



Ratings Range

		KV350U 60 Hz	KV410 50 Hz
Standby:	kW	320-350	330
	kVA	400-438	413
Prime:	kW	291-319	300
	kVA	364-398	375

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.
- Volvo engine with 24-volt battery charging alternator.
- Leroy Somer 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, 470 L (124 gal.).
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Battery, battery rack, and cables.
- Industrial 9 dB(A) reduction exhaust silencer (loose).
- Operation and installation literature.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	Standby Rating		Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
LSA472VS2	120/208	3	60	334/418	1160	304/380	1055
	127/220	3	60	350/438	1149	319/398	1046
	115/230	3	60	320/400	1004	291/364	913
	120/240	3	60	334/418	1006	304/380	914
	220/380	3	60	350/438	665	319/398	606
	254/440	3	60	350/438	575	319/398	523
	277/480	3	60	350/438	527	319/398	480
	347/600	3	60	350/428	421	319/398	384
LSA472VS3	115/200	3	50	330/413	1192	300/375	1083
	110/220	3	50	330/413	1084	300/375	984
	115/230	3	50	330/413	1037	300/375	941
	120/240	3	50	330/413	994	300/375	902
	220/380	3	50	330/413	628	300/375	570
	230/400	3	50	330/413	596	300/375	541
	240/415	3	50	330/413	575	300/375	520



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.
- 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	400
Standby rating @ 27°C, kVA	503	430
Prime rating @ 40°C, kVA	456	400
Efficiency @ full load	93.3%	93.1%
Air flow, m ³ /min. (cfm)	66 (2331)	54 (1907)
Direct axis subtransient reactance (X ["] d)	16.1%	17.7%

Specifications	Alternator
Manufacturer	Leroy Somer
Type	4-Pole, Rotating-Field
Exciter type	Shunt
Leads: quantity, type	12, Reconnectable
Voltage regulator	Solid State, R230
Insulation:	NEMA MG1
Material	Class H
Bearing: quantity, type	1, Sealed
Coupling	Direct
Voltage regulation, no-load to full-load	±0.5%

Application Data

Engine

Engine Specifications	60 Hz	50 Hz
Manufacturer	Volvo	
Engine model	TAD1241GE	
Engine type	4-Cycle, Turbocharged, Aftercooled	
Cylinder arrangement	6 Inline	
Displacement, L (cu. in.)	12.13 (740)	
Bore and stroke, mm (in.)	131 x 150 (5.2 x 5.9)	
Compression ratio	17.5:1	
Piston speed, m/min. (ft./min.)	540 (1770)	450 (1476)
Rated rpm	1800	1500
Max. power at rated rpm, kWm (BHP)	378 (507)	354 (474)
Governor type	Isochronous	
Frequency regulation, no-load to full-load	ISO 5%	
Frequency regulation, steady state	±0.5%	
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)	66 (2331)	58 (2047)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	465 (869)	490 (914)
Maximum allowable back pressure, kPa (in. Hg)	9.7 (2.9)	
Exhaust outlet size at engine hookup, mm (in.)	83 (3.27)	

Engine Electrical

Engine Electrical System	60 Hz	50 Hz
Battery charging alternator:	24 Volt	
Ground (negative/positive)	Negative	
Volts (DC)	24	
Starter motor rated voltage (DC)	24	
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating each	Two, 1000	
Battery voltage (DC)	12	

Fuel

Fuel System	60 Hz	50 Hz
Max. fuel flow, Lph (gph)	130 (34.3)	120 (31.7)
Fuel prime pump	Manual	
Recommended fuel	#2 Diesel	
Fuel tank capacity, L (gal.)	470 (124)	

Lubrication

Lubricating System	60 Hz	50 Hz
Type	Full Pressure	
Oil pan capacity, L (qt.)	31 (32.8)	
Oil pan capacity with filter, L (qt.)	35 (36.8)	

Application Data

Cooling

Radiator System	60 Hz	50 Hz
Ambient temperature, °C (°F)	50 (122)	
Radiator system capacity, including engine, L (gal.)	44 (11.6)	
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	139 (7904)	123 (6994)
Water pump type	Centrifugal	
Fan, kWm (HP)	15 (20)	9 (12)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.7 (3.0)	0.5 (2.0)

Operation Requirements

Air Requirements	60 Hz	50 Hz
Radiator-cooled cooling air, m ³ /min. (scfm) *	561 (19813)	462 (16317)
Combustion air, m ³ /min. (cfm)	—	—

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

Fuel Consumption	60 Hz	50 Hz
Diesel, Lph (gph) at % load	Standby Rating	
110% (of the standby rating)	89.2 (23.6)	82.2 (21.7)
Diesel, Lph (gph) at % load	Prime Rating	
100% (of the prime rating)	79.2 (20.9)	74.4 (19.7)
75% (of the prime rating)	58.5 (15.5)	55.0 (14.5)
50% (of the prime rating)	39.8 (10.5)	37.4 (9.9)

Controllers



Decision-Maker™ 4000

Standard Features

- Large LCD display panel
- Unique control wheel for system access
- User buttons for start, stop, menu, and escape
- Emergency stop button
- On/off key switch
- Panel-mounted battery fuse
- Panel-mounted USB ports for PC access and software upgrades
- Password-protected access to control parameters
- Upgradeable software for future enhancements

LCD Panel Features

- 600 x 800 resolution
- Multiple lines of text or graphic display
- Icons for quick identification of system status
- Five languages: English, French, German, Portuguese, and Spanish

Communication Features

- Engine communication via CANbus
- Modbus communication via RS-485 or ethernet
- PC and flash drive connections via USB

Functions

- View and adjust system operation parameters
- View system faults

Viewable/Selectable Parameters (may require optional module)

- Voltage: phase-to-neutral, total voltage
- Current
- Frequency
- Power (active/reactive/apparent)
- Power factor
- Engine speed
- Oil pressure
- Coolant temperature
- Battery voltage
- Fuel level (%)
- Time delays

Viewable Faults (over 60 individual faults are monitored) including:

- Alternator protection (if equipped)
- Circuit breaker and ground fault protection
- Communication and engine ECM monitoring
- Cooling air monitoring
- Electrical charging system
- Engine cooling system
- Engine lube system
- Fuel system
- Generator set status

Available Accessories

Enclosed Unit

- Sound Enclosure M228, 60 Hz, 73 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)
- Sound Enclosure M228, 50 Hz, 70 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
- Exhaust Pipe Extension, 40 cm (16 in.)
- Flexible Exhaust Connector
- Protection Mesh for Exhaust Parts

Cooling System

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

Decision-Maker™ 4000 Controller

- Alternator Protection
- Audible Alarm Module
- Five Expandable Modules with Four Inputs/Six Outputs Each
- Network Modules (RTC and GSM modems and ethernet router)
- NFPA-110 Module
- Remote Annunciator
- Voltage/Speed Adjustment Module
- WinTelys Software

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

- Alternator Strip Heater
- Air Cleaner, Heavy Duty (with air restriction indicator)
- Droop Kit with 3-Function Voltage Regulator
- Lube Oil Drain Pump
- PMG Alternator and Voltage Regulator
- Tropical Heavy-Duty Alternator Insulation

Miscellaneous Accessories

- _____
- _____
- _____
- _____
- _____

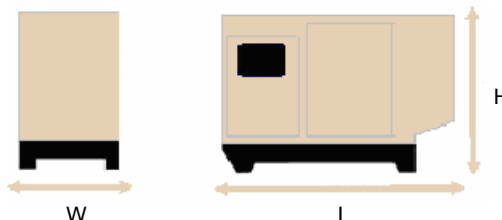
Dimensions and Weights

Open Model



Overall Size, L x W x H, mm (in.): 3160 x 1340 x 1805 (124 x 53 x 71)
 Weight, wet, kg (lb.): 60 Hz 3686 (8124)
 50 Hz 3670 (8089)

With Available Enclosure Accessory



Overall Size, L x W x H, mm (in.): 4475 x 1410 x 2430 (176 x 56 x 96)
 Weight, wet, kg (lb.): 60 Hz 4810 (10600)
 50 Hz 4790 (10557)

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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