BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR CERTIFICATE OF OPERATION

FORM E001
03/2011

1. Name of Company HDR.inc City of Chattanooga, Hixson Pump Station #2. NAICS Code: 2213
(If corporation or LLC, name on file with Tennessee Secretary of State Corporate Records Division)

3. Company Official to Contact: Caroline Archer 4. Phone No. 423-508-3182

5. Mailing Address: 1201 Market Street Suite C | Chattanooga | TN | 37402
Street or P.O. Box | *City* | *State* | *Zip Code*

6. Physical Location
(If different from line 5) 2754 Kanasita Drive | Hixson | TN | 37343
Street | *City* | *State* | *Zip Code*

7. Application for:
☒ Installation Permit ☐ Initial Certificate of Operation ☐ Renewal Certificate of Operation

Previous Installation Permit or Certificate of Operation No.: _____

8. Type of equipment for which application is made:

☒ Process Equipment (Form E010 or Form E010A)	☐ Previously Submitted	☐ Attached
☒ Fuel Burning Equipment (Form E011)	☐ Previously Submitted	☒ Attached
☐ Incineration Equipment (Form E012)	☐ Previously Submitted	☐ Attached
☐ Minor Pollution Source (Form E014)	☐ Previously Submitted	☐ Attached

(Less than 1000 lbs/yr and less than 10 lbs/day total uncontrolled contaminant emissions)

The following forms are filed with this application:
Kholer Emergency Backup Generator/Enclosure Cut Sheets,

9. Equipment Name:
Kohler KD1250

10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application in the equipment or operation which might:

A. Increase, decrease, or alter process materials, fuel, refuse type, etc.? ☐ Yes ☐ No

B. Increase, decrease, or alter emissions or emission points? ☐ Yes ☐ No

RECEIVED
CHATT / HAMILTON CO.
JAN 09 2023
AIR POLLUTION CONTROL BUREAU

11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): 7.05 lbs/gal x 87.2 gal/hr = 614.76 lbs/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail completed form to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
6125 Preservation Drive, Suite 140
Chattanooga, TN 37416-3638

This form must be completely filled out before it will be processed

Caroline Archer
Name
Water/Wastewater EIT
Title
January 5, 2023
Date

FUEL BURNING EQUIPMENT APPLICATION

A separate form must be filed for each stack or emission point.

FORM E011
01/2001

1. Name of Company: City of Chattanooga, Hixson Pump Station #1
   As shown on Line 1 of Form E001

2. Equipment Name: Kohler KD 1250 Generator
   As shown on Line 9 of Form E001

3. Stack Designation: N/A
   If there is more than one stack at this location, provide a written or numeric designation to identify each stack.

4. Control Equipment Data:

- [X] Emissions Uncontrolled
- [ ] Electrostatic Precipitator (File Form E104)
- [ ] Baghouse (File Form E102)
- [ ] Inertial Separators (File Form E105)
- [ ] Wet Collecting Device (File Form E103)
- [ ] Other (Specify): _____

5. Control Equipment Efficiency:
   Enter the control equipment efficiency for each pollutant emitted by this equipment as determined on the appropriate Form E102, E103, E104, E105, E107, or enter zeros if "A" is checked in Item 4.

Pollutant	% Efficiency
Particulates	
PM_{10}	
SO_x	
NO_x	
CO	
VOC	
Other:	

	Pollutant		% Efficiency
Particulates	0.01	g/kWH	100
PM10	0	g/kWH	100
SOx	0	g/kWH	100
NOx	11.7	g/kWH	100
CO	0.2	g/kWH	100
VOC	0	g/kWH	100
HC	0.02	g/kWH	100

6. Emissions Estimation: See Attached *File Form E110 for each fuel used*

		Fuel No.1	Fuel No.2	Fuel No.3
Particulate Matter (Form E110, Item 6)	Uncontrolled	0.03066 Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	0.03066 Lbs/hr	Lbs/hr	Lbs/hr
SO_x (Form E110, Item 7)	Uncontrolled	0.00000 Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	0.00000 Lbs/hr	Lbs/hr	Lbs/hr
PM_{10}	Uncontrolled	0.00000 Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	0.00000 Lbs/hr	Lbs/hr	Lbs/hr
NO_x (Form E110, Item 9E)	Uncontrolled	1.11013 ppm	ppm	ppm
	Actual[1]	ppm	ppm	ppm
	Estimated[2]	1.11013 ppm	ppm	ppm
Other Air Contaminants (Specify) - HC	Uncontrolled	0.06133 Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	0.06133 Lbs/hr	Lbs/hr	Lbs/hr

1. *Submit stack test report with full details.*
2. *Estimate the emissions using the formula below*

$$\text{Estimated Emissions (lbs/hr, ppm)} = \frac{\text{100\%-Control Efficiency (\%)}}{\text{100\%}} \times \text{Uncontrolled Emissions}$$

Company Name: City of Chattanooga, Hixson Pump Station #1 Equipment Name: Kohler KD 1250 Generator

7. Equipment Data:

Manufacturer of Equipment: _____

Date of Manufacture: _____ Date of Installation: _____

Boiler No.		Fuel Type	Rated Capacity 10^6 BTU/hr. Input	Type of Firing	Fuel Consumption			Percent Content		Heating Content of Fuel	(%) Excess Air
					Ave.	Max.	Annual	Sulfur	Ash		
	Primary: Normal Operating Fuel(s)										
	Standby: Fuel(s) used in emergency only			N/A							
	Primary: Normal Operating Fuel(s)										
	Standby: Fuel(s) used in emergency only										

a. If more than one boiler per stack, list a separate code number to represent each individual boiler,
b. List all fuels used.
c. Give rated or maximum input capacity, whichever is greater.
d. Specify the type of firing for each fuel used.
e. Indicate consumption of each fuel used in tons/hr, gal/hr, or ft^3/hr.
f. Indicate annual consumption of each fuel used in tons/yr, gal/yr, or ft^3/yr.
g. The average sulfur and ash content of each fuel must be included – This information may be obtained from the fuel supplier.
h. Indicate the heating content of each fuel in BTU/ton, BTU/gal, or BTU/ft^3 – This information may be obtained from the fuel supplier.

	Space Heating	Process Heating	Other (Describe)
Percent (%)of Load Used			

8. Emissions Impact:

Those emissions indicated in Item 6 mat at times under normal operating conditions cause (check one or more):

☐ Odors	☐ Health Effects
☐ Eye Irritations	☐ Other nuisances outside of plant property
☐ Property Damage	☒ No environmental damage

9. Emission Point Data:

Stack Height (emission point) above ground:	13 Ft
Ground Elevation above sea level at stack base:	678.25 Ft
Stack Diameter:	0.67 (x4 outlets) Ft
Volume of gas discharged into atmosphere:	8,511 Cfm
Gas exit temperature:	925 °F

10. Average Equipment Operating Time:

Generator will serve as back-up power source and will not run on a regular basis. Calculations were based off assumption that generator will be ran 1hr/week for testing.

Daily:	1	0.00 Hours
Weekly:	1	0.006 Days
Yearly:	52	0.0008 Weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. ***This form must be completely filled out before it will be processed.***

Company Official

Mail to:
CHATTANOOGA-HAMILTON
COUNTY AIR POLLUTION
CONTROL BUREAU
6125 Preservation Drive
Chattanooga, TN 37416

Title

Date

Do not write below this line

Engineer Approval

Lbs/hr Allowable particulate emissions

Lbs/10^6 BTU allowable SO_x emissions

ppm allowable NO_x emissions

UTM Coordinate of Company: EW NS

This form corresponds to permit number:

Special Notations:

KOHLER®

KD1250-A

60 Hz. Diesel Generator Set
Tier 2 EPA Certified for Stationary Emergency Applications
EMISSION OPTIMIZED DATA SHEET

ENGINE INFORMATION

Model:	KD36V16	Bore:	135 mm (5.31 in.)
Type:	4-Cycle, 16-V Cylinder	Stroke:	157 mm (6.18 in.)
Aspiration:	Turbocharged, Intercooled	Displacement:	36 L (2197 cu. in.)
Compression ratio:	15:0:1		
Emission Control Device:	Direct Diesel Injection, Engine Control Module, Turbocharger, Charge Air Cooler		

NOMINAL EMISSION DATA (for actual emissions)

Cycle point	100% ESP	75% ESP	50% ESP	25% ESP
Power [kW]	1391	1043	696	348
Speed [rpm]	1800	1800	1800	1800
Exhaust Gas Flow [kg/h]	6641	6009	4907	3484
Exhaust Gas Temperature [C]	496	464	426	397
NO_x [g/kWh]	11.7	6.2	4.4	3.1
CO [g/kWh]	0.2	0.4	0.6	1.5
HC [g/kWh]	0.02	0.03	0.05	0.09
PM [g/kWh]	0.01	0.04	0.14	0.38

NOT TO EXCEED EMISSION DATA (for potential emissions)

Cycle point	100% ESP	75% ESP	50% ESP	25% ESP
NO_x [g/kWh]	13.0	6.9	4.9	3.4
CO [g/kWh]	1.2	1.9	3.2	7.8
HC [g/kWh]	0.03	0.04	0.06	0.11
PM [g/kWh]	0.03	0.06	0.21	0.55

"Tier 2" limits (weighted cycle averages) –
$NO_x + VOC$: 6.4 g/kW-hr, CO: 3.5 g/kW-hr, PM: 0.20 g/kW-hr

TEST METHODS AND CONDITIONS

Test Methods:
Steady-State emissions recorded per EPA CFR 40 Part 1065, and ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rated stabilized.

Fuel Specification:
40-48 Cetane Number, 0.05 Wt. % max. Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.

Reference Conditions:
25 °C (77 °F) Air Inlet Temperature, 40 °C (104 °F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H2O/lb.) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Tests conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Data and specifications subject to change without notice.

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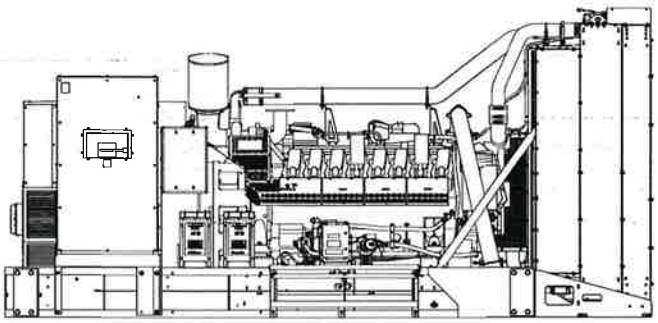
Industrial Diesel Generator Set -
Tier 2 EPA-Certified for Stationary Emergency Applications



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.

JAJ

Ratings Range

		60 Hz
Standby:	**kW**	1180- 1250
	kVA	1475- 1562
Prime:	**kW**	1070- 1120
	kVA	1338- 1400

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.
- 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	GMKD1250-A
Manufacturer	Kohler
Engine: model	KD36V16
Alternator Choices	KH03850TO4D KH04590TO4D KH04830TO4D KH05520TO4D KH05641TO4D KH06721TO4D KH06810TO4D
Performance Class	Per ISO 8528-5
One Step Load Acceptance	100%
Voltage	Wye, 600 V., or 4160 V
Controller	APM603, APM802
Fuel Tank Capacity, L (gal.)	5863- 21985 (1549- 5808)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	330 (87.2)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	298 (78.7)
Emission Level Compliance (KDxxxx)	Tier 2
Open Unit Noise Level @ 7 m dB(A) at Rated Load	97
Data Center Continuous (DCC) Rating (Refer to TIB-101 for definitions)	Same as the Standby Rating below

Generator Set Ratings

				150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating	
Alternator	**Voltage**	**Ph**	**Hz**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**	**kW/kVA**	**Amps**
KH03850TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1120/1400	2021	1120/1400	2021
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
KH04590TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1120/1400	2021	1120/1400	2021
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
KH04830TO4D	240/416	3	60	1210/1512	2099	1180/1475	2048	1120/1400	1944	1070/1338	1857
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1438	1684

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.

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Industrial Diesel Generator Set - KD1250

Tier 2 EPA-Certified for Stationary Emergency Applications

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating kW/kVA	150°C Rise Standby Rating Amps	130°C Rise Standby Rating kW/kVA	130°C Rise Standby Rating Amps	125°C Rise Prime Rating kW/kVA	125°C Rise Prime Rating Amps	105°C Rise Prime Rating kW/kVA	105°C Rise Prime Rating Amps
KH05520TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1120/1400	2128	1120/1400	2128
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
	347/600	3	60	1250/1562	1504	1250/1562	1504	1120/1400	1348	1120/1400	1348
KH06810TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1120/1400	2128	1120/1400	2128
	240/416	3	60	1250/1562	2168	1250/1562	2168	1120/1400	1944	1120/1400	1944
	277/480	3	60	1250/1562	1879	1250/1562	1879	1120/1400	1684	1120/1400	1684
	347/600	3	60	1250/1562	1504	1250/1562	1504	1120/1400	1348	1120/1400	1348
KH05641TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1120/1400	195	1120/1400	195
KH06721TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1120/1400	195	1120/1400	195

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model	KD36V16
Engine: type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	16-V
Displacement, L (cu. in.)	36 (2197)
Bore and stroke, mm (in.)	135 x 157 (5.31 x 6.18)
Compression ratio	15.0:1
Piston speed, m/min. (ft./min.)	565 (1854)
Main bearings: quantity, type	11, Precision Half Shells
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	1391 (1865)
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 (dipstick max. mark), L (qt.) §	135 (143)
Oil pan capacity with filter (initial fill), L (qt.) §	152 (161)
Oil filter: quantity, type §	4, Cartridge
Oil cooler	Water-Cooled

§ Kohler recommends the use of Kohler Genuine oil and filters.

Exhaust System	60 Hz
Exhaust flow at rated kW, m^3/min. (cfm)	241 (8511)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	496 (925)
Maximum allowable back pressure, kPa (in. Hg)	8.5 (2.5)
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

Fuel System	60 Hz
Fuel supply line, min. ID, mm (in.)	19 (0.75)
Fuel return line, min. ID, mm (in.)	12 (0.5)
Max. fuel flow, Lph (gph)	330 (87)
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)	20 (5.9)
Fuel filter: quantity, type	1, Primary Engine Filter 1, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD

Fuel Consumption	60 Hz
Diesel, Lph (gph) at % load	**Standby Rating**
100%	322 (85.1)
75%	256 (67.6)
50%	181 (47.8)
25%	105 (27.7)
Diesel, Lph (gph) at % load	**Prime Rating**
100%	293 (77.4)
75%	233 (61.6)
50%	164 (43.3)
25%	95 (25.1)

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Industrial Diesel Generator Set - KD1250

Tier 2 EPA-Certified for Stationary Emergency Applications

Radiator System	60 Hz
Ambient temperature, °C (°F)*	50 (122)
Engine jacket water capacity, L (gal.)	124 (33)
Radiator system capacity, including engine, L (gal.)	283 (74.7)
Engine jacket water flow, Lpm (gpm)	2241 (592)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	511 (29086)
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	320 (18214)
Charge cooling air inlet temperature at 25°C (77°F) ambient, °C (°F)	214 (417)
Turbocharger boost (abs), bar (psi)	3.31 (48)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	1750 (68.9)
Fan, kWm (HP)	33 (44.2)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.125 (0.5)

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

Remote Radiator System†	60 Hz
Exhaust manifold type	Dry
Connection sizes:	
Water inlet/outlet, mm (in.)	—
Charge air cooler inlet/outlet (pipe dia. of flange), mm (in.)	—
Static head allowable above engine, kPa (ft. H_2O)	70 (23.5)

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

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 @ 8.4 kW, 24; Redundant (optional): 4 @ 8.4 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 optional redundant starters)	8, 1110, AGM
Battery voltage (DC)	12

Air Requirements	60 Hz
Radiator-cooled cooling air, m^3/min. (scfm)‡	1470 (51913)
Cooling air required for generator set when equipped with city water cooling or remote radiator, based on 14°C (25°F) rise, m^3/min. (scfm)‡	938 (33131)
Combustion air, m^3/min. (cfm)	89.6 (3166)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	171 (9733)
Alternator, kW (Btu/min.)	93 (5325)

‡ Air density = 1.20 kg/m^3 (0.075 lbm/ft^3)

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		1, Sealed
Coupling		Flexible Disc
Amortisseur windings		Full
Alternator winding type (up to 600 V)		Random Wound
Alternator winding type (above 600 V)		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	KH03850TO4D	5351
480 V	KH04590TO4D	6030
480 V	KH04830TO4D	4193
480 V	KH05520TO4D	4612
480 V	KH06810TO4D	8466

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.

KOHLER.

Industrial Diesel Generator Set - KD1250

Tier 2 EPA-Certified for Stationary Emergency Applications

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 OSHPD Approval
- ❑ CSA Certified
- ❑ IBC Seismic Certification
- ❑ UL 2200 Listing
- ❑ cULus Listing (fuel tanks only)
- ❑ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)

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
- ❑ 5-Year Basic Limited Warranty
- ❑ 5-Year Comprehensive Limited Warranty

Standard Features

- Closed Crankcase Ventilation (CCV) Filters
- Customer Connection
- Generator Heater (4160 Volt)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Oil Drain and Coolant Drain Extension
- Operation and Installation Literature

KOHLER®

Industrial Diesel Generator Set - KD1250

Tier 2 EPA-Certified for Stationary Emergency Applications

Available Options

Circuit Breakers

Type

- ❑ Magnetic Trip
- ❑ Thermal Magnetic Trip
- ❑ Electronic Trip (LI)
- ❑ Electronic Trip with Short Time (LSI)
- ❑ Electronic Trip with Ground Fault (LSIG)

Rating

- ❑ 80%
- ❑ 100%

Operation

- ❑ Manual
- ❑ Electrically Operated (for paralleling)

Circuit Breaker Mounting

- ❑ Generator Mounted
- ❑ Remote Mounted
- ❑ Bus Bar (for remote mounted breakers)

Enclosed Remote Mounted Circuit Breakers

- ❑ NEMA 1 (15- 5000 A)
- ❑ NEMA 3R (15- 1200 A)

Engine Type

- ❑ KDxxxx Tier 2 EPA-Certified Engine
- ❑ KDxxxx-F Fuel Optimized Engine

Approvals and Listings

- ❑ California OSHPD Approval
- ❑ CSA Certified
- ❑ IBC Seismic Certification
- ❑ UL 2200 Listing
- ❑ cULus Listing (fuel tanks only)
- ❑ Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)
- ❑ Hurricane Rated Enclosure

Enclosed Unit

- ❑ Sound Level 1 Enclosure/Fuel Tank Package
- ❑ Sound Level 2 Enclosure/Fuel Tank Package

Open Unit

- ❑ Exhaust Silencer, Critical (kits: PA-361625 qty. 2)
- ❑ Exhaust Silencer, Hospital (kits: PA-361626 qty. 2)
- ❑ Flexible Exhaust Connector, Stainless Steel

Controller

- ❑ Input/Output, Digital
- ❑ Input/Output, Thermocouple (standard on 4160 V)
- ❑ Load Shed (APM802 only)
- ❑ Manual Key Switch
- ❑ Remote Emergency Stop Switch
- ❑ Lockable Emergency Stop Switch
- ❑ Remote Serial Annunciator Panel

Cooling System

- ❑ Block Heater; 9000 W, 208 V, (Select 1 Ph or 3 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 10°C (50°F). Block heater kit includes air intake manifold grid heater.

- ❑ Radiator Guard and Duct Flange

Electrical System

- ❑ Battery, AGM (kit with qty. 4)
- ❑ Battery, AGM (kit with qty. 8)
- ❑ Battery Charger
- ❑ Battery Heater; 80 W, 120 V, 1Ph
- ❑ Battery Rack and Cables
- ❑ Generator Heater (up to 600 Volt)
- ❑ 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
- ❑ Air Cleaner Restriction Indicator
- ❑ Alternator Air Filter (will reduce generator set rating up to 7%)
- ❑ Automatic Oil Replenishment System
- ❑ Engine Fluids (oil and coolant) Added
- ❑ Rated Power Factor Testing

Electrical Package

- ❑ Basic Electrical Package (select 1 Ph or 3 Ph)
- ❑ Wire Battery Charger (1 Ph)
- ❑ Wire Block Heater (select 1 Ph or 3 Ph)
- ❑ Wire Power Supply
- ❑ Wire Generator Heater (1 Ph)

Warranty (Standby Applications only)

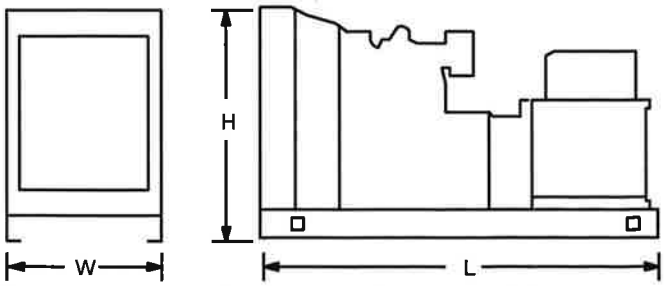
- ❑ 5-Year Basic Limited Warranty
- ❑ 5-Year Comprehensive Limited Warranty
- ❑ 10-Year Major Components Limited Warranty

Other

- ❑
- ❑

Dimensions and Weights

Overall Size, max., L x W x H, mm (in.):	5291 x 2184 x 2480 (208.3 x 86.0 x 97.6)
Weight, radiator model, max. wet, kg (lb.):	11919 (26276)



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

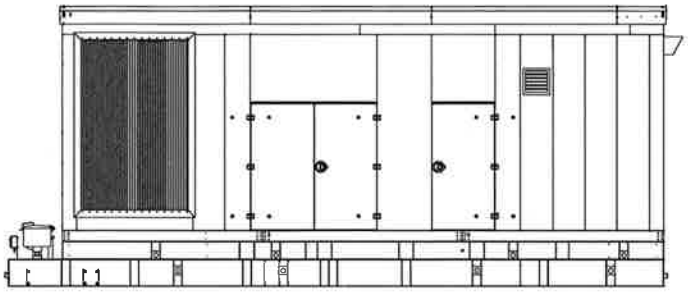
Industrial Diesel Generator Set - **KD1250**
Tier 2 EPA-Certified for Stationary Emergency Applications

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 Enclosures and Subbase Fuel Tank

Sound Level 1 Enclosure Standard Features

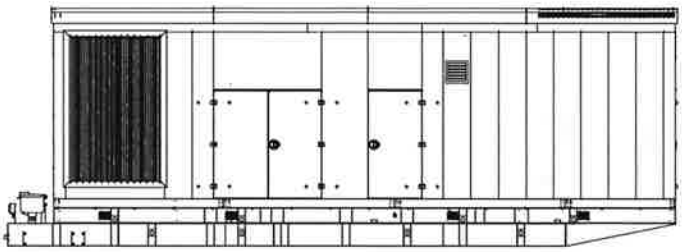
- Lift base or tank-mounted, aluminum construction enclosure with internal-mounted, exhaust silencers.
- Every enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Sound attenuated enclosure that offers noise reduction using acoustic insulation, acoustic-lined air inlets and an acoustic-lined air discharge.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Acoustic insulation that meets UL 94 HF1 flammability classification.
- Enclosure has large access doors that are hinged and removable which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Air inlet louvers reduce rain and snow entry.
- High wind bracing, 241 kph (150 mph).



Sound Level 1 Enclosure
(Shown with available spill containment)

Sound Level 2 Enclosure Standard Features

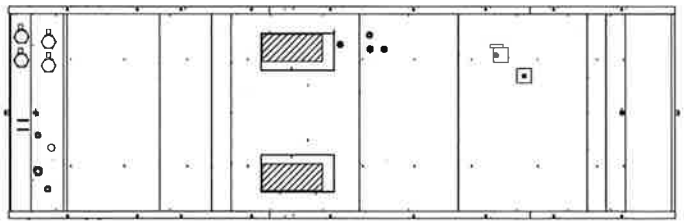
- Includes all of the sound level 1 enclosure features with the addition of up to 51 mm (2 in.) acoustic insulation material, intake sound baffles, vertical air discharge, and secondary silencers.
- Louvered air inlet and vertical outlet hood with 90 degree angles to redirect air and reduce noise.



Sound Level 2 Enclosure
(Shown with available spill containment)

Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus™ textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have UL-listed emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- 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.
- Features include:
  - Additional fittings for optional accessories (qty. 3)
  - Electrical stub-up area open to bottom
  - Emergency inner and outer tank relief vents
  - Fuel fill with lockable cap and 51 mm (2 in.) riser
  - Fuel leak detection switch
  - Fuel level mechanical gauge
  - Fuel level sender
  - Normal vent
  - Removable engine supply and return diptubes



Subbase Fuel Tank (Top View)

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