction with four large, hinged doors for easy maintenance.
- Fade-, scratch-, and corrosion-resistant textured finish.
- Lockable, stainless steel external door latches, internal crash bar for exit.
- Door retention.
- Air inlet louvers to reduce rain and snow entry.
- Designed to meet or exceed 135 mph wind load rating.
- IBC Certified via analysis for site specific use.
- Roof snow loading capable of up to 341.7 kg/m<sup>2</sup> (70 lb/ft<sup>2</sup>).
- Fluid drains piped to the exterior of the enclosure.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Cable entry access available either through the tank stub-in or through the top right or left side panels of the enclosure.
- Enclosure is capable of being split into three sections with one section independently removed in the field.

### Subbase Fuel Tank Features

- The fuel tank has a black powder coat finish texture.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Provides walking surface within enclosure for generator set access.
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided.
- The containment tank's construction protects against fuel leaks or ruptures. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- The above ground secondary containment subbase fuel tank meets UL 142 requirements.
- Oil fogged tank interior for rust prevention.



**Level 2 Sound Enclosure with Subbase Fuel Tank  
(Shown with optional spill containment)**



**Subbase Fuel Tank (Top View)**

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