Model: KM40U/KM44

KOHLER POWER SYSTEMS

Diesel

ISO 9001 KOHLER POWER SYSTEMS NATIONALLY REGISTERED

Ratings Range

		KM40U 60 Hz	KM44 50 Hz
Standby:	**kW**	32–40	28–35
	kVA	40–50	35–44
Prime:	**kW**	29–36	25–32
	kVA	36–45	32–40

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.
- A one-year limited warranty covers all systems and components.
- Mitsubishi engine with 12-volt battery charging alternator.
- Mecc Alte single-bearing alternator with insulation class H.
- Unit-mounted radiator with 50°C (122°F) ambient air capability.
- Skid and vibration isolators.
- Subbase fuel tank.
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Battery, battery rack, and cables.
- Industrial exhaust silencer (loose).
- Operation and installation literature.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	Standby Rating kW/kVA	Standby Rating Amps	Prime Rating kW/kVA	Prime Rating Amps
	120/208	3	60	37/46	128	33/42	115
	127/220	3	60	40/50	131	36/45	118
	115/230	3	60	32/40	100	29/36	91
	120/240	3	60	40/50	120	36/45	108
	220/380	3	60	40/50	76	36/45	68
	254/440	3	60	40/50	66	36/45	59
	277/480	3	60	40/50	60	36/45	54
ECO32-3S	115/200	3	50	35/44	127	32/40	115
	110/220	3	50	35/44	115	32/40	105
	127/220	3	50	28/35	92	25/32	82
	115/230	3	50	35/44	110	32/40	101
	120/240	3	50	35/44	106	32/40	96
	220/380	3	50	35/44	67	32/40	61
	230/400	3	50	35/44	64	32/40	58
	240/415	3	50	35/44	61	32/40	56

With Available Enclosure Accessory

RATINGS: All three-phase units are rated at 0.8 power factor. See TIB-109 for generator set derate tables.
Obtain the technical information bulletin (TIB-101) on ratings guidelines for the complete ratings definitions.
PRP: Prime power is available for an unlimited number of annual operating hours in variable load applications in accordance with ISO-8528/1.
A 10% overload capability is available for a period of 1 hour within a 12-hour period of operating in accordance with ISO-3046/1.
ESP: The emergency standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO-8528/1. Overload is not allowed.
The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

- NEMA-MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards compliance for temperature rise and motor starting.
- Sustained short-circuit current greater than 300% of the rated current for up to 10 seconds.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Specifications	60 Hz	50 Hz
Ratings voltage	480 V	400 V
Standby rating @ 27°C, kVA	52.8	44
Prime rating @ 40°C, kVA	48	40
Efficiency @ full load	88.8%	87.4%
Air flow, m^3/min. (cfm)	870 (30724)	708 (25003)
Direct axis subtransient reactance (X"d)	10%	

Specifications	Alternator
Manufacturer	Mecc Alte
Type	4-Pole, Rotating-Field
Exciter type	Brushless
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State
Insulation:	NEMA MG1
Material	Class H
Bearing: quantity, type	1, Sealed
Coupling	Direct
Voltage regulation, no-load to full-load	±1%

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Mitsubishi	
Engine model	S4S.DT	
Engine type	4-Cycle, Turbocharged	
Cylinder arrangement	4 Inline	
Displacement, L (cu. in.)	3.3 (203)	
Bore and stroke, mm (in.)	94 x 120 (3.7 x 4.7)	
Compression ratio	17:1	
Piston speed, m/min. (ft./min.)	432 (1416)	300 (1182)
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	47.8 (64)	40.5 (54)
Governor type	Mechanical	
Frequency regulation, no-load to full-load	ISO 5%	
Frequency regulation, steady state	< 5%	
Air cleaner type, all models	Dry	

Exhaust

Exhaust System	60 Hz	50 Hz
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m^3/min. (cfm)	8.5 (301)	7.2 (254)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	550 (1022)	
Maximum allowable back pressure, kPa (in. Hg)	6.7 (2.0)	
Exhaust outlet size at engine hookup, mm (in.)	—	

Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Battery charging alternator:	12 Volt	
Ground (negative/positive)	Negative	
Volts (DC)	12	
Starter motor rated voltage (DC)	12	
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating each	One, —	
Battery voltage (DC)	12	

Fuel

Fuel System	60 Hz	50 Hz
Max. fuel flow, Lph (gph)	36 (9.5)	
Fuel prime pump	Electric	
Recommended fuel	#2 Diesel	
Fuel tank capacity, L (gal.)	—	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	9.0 (9.6)	
Oil pan capacity with filter, L (qt.)	10.0 (10.4)	

Application Data

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F)	50 (122)	
Radiator system capacity, including engine, L (gal.)	9.5 (2.5)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	39 (2218)	31.7 (1802)
Water pump type	Centrifugal	
Fan, kWm (HP)	15 (20)	0.7 (0.9)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	2.4 (9.8)	

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m^3/min. (scfm) *	82 (2903)	66 (2331)
Combustion air, m^3/min. (cfm)	8.5 (301)	7.2 (254)

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

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	**Standby Rating**	
110% (standby rating)	—	—
Diesel, Lph (gph) at % load	**Prime Rating**	
100% (of the prime rating)	11.4 (3.0)	9.6 (2.5)
75% (of the prime rating)	—	—
50% (of the prime rating)	6.0 (1.6)	5.1 (1.3)

Controllers

Decision-Maker™ 1000

Automation

- Test LEDs
- Voltage and speed stabilization

Engine Parameters

- Engine speed indication (with LCD message)
- Battery voltage indication (with LCD message)
- Elapsed hour meter (with LCD message)
- Fuel solenoid control
- Starter control

Measurements

- Frequency, Hz (with LCD message)

Operation and/or Safety Lights

- Oil pressure fault
- Water temperature fault
- Fail to start fault
- Overspeed fault (≥60 kVA)
- Set ready for load
- Charging alternator fault
- General alarm
- General fault
- Panel lamp
- Emergency stop fault

Safety Devices

- Overspeed fault
- Automatic standby

Miscellaneous

- Fault reset
- Three-phase with or without neutral, two-phase, or single-phase use

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Available Accessories

Enclosed Unit

- ❑ Sound Enclosure M127, 60 Hz, 69.2 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)
- ❑ Sound Enclosure M127, 50 Hz, 61.1 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)

Open Unit

- ❑ Exhaust Silencer, Critical 40 dB(A) Reduction
- ❑ Exhaust Silencer, Residential 29 dB(A) Reduction
- ❑ Extension, 40 cm (16 in.)
- ❑ Flexible Exhaust Connector
- ❑ Protection Mesh

Cooling System

- ❑ Block Heater [recommended for ambient temperatures below 0°C (32°F)]
- ❑ Radiator Core Guard

Controller

Automation

- ❑ External Starting Order
- ❑ Plug Preheating
- ❑ Remote Start Capability
- ❑ Utility Sensing, 3-Phase

Engine Parameters

- ❑ Plug Preheating Control
- ❑ Water Preheating Control

Measurements

- ❑ Analog Indicator
- ❑ Line Voltages, Volts
- ❑ Phase Currents, Amps
- ❑ Single Voltages, Volts

Safety Devices

- ❑ Overload or Short-Circuit Fault
- ❑ Differential Triggering Fault

Miscellaneous

- ❑ Alarm Horn
- ❑ Battery Charger, 12 Volt
- ❑ Differential Protection with Time and Sensitivity Adjustment
- ❑ External ATS Position
- ❑ Permanent Insulation Controller

Fuel System

- ❑ Automatic Fuel Tank Fill Kit
- ❑ Subbase Fuel Tank with Secondary Containment Basin
- ❑ Subbase Fuel Tank Leak Alarm
- ❑ Water Separator Fuel Filter

Electrical System

- ❑ Battery Charger, Equalize/Float Type
- ❑ Battery Isolator Switch

Engine and Alternator

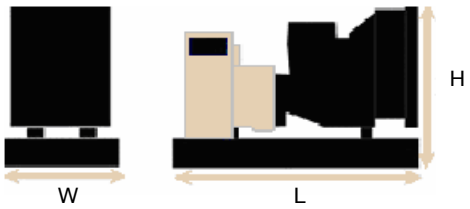
- ❑ Air Cleaner, Heavy-Duty (with air restriction indicator)
- ❑ Electronic Isochronous Governor
- ❑ Lube Oil Drain Pump

Miscellaneous Accessories

- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

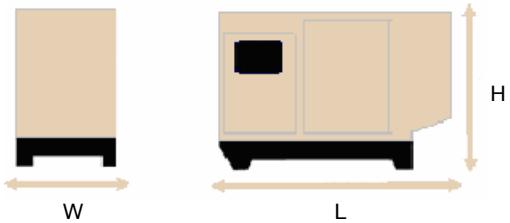
Dimensions and Weights

Open Model



Overall Size, L x W x H, mm (in.): 1700 x 896 x 1223 (67 x 35 x 48)
Weight, wet, kg (lb.): 790 (1741)

With Available Enclosure Accessory



Overall Size, L x W x H, mm (in.): 2080 x 904 x 1415 (82 x 36 x 56))
Weight, wet, kg (lb.): 1020 (2248)

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

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