

Industrial Generator Set – KD2500U **Emission Optimized - Tier 2 EPA-Compliant for Stationary Emergency Applications**



Ratings Range

480V-60 Hz

Standby: kW 2500

> kVA 3125

kW Prime: 2273

kVA 2841



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 prototypetested, factory-built, and production-tested.
- The generator set accepts rated load in one step.
- A standard three-year or 1000-hour limited warranty for standby applications in Europe, Midde East and Africa..
- A standard two-year or 8700-hour limited warranty for prime power applications.
- A worldwide product support
- Other features:
 - o Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 4.

General Specifications

Manufacturer	Kohler
Engine: model	KD62V12A
Alternator Choices	KH06932T
	KH08560T
	KH06932T
	KH08560T
	KH05793T
	KH06932T
	KH06720T

G3, Per ISO 8528-5 Performance Class One Step Load Acceptance 100% Voltage 380V, 400V, 480V, 13.8kV Controller M80-D, APM403, APM802

Fuel Consumption, L/h 649 100% at Standby * Fuel Consumption, L/h 613 100% at Prime Power **Emission Level Compliance** Tier 2 Open Unit Noise Level @ 7 m dB(A)

at Rated Load

Data Center / Mission Critical Rating Same as the Standby Rating

below

Type of cooling Unit mounted Radiator Remote Radiator

Factory installed enclosures

* Volumetric Fuel consumption is up to 4% higher when using HVO/RD than Diesel Fuel.

Conscious Care™ Qualified

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

Generator Set Ratings

				Without radiator		Standa	ard Unit m Radiator	ounted	
Alternator	Voltage	Ph	Hz	kVA	kW	Α	kVA	kW	Α
KH06932T	380V	3	60	3216	2573	3909	3125	2500	3798
KH08560T	380V	3	60	3257	2606	3959	3125	2500	3798
KH06932T	400V	3	60	3216	2573	3714	3125	2500	3608
KH08560T	400V	3	60	3257	2606	3761	3125	2500	3608
KH05793T	480V	3	60	3125	2500	3007	3125	2500	3007
KH06932T	480V	3	60	3230	2584	3108	3125	2500	3007
KH06720T	13800V	3	60	3243	2594	109	3125	2500	105

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 RATINGS. All times reliable units are facilities are facilities. The standard ratings are facilities and the distribution of a power factor. Standard ratings are in accordance with 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.

Reference Conditions: 25°C Air Inlet Temperature, 40°C Fuel Inlet Temperature, 100 kPa Barometric Pressure; 10.7 g/kg of dry air Humidity. Intake Restriction set to maximum allowable limit; Exhaust Back pressure set to maximum allowable limit;

The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. KD2500-UE-02-2.docx



Recommended fuel

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Fuel Consumption

Engine Specifications	
Manufacturer	Kohler
Engine model	KD62V12A
Engine type	4-Cycle, Turbocharged, Intercooled
Cylinder arrangement	16-V
Displacement, L	62
Bore and stroke, mm	175 x 215
Compression ratio	16.0:1
Rated rpm	1800
Max. power at rated rpm, kWm	2700
Governor: type, make/model	KODEC Electronic Control
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Lubricating System	
Туре	Full Pressure
Oil filter: quantity, type §	6, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler	Genuine oil and filters.
Fuel System	
Max. fuel flow, Lph	667
Maximum diesel fuel lift, m	3.5
Fuel filter: quantity, type	 Primary Engine Filter Fuel/Water Separator

At % load of Engine power rating	g/kWh	l/h**
100%	206	654
75%	242	577
50%	236	375
25%	265	210
** Assumed volumetric fuel consumption w of 42.7kJ/kg and weighing 0.85kg/l.	rith diesel fuel ha	aving an LHV
Radiator System		
Ambient temperature, °C	50)
Type of coolant	Kohler Genu	ine coolant
Radiator system capacity, including	_	
engine, L		
Engine coolant		
Engine jacket water capacity, L	180	0
Heat rejected to cooling water at rated	884	4
kW, dry exhaust, kW	044	0
Engine jacket water flow, L/min	211	0
Charge-air coolant	0.0	
Charge cooler water capacity, L	80)
Heat rejected to charge cooling water at rated kW, dry exhaust, kW	790	0
Charge cooler water flow, L/min	600	0
Fan diameter, including blades, mm	-	
Fan, kWm	85	;
Max. restriction of cooling air, intake and		
discharge side of radiator, kPa at	-	
Nominal cooling airflow		
Remote Radiator Connection		
Exhaust manifold type	Dr	y
Connection sizes:		
Water inlet/outlet, mm (in.)	See dra	awing
Intercooler inlet/outlet, mm (in.)	Without r	adiator
Static head allowable	250)
above engine, kPa	200	•

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#2 Diesel ULSD/HVO/RD



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Exhaust System	
Heat rejected to exhaust, kW	2130
Exhaust temperature at rated kW at	
25°C ambient, dry exhaust, °C	470
Exhaust flow at rated kW, I/s.	8888
Maximum allowable backpressure,	
kPa	8.67
Exh. outlet size at eng. hookup,	
mm	See ADV drawing
Electrical System	
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);
power rating, rated voltage (DC)	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	
Radiator-cooled cooling air,	
m ³ /s.±	-
Cooling air required for generator set	
when equipped with remote radiator,	17.3
based on 14°C rise, m³/s.‡	
Combustion air, I/s.	3392
Max. air combustion restriction, kPa	5
Heat rejected to ambient air:	405
Engine, kW Alternator, kW	135
### Air density = 1.20 kg/m ³	96
+ All deliaity = 1.20 kg/iii	

Alternator Specifications	
Туре	4-Pole, Rotating-Field
Exciter type	Brushless, PMG
Voltage regulator	Yes
Insulation system:	Class H, Synthetic, Non-hygroscopic
Ingress Protection rating	IP23
Bearing: quantity, type	1, Sealed
Number of wire	12
Coupling type	Direct
Overspeed (rpm)	2250
Voltage regulation, no-load to full-load	±0.5%
Unbalanced load capability	8%

Alternator Standard Features

- The AVR voltage regulator 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
- 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 Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.

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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 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 Refer to G6-152 for additional controller features and accessories. Modbus® is a registered trademark of Schneider Electric.



APM403 Controller

Provides a versatile control unit for single or parallel application.

- graphic display provides easy local data view.
- User language selectable
- Event log and management of the last 300 events; data and system settings can be saved to a flash drive.
- On-board communication and control ports on board (USB, USB host, CAN, RS485)
- The controller supports Modbus® RTU protocols (TCP protocol as option)



M80-D

Provides a basic terminal block for connecting a remote-control unit. Intuitive LCD screen for basic generator parameters (coolant and fuel temperatures, engine speed,...)

Controls and records the main engine functions for quick diagnosis (starting, speed adjustment)

Codes and Standards

- Engine-generator set is designed and manufactured in facilities certified to ISO 9001 and ISO14001.
- Generator set meets NEMA MG1, BS5000, ISO, DIN EN, and IEC standards...
- 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.
- Machinery Directive 2006/42/EC of May 17th 2006
- EMC Directive2014/30/UE
- Safety objectives set out in the Low Voltage Directive 2014/35/UE
- EN ISO 8528-13, EN 60034-1, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 55011, EN 1679-1 et EN 60204-1

Warranty Information

- A standard three-year from the commissioning date, 1000 running hours warranty for standby applications in Europe, Middle East and
- A standard two-year from the commissioning date or 8700-hour limited warranty for prime power applications.
- Five-year basic, five-year comprehensive, and ten-year extended limited warranties are also available

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°rise / Insulation class H/H
- Welded steel skid
- M80-D controller
- 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

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Dimensions and Weights

Compact version without cooling

Overall Size, max., L x W x H, 4573 x 2242 x 2721

mm:

15809 Weight, max. wet, kg: Fuel tank capacity, L

Compact version with unit mounted radiator

Unit-mounted radiator for easy installation, high functional reliability, and operation in harsh conditions

Overall Size, max., L x W x H,

Weight, radiator model, max. wet,

kg:

Fuel tank capacity, L 0

