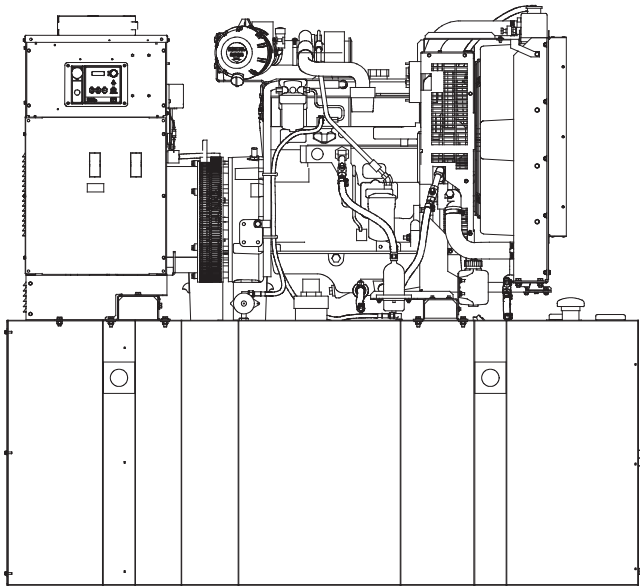




**Tier 3 EPA-Certified for Stationary
Emergency Applications (Not CARB
Certified; not for sale in California)**

Ratings Range

		60 Hz
Standby:	kW	50
	kVA	50



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 one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
 - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
 - 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

130°C Rise Standby Rating						
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	
4Q8X	120/240	1	60	50/50	209	

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:* 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 Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent-Magnet
Leads: quantity, type 4Q_X	4, 120/240 V
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	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current

- 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.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Peak motor starting kVA:	(35% dip for voltages below)
240 V 4Q8X (4 lead)	121

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine model	4045TF280
Engine type	4-Cycle, Turbocharged
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	4.5 (275)
Bore and stroke, mm (in.)	105 x 127 (4.19 x 5.00)
Compression ratio	19.0:1
Piston speed, m/min. (ft./min.)	457 (1500)
Main bearings: quantity, type	5, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	63 (85)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	Mechanical, Stanadyne DB4
Frequency regulation, no-load to full-load	Droop (or Isochronous *)
Frequency regulation, steady state	±0.5% (or±0.25% *)
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	19.2 (679)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	579 (1074)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	83 (3.27)

Engine Electrical

Engine Electrical System	
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	75
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.)	1.8 (6.0)
Max. fuel flow, Lph (gph)	45 (16.5)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
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.) §	14.7 (15.5)
Oil pan capacity with filter, L (qt.) §	15.6 (16.5)
Oil filter: quantity, type §	1, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Application Data

Cooling

Radiator System

Ambient temperature, °C (°F) *	50 (122)
Engine jacket water capacity, L (gal.)	8.5 (2.25)
Radiator system capacity, including engine, L (gal.)	17.2 (4.6)
Engine jacket water flow, Lpm (gpm)	144 (38)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	36.0 (2049)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	533 (21.0)
Fan, kWm (HP)	1.9 (2.4)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

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

Operation Requirements

Air Requirements

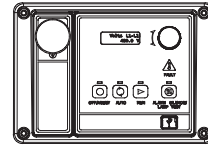
Radiator-cooled cooling air, m ³ /min. (scfm)‡	125 (4400)
Combustion air, m ³ /min. (cfm)	5.3 (187)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	13.4 (760)
Alternator, kW (Btu/min.)	7.6 (435)

‡ Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Fuel Consumption

Diesel, Lph (gph) at % load	Standby Rating
100%	17.4 (4.6)
75%	13.5 (3.6)
50%	9.4 (2.5)
25%	5.5 (1.5)
Diesel, Lph (gph) at % load	Prime Rating
100%	16.1 (4.2)
75%	12.5 (3.3)
50%	9.0 (2.4)
25%	5.0 (1.3)

Controllers



APM402 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
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

Standard Features

- Air Cleaner, Heavy Duty
- 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 Certified
- UL2200 Listing

Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)

Open Unit

- Exhaust Silencer, Critical (kit: PA-324470)

Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

Controller

- Common Failure Relay
- Input/Output Module (APM402 controller only)
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay

Cooling System

- Block Heater, 1500 W, 110- 120 V
Required for ambient temperature below 0°C (32°F)
- Radiator Duct Flange

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)

Miscellaneous

- Air Cleaner Restriction Indicator
- Engine Fluids (oil and coolant) Added
- Rated Power Factor Testing
- Rodent Guards

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

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

Other Options

- _____
- _____
- _____
- _____
- _____

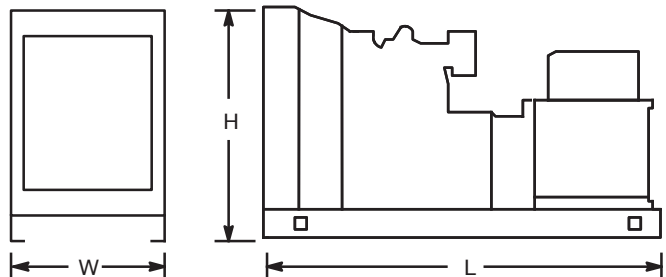
Dimensions and Weights

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

with standard fuel tank: 2320 x 1040 x 2108 (91.3 x 40.9 x 82.9)

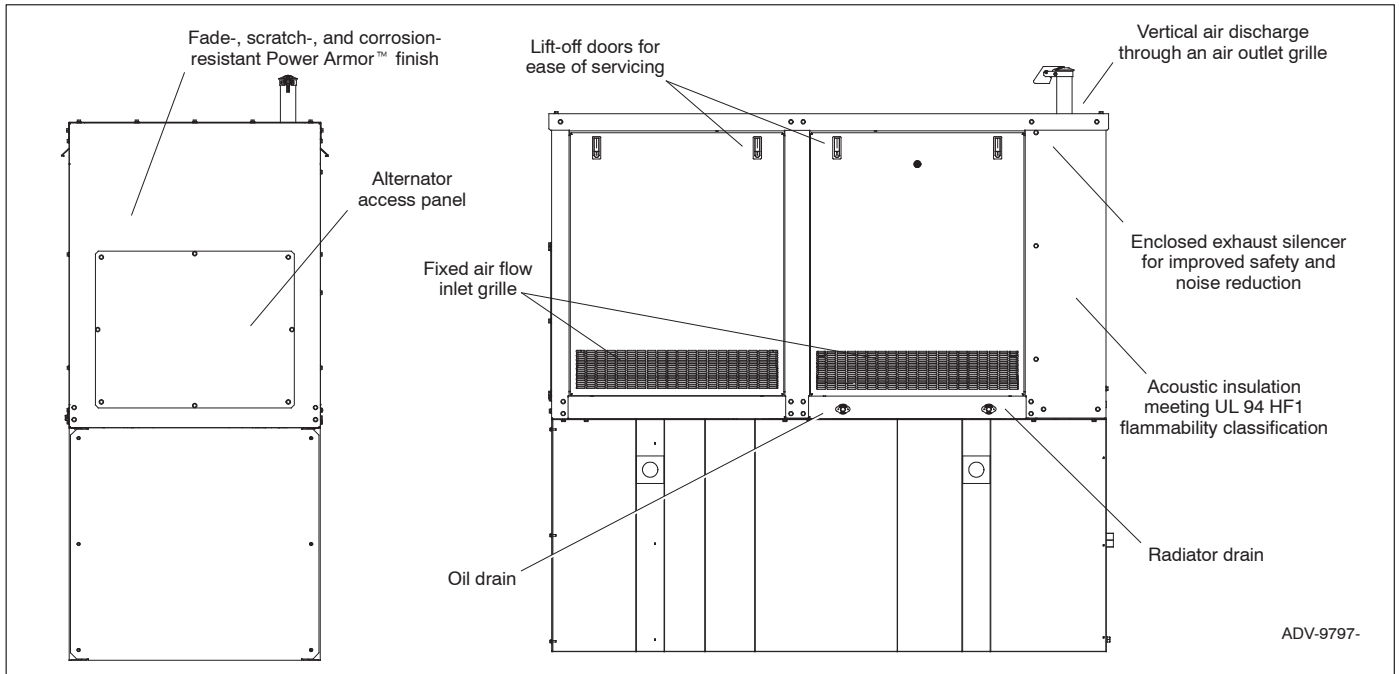
with state fuel tank: 2896 x 1046 x 1753 (114 x 41.2 x 69.0)

Weight (radiator model), wet, kg (lb.): 934 (2060)



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

Sound Enclosure



Sound Enclosure Features

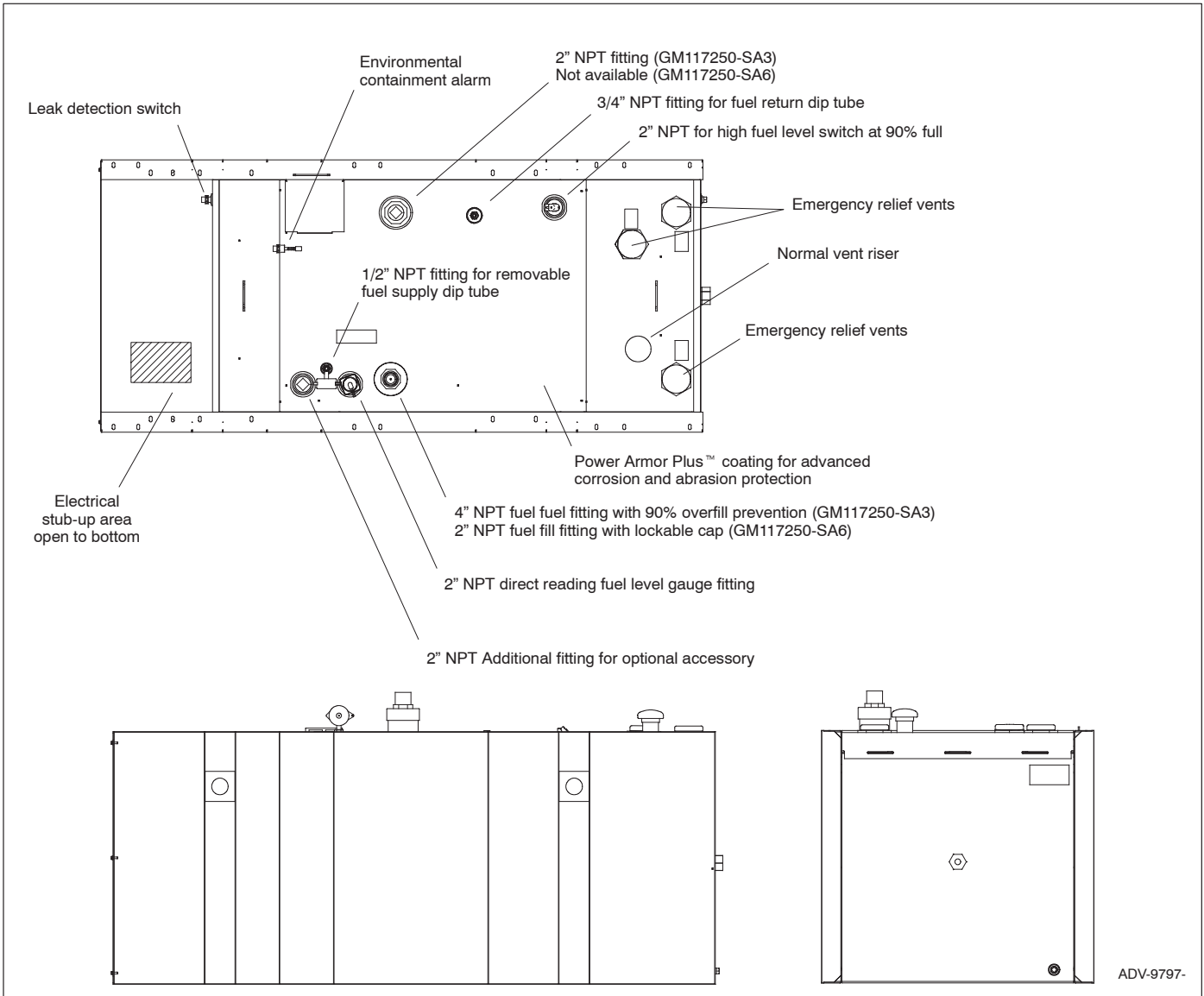
- Internal-mounted silencer and flexible exhaust connector.
 - Tank-mounted, steel construction.
 - Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
 - Enclosure has four lift-off access doors which allow for easy maintenance.
 - Horizontal air inlet and vertical outlet discharge to redirect air and reduce noise.
 - Tank-mounted, steel construction with lift-off doors.
 - Acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.
 - Sound-attenuated enclosure that uses up to 51 mm (2 in.) of acoustic insulation.
 - Available in steel (14 gauge) formed panel, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to fuel tank.
 - Sound-attenuated design. Acoustic insulation UL 94 HF1 listed for flame resistance offering up to 51 mm (2 in.) acoustic insulation.
 - Power Armor™ automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
 - Internal exhaust silencer offering maximum component life and operator safety.
- NOTE:** Installing an additional length of exhaust tail pipe may increase backpressure levels. Please refer to the generator set spec sheet for the maximum backpressure value.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
 - Service access. Multi-personnel doors for easy access to generator set control and servicing of the fuel fill, fuel gauge, oil fill, and battery.

Available Approvals and Listings

- UL 2200 Listing
- cUL Listing (fuel tanks only)

NOTE: Some models may have limited third-party approvals; see your local distributor for details.

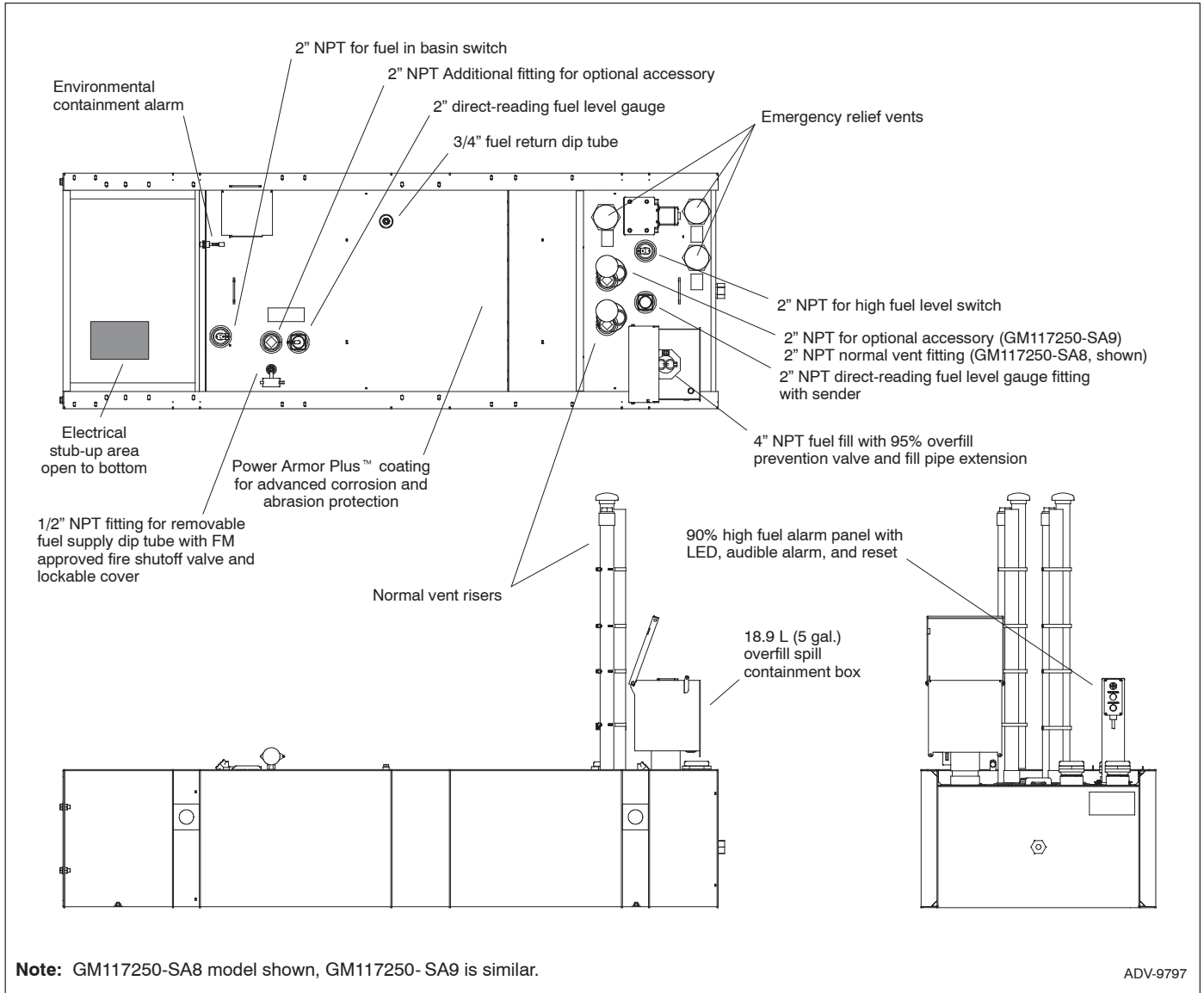
Subbase Fuel Tank



Standard Subbase Fuel Tank Features

- Extended operation. Usable tank capacity offers full load standby operation of up to 48 hours on select models.
- Power Armor Plus™ textured epoxy-based rubberized coating that creates an ultra-thick barrier between the tank and harsh environmental conditions like humidity, saltwater, and extreme temperatures, and provides advanced corrosion and abrasion protection.
- UL listed. Secondary containment generator set base tank meeting UL 142 requirements.
- NFPA compliant. Designed to comply with the installation standards of NFPA 30 and NFPA 37.
- Integral external lift lugs. Enables crane with spreader-bar lifting of the complete package (empty tank, mounted generator set, and enclosure) to ensure safety.
- Direct reading fuel level gauge visible while filling the tank with annunciation to the generator set controller.
- Emergency pressure relief vents. Vents ensure adequate venting of the inner and outer tank under extreme pressure and/or emergency conditions.
- Normal vent with cap. Vent is raised above lockable fuel fill.
- Leak detection switch. Annunciates a contained primary tank fuel leak condition at generator set controller.
- Electrical stub-up.

State Code Subbase Fuel Tank



State Code Subbase Fuel Tank Features

- State tank designed to comply with the installation standards of the Washington State Code (WAC) 296-24-33005
- Includes all of the Standard Subbase Fuel Tank Features.

State Code Subbase Fuel Tank Options

Bottom Clearance

- I-beams, provides 106 mm (4.2 in.) of ground clearance

Fuel in Basin Options

- Fuel in basin switch, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved

Fuel Fill Options

- Fill pipe extension to within 152 mm (6 in.) of bottom of fuel tank.
- 18.9 L (5 gallon) spill containment with 95% shutoff

Fuel Supply Options

- Fire safety valve (installed on fuel supply line)
- Ball valve (installed on fuel supply line)

High Fuel Level Switch

- High fuel level switch

Normal Vent Options

- 3.7 m (12 ft.) above grade (with spill containment)

Fluid Containment Options

- 125% engine fluid containment



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For the nearest sales and service outlet in the
US and Canada, phone 1-800-544-2444
KOHLERPower.com

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TECHNICAL INFORMATION BULLETIN

Generator Set Sound Data Sheet

			Sound Pressure Data in dB(A)			
Generator Set Model	Hz	Load	Raw Exhaust	Open Unit, Isolated Exhaust	Weather Enclosure	Sound Enclosure
50REOZJE	60	100% Load	102.1	80.0	78.1	67.4
		No Load	93.8	79.9	78.0	66.7

Note: Sound pressure data is the logarithmic average of eight perimeter measurement points at a distance of 7 m (23 ft.), except Raw Exhaust data which is a single measurement point at 1 m (3.3 ft.) from the mouth of a straight pipe exhaust.

50REOZJE	60 Hz
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			Sound Pressure Levels, dB(A)									
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Sound	3:00	49.7	59.2	58.8	59.5	60.2	60.0	56.2	50.6	67.1
			1:30	45.4	54.6	58.6	62.0	62.1	62.1	57.5	51.9	68.2
			12:00 Engine	48.6	57.0	55.8	61.8	60.1	61.8	57.0	51.8	67.5
			10:30	49.0	51.5	58.8	60.7	62.3	62.9	56.6	50.6	68.0
			9:00	48.6	55.0	56.5	60.3	61.7	60.5	55.8	51.9	67.0
			7:30	49.4	52.1	59.6	61.7	62.1	62.0	55.5	50.6	68.0
			6:00 Alternator	52.6	56.1	55.7	60.6	59.6	59.5	53.5	44.4	66.2
			4:30	52.2	52.4	54.5	60.1	59.8	62.5	55.9	47.4	66.8
			8-pos. log avg.	49.9	55.5	57.6	60.9	61.1	61.5	56.1	50.5	67.4

			Sound Pressure Levels, dB(A)									
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	8-pos. log avg.
100% Load	7 (23)	Weather	Overall Levels	77.0	78.4	78.5	79.2	76.8	75.2	79.4	78.6	78.1

			Sound Pressure Levels, dB(A)									
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Open Unit, Isolated Exhaust	3:00	50.1	68.7	69.1	69.6	71.5	73.6	71.6	61.9	78.9
			1:30	58.8	66.7	69.2	72.2	74.6	74.8	71.7	63.0	80.3
			12:00 Engine	53.9	69.8	71.1	75.2	73.7	73.2	68.8	60.8	80.4
			10:30	57.8	64.4	70.9	74.4	73.9	75.8	72.7	65.4	81.1
			9:00	58.7	66.4	70.6	69.9	71.2	73.1	71.0	61.3	78.7
			7:30	60.7	65.7	72.8	70.5	68.7	67.8	62.8	56.4	77.1
			6:00 Alternator	69.3	72.9	69.8	74.3	72.8	74.9	71.9	66.2	81.3
			4:30	68.7	72.5	70.5	72.3	72.1	74.2	71.0	65.6	80.5
			8-pos. log avg.	63.9	69.4	70.7	72.8	72.6	73.9	70.9	63.5	80.0

			Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Exhaust	Octave Band Center Frequency (Hz)								Overall Level
			63	125	250	500	1000	2000	4000	8000	
100% Load	1 (3.3)	Raw Exhaust (No Silencer)	74.1	88.1	89.7	92.2	97.5	95.0	94.9	90.0	102.1

The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. © 2014 by Kohler Co. All rights reserved.

50REOZJE	60 Hz
-----------------	--------------

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
				No Load	7 (23)	Sound	3:00	47.6	61.8	62.8	58.7	
1:30	42.8	60.7	60.6				58.7	60.6	58.9	54.2	43.6	67.2
12:00-Engine	47.1	54.8	58.4				62.7	58.3	59.0	53.3	42.7	66.6
10:30	45.8	53.7	62.9				59.9	60.4	59.7	52.7	41.9	67.3
9:00	48.3	54.3	58.8				59.5	59.7	55.8	49.5	42.9	65.3
7:30	49.1	50.4	63.7				60.6	60.7	59.1	51.2	41.6	67.6
6:00-Alternator	50.3	51.2	60.9				58.0	57.5	57.9	51.3	37.6	65.3
4:30	51.0	52.6	56.9				58.3	58.6	62.0	54.4	42.7	66.1
8-pos. log avg.	48.4	56.9	61.2	59.8	59.4	59.1	52.9	42.8	66.7			

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	8-pos. log avg.
				No Load	7 (23)	Weather	Overall Levels	77.6	78.5	79.3	79.5	

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
				No Load	7 (23)	Open Unit, Isolated Exhaust	3:00	45.6	56.9	68.4	68.7	
1:30	47.1	56.6	68.0				71.9	74.9	75.9	72.1	61.8	80.4
12:00-Engine	52.9	59.2	71.4				75.6	74.7	75.8	70.3	60.6	81.2
10:30	49.5	58.5	70.3				74.9	74.2	76.4	73.8	63.9	81.4
9:00	55.2	59.7	70.3				69.5	70.9	73.9	71.6	58.9	78.6
7:30	48.7	58.0	71.2				70.5	68.4	68.9	62.6	53.1	76.2
6:00-Alternator	61.2	60.3	67.4				73.6	72.5	75.8	72.1	62.7	80.2
4:30	61.2	59.6	70.7				71.8	72.5	74.2	72.0	62.8	79.6
8-pos. log avg.	56.3	58.8	69.9	72.7	73.0	75.0	71.6	61.4	79.9			

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Exhaust	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
				No Load	1 (3.3)	Raw Exhaust (No Silencer)	60.8	74.9	77.4	86.3	87.6	