



Ratings Range

| | | KD150U 60 Hz | KD165 50 Hz |
|-----------------|------------|-------------------------|------------------------|
| Standby: | kW | 140-150 | 106-132 |
| | kVA | 175-188 | 132-165 |
| Prime: | kW | 127-137 | 96-120 |
| | kVA | 159-171 | 120-150 |

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.
- John Deere engine with 12-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, 340 L (90 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 |
| | 120/208 | 3 | 60 | 140/175 | 486 | 127/159 | 441 |
| | 127/220 | 3 | 60 | 150/188 | 493 | 137/171 | 449 |
| | 120/240 | 3 | 60 | 140/175 | 421 | 127/159 | 382 |
| | 220/380 | 3 | 60 | 150/188 | 286 | 137/171 | 260 |
| | 254/440 | 3 | 60 | 150/188 | 247 | 137/171 | 225 |
| | 277/480 | 3 | 60 | 150/188 | 226 | 137/171 | 206 |
| | 347/600 | 3 | 60 | 150/188 | 181 | 137/171 | 165 |
| LSA442M95 | 115/200 | 3 | 50 | 132/165 | 476 | 120/150 | 433 |
| | 110/220 | 3 | 50 | 132/165 | 433 | 120/150 | 394 |
| | 127/220 | 3 | 50 | 106/132 | 346 | 96/120 | 315 |
| | 115/230 | 3 | 50 | 132/165 | 414 | 120/150 | 377 |
| | 120/240 | 3 | 50 | 132/165 | 397 | 120/150 | 361 |
| | 220/380 | 3 | 50 | 132/165 | 251 | 120/150 | 228 |
| | 230/400 | 3 | 50 | 132/165 | 238 | 120/150 | 217 |
| | 240/415 | 3 | 50 | 128/160 | 223 | 116/145 | 202 |



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 V | 400 V |
| Standby rating @ 27°C, kVA | 206 | 165 |
| Prime rating @ 40°C, kVA | 188 | 150 |
| Efficiency @ full load, % | 92.3 | 92.2 |
| Air flow, m ³ /min. (cfm) | 26.4 (932) | 22.2 (784) |
| Direct axis subtransient reactance (X ^d), % | 6.9 | 6.6 |

| 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 | ±1% |

Application Data

Engine

| Engine Specifications | 60 Hz | 50 Hz |
|--|------------------------------------|------------|
| Manufacturer | John Deere | |
| Engine model | 6068HF120-153 | |
| Engine type | 4-Cycle, Turbocharged, Aftercooled | |
| Cylinder arrangement | 6 Inline | |
| Displacement, L (cu. in.) | 6.7 (410) | |
| Bore and stroke, mm (in.) | 106 x 127 (4.17 x 5.0) | |
| Compression ratio | 17:1 | |
| Piston speed, m/min. (ft./min.) | 457 (1500) | 381 (1248) |
| Rated rpm | 1800 | 1500 |
| Max. power at rated rpm, kWm (BHP) | 161 (216) | 150 (201) |
| Valve material: | | |
| Intake | Chromium-Silicon Steel | |
| Exhaust | Stainless Steel | |
| Governor type | Mechanical | |
| Frequency regulation, no-load to full-load | ISO 5% | |
| Frequency regulation, steady state | ±2.5% | |
| 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) | 28.4 (1002) | 23.1 (816) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 600 (1112) | 555 (1031) |
| Maximum allowable back pressure, kPa (in. Hg) | 7.5 (2.2) | |
| Exhaust outlet size at engine hookup, mm (in.) | 115 (4.53) | |

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, 760 | |
| Battery voltage (DC) | 12 | |

Fuel

| Fuel System | 60 Hz | 50 Hz |
|------------------------------|------------|------------|
| Max. fuel flow, Lph (gph) | 112 (29.6) | 108 (28.5) |
| Fuel prime pump | Manual | |
| Recommended fuel | #2 Diesel | |
| Fuel tank capacity, L (gal.) | 340 (89.8) | |

Lubrication

| Lubricating System | 60 Hz | 50 Hz |
|---------------------------------------|---------------|-------|
| Type | Full Pressure | |
| Oil pan capacity, L (qt.) | 20.6 (21.6) | |
| Oil pan capacity with filter, L (qt.) | 21.5 (22.8) | |

Cooling

| Radiator System | 60 Hz | 50 Hz |
|--|-------------|-----------|
| Ambient temperature, °C (°F) | 50 (122) | |
| Radiator system capacity, including engine, L (gal.) | 25.8 (6.8) | |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 59 (3355) | 55 (3127) |
| Water pump type | Centrifugal | |
| Fan, kWm (HP) | 5 (6.7) | 3 (4) |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O) | 0.2 (0.8) | |

Application Data

Operation Requirements

| Air Requirements | 60 Hz | 50 Hz |
|--|------------|------------|
| Radiator-cooled cooling air, m ³ /min. (scfm) * | — | 266 (9409) |
| Combustion air, m ³ /min. (cfm) | 12.7 (451) | 10.2 (360) |

* 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) | 41.5 (11.0) | 36.5 (9.6) |
| Diesel, Lph (gph) at % load | Prime Rating | |
| 100% (of the prime rating) | 38.0 (10.0) | 33.5 (8.9) |
| 75% (of the prime rating) | 29.0 (7.7) | 25.0 (6.6) |
| 50% (of the prime rating) | 20.5 (5.4) | 17.0 (4.5) |

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



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
- Easy upgrade from Decision-Maker™ 1000

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 M226, 60 Hz, 68.9 dB(A) @ 7 m (23 ft.), Standby (with enclosed critical silencer)
- Sound Enclosure M226, 50 Hz, 68.8 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

Decision-Maker™ 1000 Controller

- Alarm Horn
- Analog Indicator
- Differential Protection with Time and Sensitivity Adjustment
- Differential Triggering Fault
- External ATS Position
- External Starting Order
- Line Voltages, Volts Indicator
- Overload or Short-Circuit Fault
- Permanent Insulation Controller
- Phase Currents, Amps Indicator
- Plug Preheating
- Plug Preheating Control
- Remote Start Capability
- Single Voltages, Volts Indicator
- Utility Sensing, 3-Phase
- Water Preheating Control

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
- Electronic Isochronous Governor
- Lube Oil Drain Pump
- PMG Alternator and Voltage Regulator
- Tropical Heavy-Duty Alternator Insulation

Miscellaneous Accessories

- _____
- _____
- _____
- _____

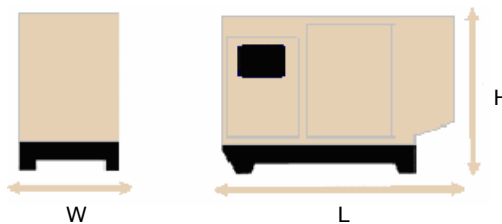
Dimensions and Weights

Open Model



Overall Size, L x W x H, mm (in.): 2370 x 1114 x 1480 (93 x 44 x 58)
 Weight, wet, kg (lb.): 1980 (4364)

With Available Enclosure Accessory



Overall Size, L x W x H, mm (in.): 3508 x 1200 x 1830 (138 x 47 x 72)
 Weight, wet, kg (lb.): 2580 (5688)

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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