DOOSAN

# G190WCU-3A-T4F

## Diesel Rental Generator

**Serial Code: H09**

QUAD Voltage Optional


## Key Features

- Designed and manufactured in an ISO9001-certified facility in Statesville, North Carolina, USA.
- Heavy duty mobile generator system designed for prime power operation in rental, construction and special events applications.
- Generator is CSA certified for electrical equipment per C22.2, No. 14.

| Voltage Configuration | Frequency (Hz) | Power Factor | Prime Power Rating | | |
|---|---|---|---|---|---|
| | | | kVA | kW | Current (A) |
| 600/346V - 3Ø WYE | 60 | 0.8 | 197 | 158 | 190 |
| 480/277V - 3Ø WYE | 60 | 0.8 | 181 | 145 | 218 |
| 240/139V - 3Ø WYE | 60 | 0.8 | 181 | 145 | 436 |
| 208/120V - 3Ø WYE | 60 | 0.8 | 181 | 145 | 503 |
| 240/120V - 1Ø ZIG ZAG | 60 | 1.0 | 110 | 110 | 458 |
| 400/230V - 3Ø WYE | 50 | 0.8 | 165 | 132 | 238 |

* Note: Not all listed voltages are available on standard product. Some voltages may require selection of optional features.

### Skidbase and Enclosure

- Package foundation is a heavy duty, oilfield-ready skidbase equipped with four-point tie downs.
- The skidbase is a fully bunded, Environmental Containment design, sized to contain at least 110% of total oil and fuel volume, to prevent any leakage of hazardous fluids from the package.
- Ducted air intakes ensure near-zero water ingression into the containment area, even during operation in the heaviest rain conditions.
- The enclosure is constructed from corrosion-resistant galvannealed steel and coated with a 13 stage powder paint process for long life even in harsh environments.
- The enclosure panels are fitted with sound-absorbing acoustical material to help reduce noise for quiet operation in noise sensitive applications such as concerts, events and nighttime construction.
- Wide opening access doors are side hinged, providing easy access to service and maintenance points and are equipped with recessed, pad-lockable handles and safety latches to hold doors open during servicing.
- Package is equipped with a center-point lifting eye for safe, well-balanced hoisting, designed with a 5 x safety factor for the weight of a fully fueled unit with running gear.

### Diesel Engine

- Heavy-duty Cummins diesel engine is emissions certified to EPA Tier 4-final standards and provides the optimum mix of performance and fuel economy.
- The Diesel Oxidation Catalyst (DOC) and Selective Catalyst Reduction (SCR) aftertreatment system meet the stringent NOx and particulate limits without the use of a Diesel Particulate Filter (DPF).
- Dual frequency capability allows operation at 50 hertz or 60 hertz with the flip of a switch.
- Electronically controlled engine provides isochronous frequency control and advanced diagnostic monitoring and protection.
- The engine generator assembly is mounted on fail-safe vibration isolators.
- Coolant and oil drains are piped to bulkhead fittings mounted on the enclosure and all filters and maintenance points are easily accessed for safe and easy servicing.
- Engines are globally supported by the engine OEM and Doosan Portable Power.

### DualBox Cooling System

- Doosan’s industry-exclusive DualBox design provides an innovative solution to ensure optimum package cooling for virtually any ambient condition by independently controlling engine compartment temperature and cooling system performance.
- The engine compartment temperature is controlled by a pair of electric, variable speed cooling fans that are programmed to limit airflow in low ambient conditions to prevent freeze up of vital engine components while also ensuring the proper cooling of the package in high temperature / high load conditions.
- The cooling system compartment is isolated from the engine compartment to ensure the most efficient system performance as cooler airflow from outside the package is directed through the cooling system instead of using hotter air from the engine compartment.
- The engine driven cooling fan features a radial design which provides a significant performance advantage with respect to increased heat transfer, reduced noise level, and reduced fuel consumption.
- The DualBox solution maximizes performance to achieve the lowest noise levels, minimum water ingression and independent control of engine compartment temperature and cooling system to achieve optimum performance.
- Doosan generators provide performance at the full prime power rating at ambient temperatures up to 104ºF (40ºC) without derating.

### Alternator

- Leroy Somer alternators feature brushless excitation providing industry leading motor starting kVA and 300% overload capability.
- R450 automatic voltage regulator provides precision control of voltage level and fast response to load changes.
- Class H insulation with upgraded environmental coating for ultimate resistance to high temperature and humidity.
- Three position Voltage Selector Switch (VSS) to easily configure the units for operation at most common voltages.
- Optional quad voltage capability adds 600V-3Ø selection to the standard range of available voltages to support 600V applications without the need for a transformer.

### Control System

- A complete array of operator-preferred analog gauges provide at-a-glance monitoring of vital engine and generator parameters.

- Solid state engine control module provides convenient, microprocessor-controlled startup at the push of a button and protects the generator system from an array of faults while providing the operator with indication of any faults on the LED display.
- Standard Run / Idle selector switch allows operators to start and warm up the generator at low engine speed to prevent excess engine wear when operating in cold climates.
- Engine Diagnostic Trouble Codes (DTCs) are displayed on the LCD screen, providing operators and technicians with a numeric and text explanation of the fault code, minimizing the need for expensive hand-held code scanners.
- Standard remote Auto Start / Stop capability via two wire, closed contact logic, allows for connection to automatic transfer switchgear and other remote starting devices.
- Industry-leading Voltage Selector Switch (VSS) protection feature prevents switching the VSS while generator is operating.
- Pad-lockable battery disconnect switch is mounted inside the enclosure.

### Power Connections

- All controls and connection points are grouped at the rear of the unit for safety and operator convenience.
- Power cables are connected at an oversized five lug (L1 L2 L3 N PE) terminal board capable of accepting bare end cable or terminated cables.
- Convenience receptacle panel includes individual branch circuit breakers.
- Optional camlock panel includes two panel mounted sets of 400A female connectors to further expand connection capabilities.

### Fuel and DEF System

- Single fuel tank sized for 24 hour runtime at full load is mounted within the skid base, providing double wall protection.
- Fuel tank mounted low in frame and centered to ensure balanced lifting and low center of gravity.
- The fuel filler is located within the containment basin, minimizing possible spillage.
- Standard primary fuel / water separator and fine micron secondary fuel filter keep contaminates out of the system and increase reliability.
- The containment system features a three-inch drain plug for easy cleaning, and the fuel tank is equipped with a drain plug mounted behind the containment plug for easy cleaning.
- Leak-proof fuel vents eliminate the potential for fuel purge during out-of-level conditions during transport and load / unload.
- Low fuel shutdown ensures the engine will not lose prime if it runs out of fuel.
- Diesel Exhaust Fluid (DEF) tank sized for a minimum of 24 hour runtime.

### Running Gear

- Integrated running gear system mounts directly to generator skidbase providing an industry-best low center of gravity for safe, stable towing, on-road or off-road.
- Tandem axle torsion suspension with E-Z-Lube hub assemblies and electric brakes or optional hydraulic surge brakes.
- All models feature high quality, grommet-mount lighting and meet Federal Motor Vehicle Safety Standards for lighting and conspicuity.
- Trailer-to-vehicle connector is a 7-pole “SAE J560 plug with a high quality, jacketed wiring harness.
- All units are equipped with a 3-inch pintle eye or optional 2-5/16” ball hitch, heavy duty safety chains and a high quality, heavy-duty jack stand.

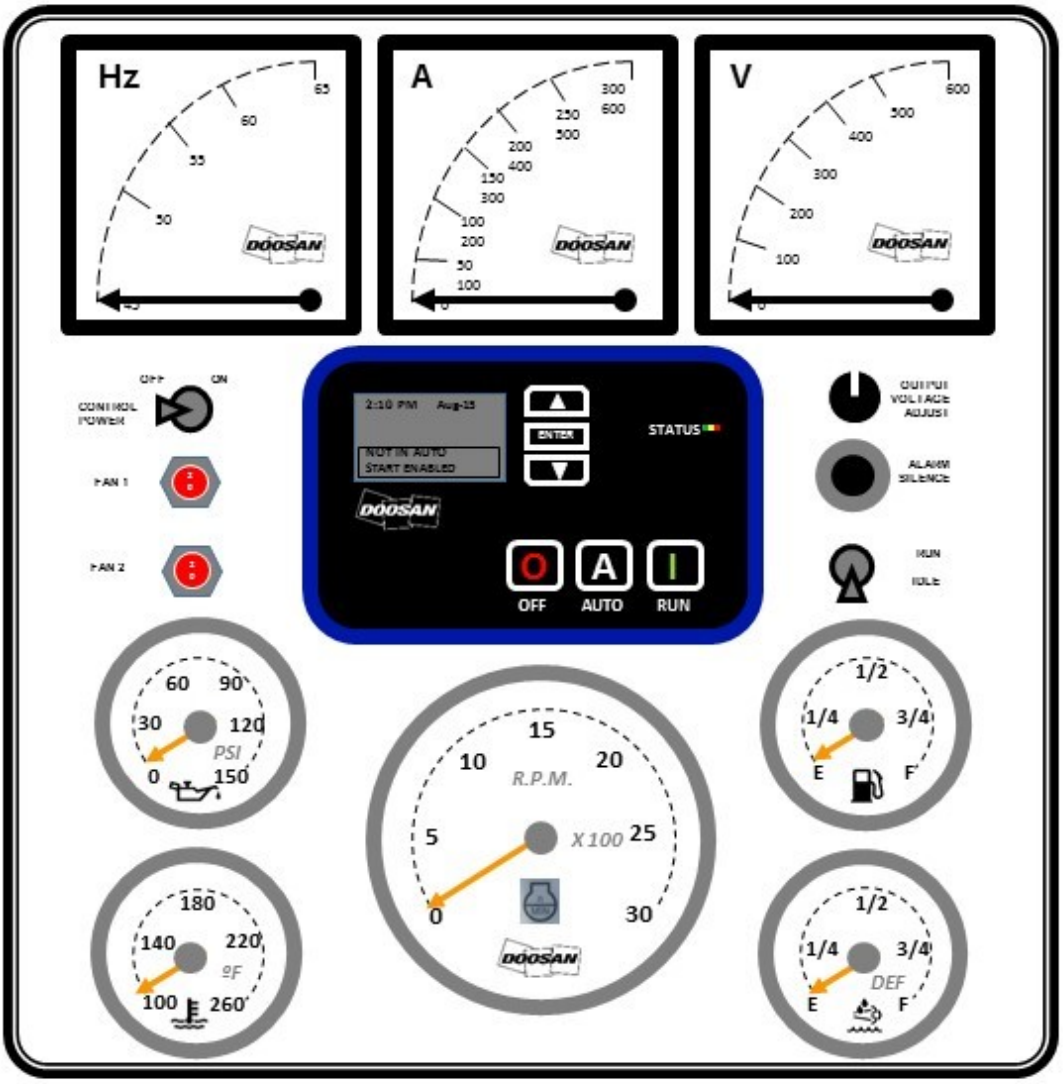
### Options

- Doosan models can be equipped with a broad array of optional equipment to meet the need of specific applications. Common selections include:
  - Cold start options including engine coolant heater, battery pad warmers, and heated crankcase breather systems
  - Three-way fuel valve for connection to a remote fuel tank
  - Battery charger
  - Keyed door locks
  - Intelligent load management system (ILMS)
  - Running gear options including rear stabilizer jacks, drawbar-mounted tool box and spare tire

### Warranty

- All models are covered by a comprehensive limited warranty:
  - Package: 1 year / 2000 hours

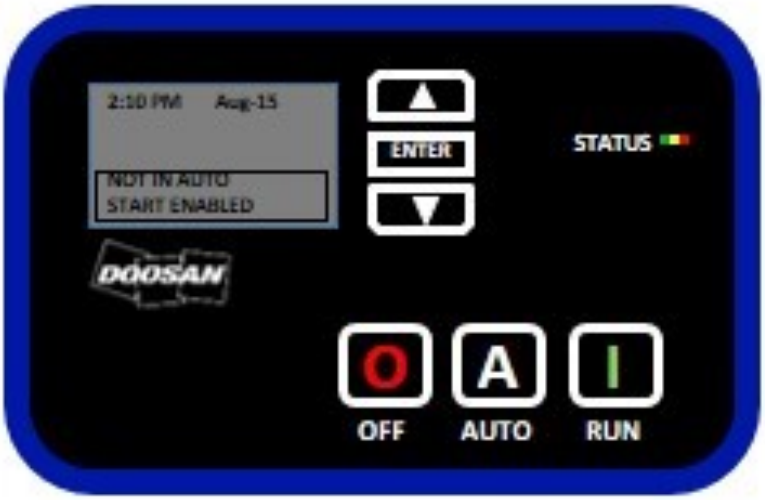
## Operator Panel




**Operator Panel Features**

1. Tachometer: 0-3000 RPM scale
2. Oil Pressure: 0-150 PSI scale
3. Coolant Temperature: 100º-260ºF scale
4. Fuel Level: E-1/4-1/2-3/4-F scale
5. Diesel Exhaust Fluid (DEF) Level: E-1/4-1/2-3/4-F scale
6. Control Power On / Off Switch
7. Engine Compartment Cooling Fan Circuit Breakers
8. Alarm Silence Button (optional)
9. Voltage Adjustment Control
10. Run / Idle Control Switch
11. TG410 Controller
12. Frequency-meter: 45-65 Hz scale
13. AC Ammeter: Dual scale: 0-300A @ 480V / 0-600A @ 208V
14. AC Voltmeter: 0-600 V scale

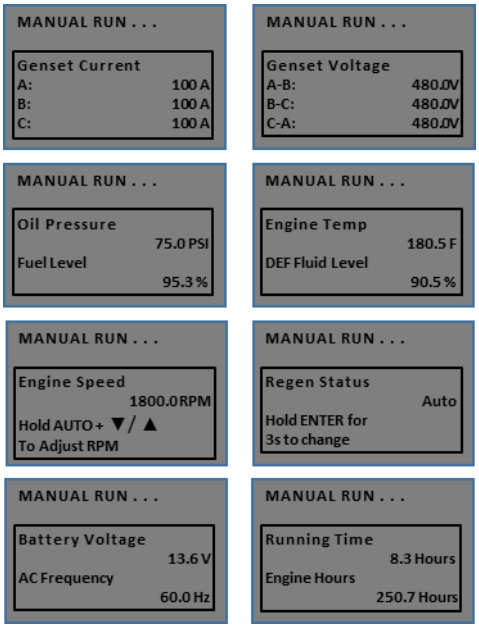
## TG410 Automatic Start Stop Controller




## TG410 Genset Controller Features

### Functionality

- Automatic shutdowns and warnings
- Manual and remote AutoStart
- Engine speed adjustment
- Aftertreatment conditioning controls and status Icons
  Auto / Force / Inhibit
- SAE J1939 electronic engine communication
- Engine Fault Code Annunciation
  SPN / FMI / OC
- 150 Event Fault Log
- Isolated RS 485 Modbus communication capable
- NFPA 110 Level 1 capable
- Maintenance counter
- AutoStart on low battery capable
- Exerciser clock
- Automatic, inverse time delay overcurrent protection




### Form Factor

- 6-Button control
- 6-Line LCD Display with user adjustable contrast and temperature compensation from -4ºF (-20ºC) to 158ºF (70ºC)
- 1 Multicolor (Red/Yellow/Green) Status LED
- Front Gasket Seal for water ingress prevention to IP65 protection
- Conformal coated circuit board for protection against moisture and contaminants
- Rugged polycarbonate enclosure designed to survive extreme applications and abuse
- Controller functions in ambient conditions ranging from -40ºF/C to 158ºF (70ºC)
- Meets or exceeds SAE J1113-11 with respect to electrical transients
- Meets or exceeds SAE J1455 with respect to vibration, thermal shock and cycling
- Meets or exceeds MIL-STD-461E with respect to electromagnetic compatibility
- Maximum 600V AC, true RMS sensing, +/- 1% full scale accuracy
- Current sensing, +/- 2% full scale accuracy

| Engine Data | | |
|---|---|---|
| Engine Manufacturer | Cummins | |
| Model Number | QSB7-G8 | |
| Prime Output @ 1800 RPM | 219 bhp | 163 kWm |
| Standby Output @ 1800 RPM | 241 bhp | 180 kWm |
| Prime Output @ 1500 RPM | 202 bhp | 151 kWm |
| Standby Output @ 1500 RPM | 222 bhp | 166 kWm |
| Engine Type | Four Cycle, Inline | |
| Engine Control | ECU | |
| Emissions Certification | EPA Tier 4 Final | |
| Number of Cylinders | 6 | |
| Aspiration | Turbocharged / Intercooled / cEGR | |
| Aftertreatment Technology | Diesel Oxidation Catalyst (DOC) / Selective Catalyst Reduction (SCR) | |
| Bore × Stroke | 4.21 x 4.88 in | 107 x 124 mm |
| Displacement | 409 $in^3$ | 6.7 L |
| Compression Ratio | 17.3:1 | |
| Governor Type | Isochronous | |
| Speed Regulation Accuracy | + / - 0.25% Steady State | |
| Single Step Load Acceptance | 100% | |
| Cooling System | 50% Glycol / 50% Water | |
| Charging Alternator Output | 70A | |
| DC System Voltage | 24 V | |
| Battery Size / Output | 2 × Group 31 / 1000CCA | |

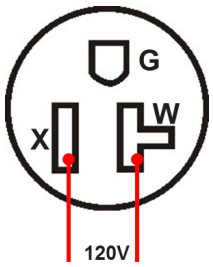
| Fluid Capacities | Gal | L |
|---|---|---|
| Engine Crankcase Lubricant Capacity | 4.5 | 17 |
| Cooling System Capacity | 10 | 37.9 |
| Usable Fuel Cell Capacity | 368 | 1393 |
| Usable DEF Tank Capacity | 24 | 91 |

| 60Hz Fuel Consumption | Gal / h | L / h | Runtime |
|---|---|---|---|
| @ 25% Load | 3.2 | 12.0 | 115 |
| @ 50% Load | 5.6 | 21.0 | 65.5 |
| @ 75% Load | 8.0 | 30.0 | 46 |
| @ 100% Load | 10.4 | 40.0 | 35 |
| DEF Runtime | | >24 | |

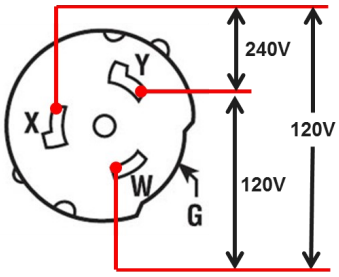
| Reference Conditions | | |
|---|---|---|
| Rated Ambient Temperature | -20ºF—104ºF | -29ºC—40ºC |
| Minimum Starting Temperature (Standard) | 0ºF | -18ºC |
| Minimum Starting Temperature (w/ Cold Start Opt) | -20ºF | -29ºC |
| Maximum Altitude | | |

| Alternator Data | | |
|---|---|---|
| Alternator Manufacturer | Leroy Somer | |
| Alternator Model | LSA 46.2 M5 C7 | |
| Alternator Type | Four Pole Revolving Field | |
| Number of Leads | 12 | |
| Insulation Class | H | |
| Winding Pitch | 2/3 | |
| Voltage Connection Method | Three Position Voltage Selector Switch | |
| Excitation Method | Brushless w/ AREP | |
| Voltage Regulator Model | R450 | |
| Voltage Regulation Accuracy | +/-0.5% | |
| Maximum Unbalance Load | 25% | |
| Total Harmonic Distortion (THD) | <2.5% @ 0% Load | |
| Telephone Influence Factor (TIF) | <50 | |
| **Motor Starting Capability** | **480V** | **600V** |
| SkVA @ 20% Voltage Dip | 202 | 320 |
| SkVA @ 25% Voltage Dip | 270 | 427 |
| SkVA @ 30% Voltage Dip | 347 | 548 |
| SkVA @ 35% Voltage Dip | 435 | 689 |

| Power Connections | |
|---|---|
| Main Circuit Breaker Rating | 600 A |
| Overcurrent Trip Setpoint (240V-1Ø) | 463 A |
| Overcurrent Trip Setpoint (208V-3Ø & 240V-3Ø) | 571 A |
| Overcurrent Trip Setpoint (240V-3Ø Delta) | N/A |
| Overcurrent Trip Setpoint (480V-3Ø) | 256 A |
| Overcurrent Trip Setpoint (600V-3Ø) | 203 A |
| 20A—125V GFCI Duplex (NEMA 5-20R) Receptacles | 2 |
| 50A—125/250V Temp Power (CS6369) Receptacles | 3 |
| 400A-600V Camlock Connectors (Optional) | 2 Sets |
| Terminal Board Maximum Cable Size (Bare Wire) | 4 × AWG 2—600MCM |
| Terminal Board Maximum Cable Lug Size | 1/2 in (12.7 mm) |



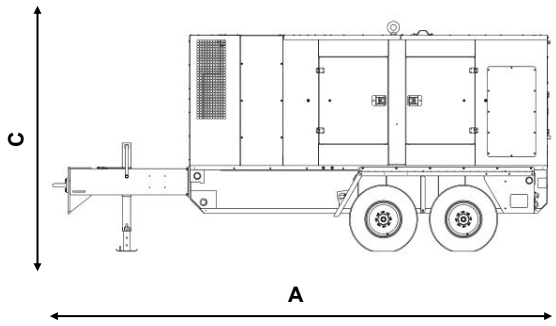

**NEMA 5-20R Receptacle**

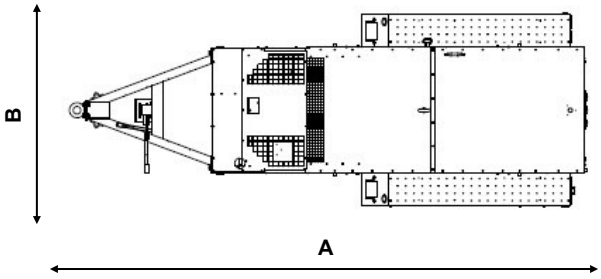


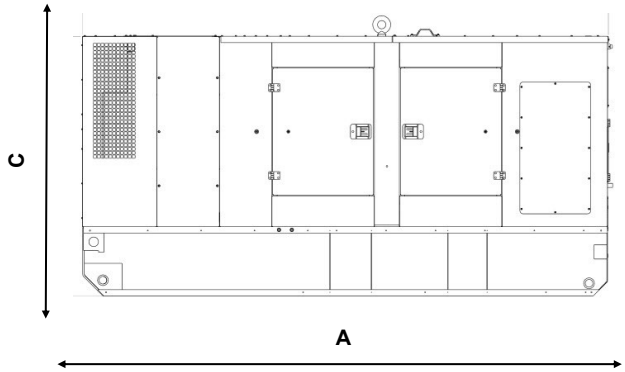

**CS6369 Receptacle**

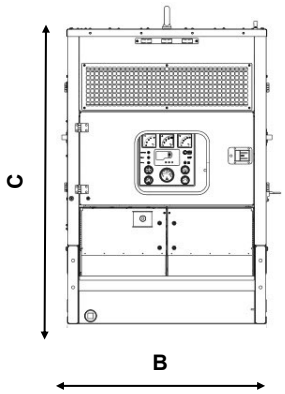
| Running Gear | To 49CFR571 requirements | |
|---|---|---|
| Gross Vehicle Weight Rating (GVWR) | 12766 lb | 5791 kg |
| Gross Axle Weight Rating (GAWR) | 13668 lb | 6200 kg |
| Configuration | Tandem Axle | |
| Suspension | Torsion | |
| Standard Brake System Configuration | Electric | |
| Optional Brake System Configuration | Hydraulic Surge | |
| Tires | ST235/80R16, Radial | |
| Wheels | 16” × 6”, 8 lug on 6.5” bolt circle | |
| Track Width | 71.5 in | 1815 mm |
| Lighting and Reflectors | Meets Federal/Canada Motor Vehicle Safety Standard 571.108 | |
| Electrical Connection to Towing Vehicle | 7-Pole Round SAE J560 Connector | |
| Standard Trailer Coupling | 3” (78 mm) Pintle Eye | |
| Optional Trailer Coupling | 2-5/16” Ball Coupler | |
| Hitch Height | 4-Position Adjustment 20.5” - 34” | |
| Safety Chains | 2 × 3/8” with slip hooks and safety latches | |
| Jack Stand Configuration | Fixed Mount, 10000 lb Capacity | |

| Package Data | With Running Gear | | Skidmount | |
|---|---|---|---|---|
| Length (A) | 224 in | 5689 mm | 161 in | 4090 mm |
| Width (B) | 83.2 in | 2114 mm | 53.7 in | 1365 mm |
| Height (C) | 102.9 in | 2615 mm | 85.9 in | 2181 mm |
| Weight (Shipping) | 8690 lb | 3950 kg | 7784 lb | 3538 kg |
| Weight (Ready to Run) | 11377 lb | 5172 kg | 10201 lb | 4636 kg |
| **Sound Level @ 23ft (7m), 100% Load** | **69 dB(A)** | | | |

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