

KDxxxx-4 designates a generator set with a Tier 4 EPA-Certified engine.

Ratings Range

		60 Hz	
Standby:	kW	1180- 1250	
	kVA	1475- 1562	
Prime:	kW	1070- 1130	
	kVA	1338- 1412	
Continuous:	kW	920- 970	
	kVA	1150- 1212	

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. Five-year basic and five-year comprehensive warranties are also available.
- A standard one-year warranty with unlimited hours for continuous power applications.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controller on page 4.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).

General Specifications

Orderable Generator Model Number	GMKD1250-4
Manufacturer	Kohler
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
Fuel Tank Capacity, L (gal.)	5863- 21985 (1549- 5808)
Fuel Consumption, L/hr (gal./hr) 100% at Standby	334 (88.2)
Fuel Consumption, L/hr (gal./hr) 100% at Prime Power	301 (79.4)
Fuel Consumption, L/hr (gal./hr) 100% at Continuous Power	249 (65.9)
DEF Consumption, L/hr (gal./hr) 100% at Standby	31.5 (8.3)
DEF Consumption, L/hr (gal./hr) 100% at Prime Power	27.5 (7.3)
DEF Consumption, L/hr (gal./hr) 100% at Continuous Power	21.7 (5.7)
Emission Level Compliance (KDxxxx)	Tier 4
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

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating		80°C Rise Continuous Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH03850TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1130/1412	2039	1130/1412	2039	970/1750	1200
	240/416	3	60	1250/1562	2168	1250/1562	2168	1130/1412	1960	1130/1412	1960	960/1200	1666
	277/480	3	60	1250/1562	1879	1250/1562	1879	1130/1412	1699	1130/1412	1699	960/1200	1444
KH04590TO4D	230/400	3	60	1250/1562	2255	1250/1562	2255	1130/1412	2039	1130/1412	2039	970/1750	1200
	240/416	3	60	1250/1562	2168	1250/1562	2168	1130/1412	1960	1130/1412	1960	960/1200	1666
	277/480	3	60	1250/1562	1879	1250/1562	1879	1130/1412	1699	1130/1412	1699	970/1212	1458
KH04830TO4D	240/416	3	60	1210/1512	2099	1180/1475	2048	1130/1412	1960	1070/1338	1857	920/1150	1597
	277/480	3	60	1250/1562	1879	1250/1562	1879	1130/1412	1699	1130/1412	1699	960/1200	1444

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.



Industrial Diesel Generator Set - KD1250-4
Tier 4 EPA-Certified for Stationary, Prime, Continuous Applications

Alternator	Voltage	Ph	Hz	150°C Rise Standby Rating		130°C Rise Standby Rating		125°C Rise Prime Rating		105°C Rise Prime Rating		80°C Rise Continuous Rating	
				kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps	kW/kVA	Amps
KH05520TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1130/1412	2146	1130/1412	2146	960/1200	1824
	240/416	3	60	1250/1562	2168	1250/1562	2168	1130/1412	1960	1130/1412	1960	960/1200	1666
	277/480	3	60	1250/1562	1879	1250/1562	1879	1130/1412	1699	1130/1412	1699	970/1212	1458
	347/600	3	60	1250/1562	1504	1250/1562	1504	1130/1412	1359	1130/1412	1359	960/1200	1155
KH06810TO4D	220/380	3	60	1250/1562	2374	1250/1562	2374	1130/1412	2146	1130/1412	2146	970/1212	1842
	240/416	3	60	1250/1562	2168	1250/1562	2168	1130/1412	1960	1130/1412	1960	970/1212	1683
	277/480	3	60	1250/1562	1879	1250/1562	1879	1130/1412	1699	1130/1412	1699	970/1212	1458
	347/600	3	60	1250/1562	1504	1250/1562	1504	1130/1412	1359	1130/1412	1359	970/1212	1167
KH05641TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1130/1412	196	1130/1412	196	950/1188	165
KH06721TO4D	2400/4160	3	60	1250/1562	217	1250/1562	217	1130/1412	196	1130/1412	196	950/1188	165

Engine Specifications	60 Hz
Manufacturer	Kohler
Engine: model	
Standby	KD36V16-6ANS
Prime	KD36V16-6ANP
Continuous	KD36V16-6ANC
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

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)	327 (86)
Min./max. fuel pressure at engine supply connection, kPa (in. Hg)	- 50/50 (- 14.8/14.8)
Maximum diesel fuel lift, m (ft.)	3.7 (12)
Max. return line restriction, kPa (in. Hg)	30 (8.8)
Fuel filter: quantity, type	1, Primary Engine Filter 1, Fuel/Water Separator
Recommended fuel	#2 Diesel ULSD

% load	Diesel Fuel Consumption		DEF Consumption	
	Standby Rating	Standby Rating	Standby Rating	Standby Rating
	Lph (gph)	Lph (gph)	Lph (gph)	Lph (gph)
100%	334 (88.2)	31.5 (8.3)		
75%	247 (65.2)	22.0 (5.8)		
50%	167 (44.1)	13.7 (3.6)		
25%	94 (24.9)	5.6 (1.5)		

% load	Prime Rating		Prime Rating	
	Prime Rating	Prime Rating	Prime Rating	Prime Rating
	Lph (gph)	Lph (gph)	Lph (gph)	Lph (gph)
100%	301 (79.4)	27.5 (7.3)		
75%	224 (59.3)	19.5 (5.1)		
50%	153 (40.3)	12.5 (3.3)		
25%	88 (23.2)	4.7 (1.3)		

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.	

% load	Continuous Rating		Continuous Rating	
	Continuous Rating	Continuous Rating	Continuous Rating	Continuous Rating
	Lph (gph)	Lph (gph)	Lph (gph)	Lph (gph)
100%	249 (65.9)	21.7 (5.7)		
75%	188 (49.6)	15.1 (4.0)		
50%	131 (34.6)	9.4 (2.5)		
25%	78 (20.6)	3.6 (1.0)		

Exhaust System	60 Hz
Exhaust flow at rated kW, m ³ /min. (cfm)	250 (8840)
Exhaust temperature at rated kW at 25°C (77°F) ambient, dry exhaust, °C (°F)	520 (968)
Maximum allowable back pressure, kPa (in. Hg)	See TIB- 119
Exh. outlet size at eng. hookup, mm (in.)	See ADV drawing

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.)		265 (70)	
Engine jacket water flow, Lpm (gpm)		2241 (592)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	ESP & PRP 520 (29572) COP 305 (17345)		
Heat rejected to charge air cooler at rated kW, dry exhaust, kW (Btu/min.)	ESP & PRP 332 (18880) COP 258 (14559)		
Charge cooling air inlet temperature at 25°C (77°F) ambient, °C (°F)		215 (419)	
Turbocharger boost (abs), bar (psi)		3.62 (53)	
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 ₂ O)		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 ₂ O)		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)	ESP & PRP 90.2 (3185) COP 81.8 (2890)		
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
4160 V	KH05641TO4D		4386

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.

Controller



APM603 Controller

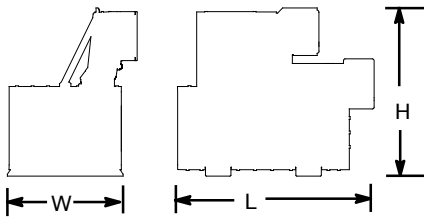
Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 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.

Diesel Exhaust Fluid (DEF) Tank



Approximate size, L x W x H, mm(in.): 1768 x 1042 x 1479
(69.6 x 41.0 x 58.2)

Tank weight (dry), kg (lb.): 416.7 (918 lb)

Fillable volume: 224 gallons

Consumable volume: 164 gallons

Material: Stainless steel

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 4 EPA-Certified for Stationary Emergency, Prime, and Continuous Applications

Available Approvals and Listings

- CSA Certified
- UL 2200 Listing
- 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. Five-year basic and five-year comprehensive warranties are also available.
- A standard one-year warranty with unlimited hours for continuous power applications.

Available Warranties for Standby Applications

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

Available Warranties for Prime Applications

- 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
- Fuel/Water Separator
- Battery Rack and Cables

Available Options

Circuit Breakers

- | Type | Rating |
|---|--|
| <input type="checkbox"/> Magnetic Trip | <input type="checkbox"/> 80% |
| <input type="checkbox"/> Thermal Magnetic Trip | <input type="checkbox"/> 100% |
| <input type="checkbox"/> Electronic Trip (LI) | Operation |
| <input type="checkbox"/> Electronic Trip with Short Time (LSI) | <input type="checkbox"/> Manual |
| <input type="checkbox"/> Electronic Trip with Ground Fault (LSIG) | <input type="checkbox"/> 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 4 EPA-Certified Engine

Approvals and Listings

- CSA Certified
- IBC Certification Request—Contact Factory
- UL 2200 Listing
- cULus
- Florida Dept. of Environmental Protection (FDEP) Compliance (fuel tanks only)
- Hurricane Rated Enclosure

Enclosed Unit

- Sound Level 2 Enclosure/Fuel Tank Package

Controller

- Input/Output, Digital
- Input/Output, Thermocouple (standard on 4160 V)
- Input/Output, Expansion
- 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, 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
- Redundant Starters
- DEF Tank Heater
- Load Bank, 300 kW / 350 kW
[Recommended for Ambient Temperature > -5°C (23°F)]
- Load Bank, 600 kW /650 kW
[Recommended for Ambient Temperature < -5°C (23°F)]

Fuel System

- Flexible Fuel Lines
- Dual Fuel/Water Separator
- 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
- Rated Power Factor Testing
- Weld-On Flange, DIN300
- Weld-On Flange, DEF Tank

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

Warranty (Prime Applications only)

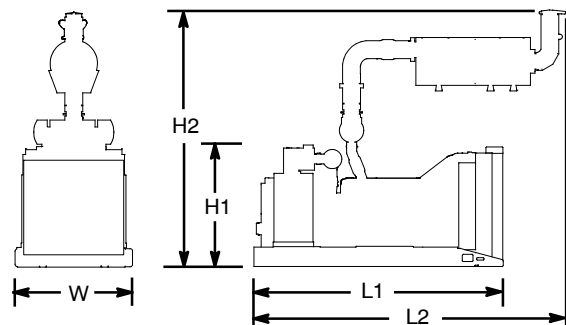
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

Other

-

Dimensions and Weights

Generator set size, max., L1 x W x H1, mm (in.):	5179 x 2452 x 2480 (203.9 x 96.5 x 97.6)
With rear-facing SCR, max., L2 x W x H2, mm (in.):	7592 x 2452 x 5325 (298.9 x 96.5 x 210.7)
With forward-facing SCR, max., L2 x W x H2, mm (in.):	6470 x 2452 x 5325 (254.7 x 96.5 x 210.7)
Weight, radiator model, max. wet, kg (lb.):	11914 (26265)
Weight, with radiator and SCR, max. wet, kg (lb.):	12740 (28087)



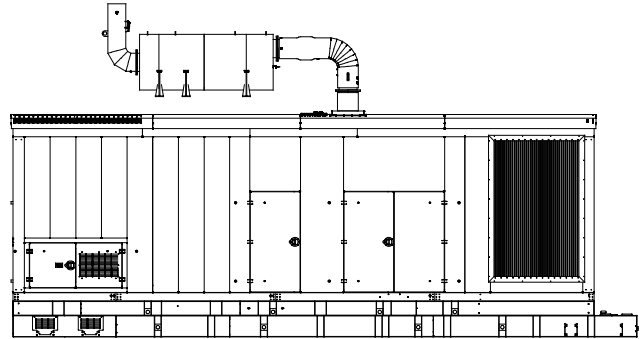
NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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 Enclosures and Subbase Fuel Tank

Sound Level 2 Enclosure Standard Features

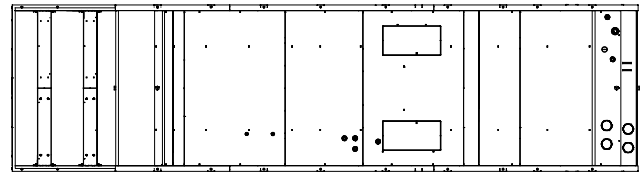
- Lift base or tank-mounted, aluminum construction enclosure with internal-mounted, exhaust silencers.
- Every enclosure has a sloped roof to reduce the buildup of moisture and debris.
- Sound attenuated enclosure that offers noise reduction using up to 51 mm (2 in.) acoustic insulation materials, acoustic-lined air inlets, an acoustic-lined air discharge, intake sound baffles, vertical air discharge, and secondary silencers.
- 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.
- High wind bracing, 241 kph (150 mph).
- 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)

DISTRIBUTED BY: