



# HIPOWER®

your partner for power

## RENTAL Diesel Generator

### Model: HRJW 310 T6

## Specification Sheet

## John Deere Series



Photo depicts a typical model but may not include options such as trailer.

### Description

HIPOWER® rental generators are an efficient, reliable and versatile source of mobile electrical power. They are designed to operate in the most extreme working conditions. All HIPOWER® Rental Generators have a unique combination of innovative design and the use of high quality materials that provide the user with the most dependable power that you can rely on for non-stop power with easy to operate controls.

The generator set is powered by a radiator-cooled, industrial John Deere Diesel engine, which meets current Environmental Protection Agency (EPA) non-road exhaust emission regulations, driving a single bearing, four-pole, three-phase alternator, with IP23 protection. The Prime Power kVA rating for generator set is given with a 125 degree C alternator winding temperature rise.

### HIPOWER® Features and Benefits

**John Deere Diesel Engine:** Long-life, heavy-duty, 4-cycle, direct injection engine from a world renown manufacturer for economy of operation and maximum reliability and durability. Capable of full rated load acceptance in one step.

**Cooling:** Radiator with belt driven pusher fan.

**Filtration:** Heavy-duty replaceable element air-cleaner.

**Alternator:** Single bearing, rotating field, self-excited, self-ventilated, 12-wire re-connectable, 60Hz brushless alternator with permanent magnetic generator (PMG) for reduced service and maintenance requirements, with Class H insulation. Automatic voltage regulator (AVR) providing close voltage regulation. Has a high skVA starting capability for electric motor loads.

**Certification:** Generator set is CSA certified and meets ISO 8528-5.

**Arrangement:** Engine and alternator units are closed coupled together and with mobile style anti-vibration isolators, mounted between the assembly and a heavy-duty steel base. The sturdy base frame has openings allowing for winching, slinging and forklift pockets for ease of handling

### 60Hz Power Ratings kVA (kW)

Voltage VAC	Phase	PF	Prime		Standby	
			kVA	kW	kVA	kW
120/240	1	1	170.0	170.0	185.3	185.3
120/208	3	0.8	307.8	246.3	342.0	273.6
120/240 Delta	3	0.8	N.A.	N.A.	N.A.	N.A.
277/480	3	0.8	309.1	247.3	343.5	274.8
347/600	3	0.8	308.1	246.5	335	268

**Rating Definitions:** (N.A. = Not available for model designated)

**Prime** - All Rental Sets are Prime Rated - Prime rating is applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running of amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

**Standby** - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

### HIPOWER® Features and Benefits

**Fuel Tank:** The environmentally friendly steel base contains a welded sub-base fuel tank with external filling system. The base has 110% containment capability for any diesel fuel, coolant or engine oil spills.

Easy access is provided to the tank for periodic fuel tank cleaning. A fuel level gauge is also provided as standard.

**Enclosure:** Fully sound attenuated enclosure, fabricated in 11-gauge steel, powder coated with finish that exceeds 1000-hr salt spray test, curved edges, minimum outside fasteners and single point lift.

Ample layer of durable Rockwool sound insulating material placed all around the inside of the container, doors and ducting with metal retainer frames. Can be cleaned by high-pressure water and is oil and fire resistant.

Vertical air discharge for quiet operation.

Wide steel lockable access doors with rubber seals, for easy entrance of all maintenance personnel and any necessary service by technicians, with stainless steel hinges, hardware and fasteners resistant to corrosion.

**Exhaust:** Effective low noise, steel residential-type exhaust silencer with rain cap.

**Fuel Filtration:** Standard and secondary water separator with visible level on fuel filters

**Voltage Selector Switch:** Three-position manual voltage selector switch. Lockable in three positions for switching set between 120/240V single phase and 120/208 and 277/480V 3-phase. (Not available for 600V configuration)

**Controls:** Digital control panel to operate all manual and automatic start and stop features. Many programmable automatic functions for local and remote controls with LED lights, tamper proof engine hour recorder with analog meters: voltmeter & switch, three (3) ammeters, Hz meter, fuel gauge and battery charge

**Load Connections:** Covered distribution panel for easy access to cable power outlets, receptacles, lugs and Camlocks.

### Specification Data

#### Rental Generator Set Specification:

Governor regulation class	ISO 8528 Part1 Class G3
Voltage regulation, no load to full load	± 1%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications
skVA at 480 volts with 30% voltage dip - amps	945
Main Line Circuit breaker – amps capacity	1200 (208V-240V-480V) - 400A(347/600V)

#### Engine Specification:

Manufacturer	John Deere
Model	6090HF484-315
EPA certified	Tier 3 TPEM
Crankshaft speed	1,800 rpm
Type	Industrial, four-stroke
Injection	HPCR
Aspiration	Turbocharged
Number of Cylinders	Six (6)
Cylinder arrangement	Vertical, In-line
Displacement CID (liters)	540.0 (9.0)
Bore and Stroke ins (mm)	4.661 X 5.354 (118.4 X 136.0)
Nominal power	422 hp
Cooling	Liquid
Governor	Electronic
Starting motor & alternator	24 volt
Compression ratio	16.0:1
Air cleaner type	Medium duty dry type with blockage indicator
Exhaust gas flow cu. ft./minute (cu. /minute)	2066.0 (58.5)
Max. Exhaust temp at full load degrees °F (°C)	1180 (638)
Max. permissible back pressure - ins H <sub>2</sub> O (kPA )	30 (7.5)

#### Cooling System:

Engine cooling air flow - cu. ft./second (cu. m/second)	350.2 (9.9)
Alternator cooling flow - cu. ft./second (cu. m/second)	34.96 (0.99)
Total cooling air flow (engine + alternator + combustion)	433.3 (11.33)
Total cooling capacity - US gallons (liters)	12.1 (46.0)

#### Lubrication system:

Oil pan capacity - US gallons (liters)	7.7 (19.0)
Oil pan capacity with filter - US gallons (liters)	9.0 (34.0)
Oil cooler	Water cooled
Recommended lubricating oil grade	15W 40
Oil consumption at full load	less than 0.1% of fuel consumption
Oil pressure – psi (kPA)	38.0 (260.0)

#### Engine Electrical System:

Starting motor voltage	24 volt
Battery capacity	120 amps
Cold Cranking Amps - minimum	750 amps

**HIPOWER Sound Attenuated Enclosure:****Model - G1R**

Noise level - dBA at 23 feet (7 meters)	75
Dimensions - inches	165.4 X 64.9 X 104.9
Dry weight – lbs.	10,900

**Fuel System:**

Grade	# 2 Diesel - ULSD
Tank capacity – US gallons (liters)	438.2 (1660)
Approximate run time at 100% load	23.8

**Prime Rating Fuel consumption:**

100% load – US gallons/hour (liters)	18.4 (69.8)
75% load - US gallons/hour (liters)	15.9 (60.2)
50% load - US gallons/hour (liters)	11.3 (42.7)
25% load - US gallons/hour (liters)	5.8 (22.1)

**Alternator Specification:**

Manufacturer	Stamford
Model	HCI 444 D (WDG 311) - HCI 444 C (WDG 17 - 600V)
Voltages	1-phase 120/240; 3-phase 120/208, 277/480, 346/600 (WDG 17)
Alternator Type	4-pole, rotating field
Excitation System	Brushless with PMG & AVR MX 341
Power factor	0.8
Number of leads	12
Stator Pitch	2/3
Insulation	Class H
Windings – Temperature Rise	120° C
Enclosure (IEC-34-S)	IP 23
Bearing	Single, sealed
Coupling	Flexible disc
Amortisseur windings	Full
Voltage regulation – no load to full load with MX341 AVR	plus or minus 1%
TIF	< 50
Line harmonics	5% maximum

**Standard Accessories:** (see back-page for control panel details)

● Radiator with pusher fan	● Standard and secondary water separator with visible level on fuel filters
● Medium - duty, two-stage dry element	● All rotating components (i.e. fan) protected with metal guards
● Heavy-duty engine start batteries in rack with cables	● All hot components (i.e. exhaust) protected with metal guards
● Battery disconnect switch	● Ground connection prepared for ground spike (not supplied)
● External emergency stop switch	● Main line ABB UL listed circuit breaker for overload protection
<b>● Distribution power panel</b> *See image RH back-page NEMA 3R/IP67 0.09" aluminum panel, black powder coated, weather proof rated; individual Square-D QOU branch breakers; 2 x 20A 125V NEMA 5-20 GFCI duplex receptacles/flip cover; 3 x 50A 125/250V CS6369 twist-lock receptacles & Lexan covers; 50A California style twist lock (1Φ only); 3 sets 400A single pin Camlocks rated 400A with snap covers; color coded Camlocks 3Φ - 5W black, red, blue, white & green; pad lockable 1/4 turn door access with cable trap; auxiliary bus bars with mechanical lugs; 1 dual lug per phase; mechanical lugs up to 600MCM cable	
● Control panel DSE 3110 MANUAL & AUTO START MODULE	● Engine Block heater

**Optional Accessories:**

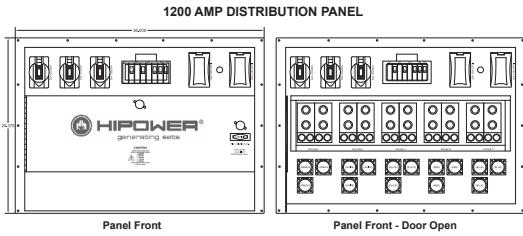
<input type="checkbox"/> Fuel tank leak detection sensor with alarm	<input type="checkbox"/> Interior lights
<input type="checkbox"/> Alternator anti-condensation heaters	<input type="checkbox"/> Shore power receptacle
<input type="checkbox"/> Winterization kit for low ambient temperature	<input type="checkbox"/> Battery charger
<input type="checkbox"/> Electric actuator and louvers for air intake and exhaust	<input type="checkbox"/> Control panel heater
<input type="checkbox"/> Snow hoods for air intake and exhaust	<input type="checkbox"/> Three-way 'Quick' connect fuel valve to external fuel supply
<input type="checkbox"/> DOT certified towing trailer	<input type="checkbox"/> Automatic fuel transfer pump

**The DSE model 3110 digital control panel:** The DSE model 3110 digital control panel is back-lit with icon LCD text display, and is PC configurable. It works with the engine electronic governor with PLC functionality, protected front panel editing, and includes: manual, automatic and remote (input) start, PC configurable six inputs and four outputs, configurable timers and alarms, generator voltage and Hz display, battery voltage display, engine speed display, multiple engine parameters are monitored simultaneously, comprehensive shutdown or warning on fault condition, engine preheat, LED and LCD alarm indication, tamper-proof hour counter provides accurate information for monitoring and maintenance periods. The module monitors: engine speed, frequency, voltage and engine run hours and also displays the warning and shutdown status

**Engine alarms included:** High coolant temperature, low oil pressure, low coolant level, unexpected shutdown, low fuel level, stop failure, low battery voltage, battery charging alternator failure, over-speed, under-speed, start failure and emergency stop.

**Alternator alarms included:** Overload, unbalanced voltage, over voltage, under voltage, over frequency, under frequency, short circuit, reverse power, and incorrect phase sequence.

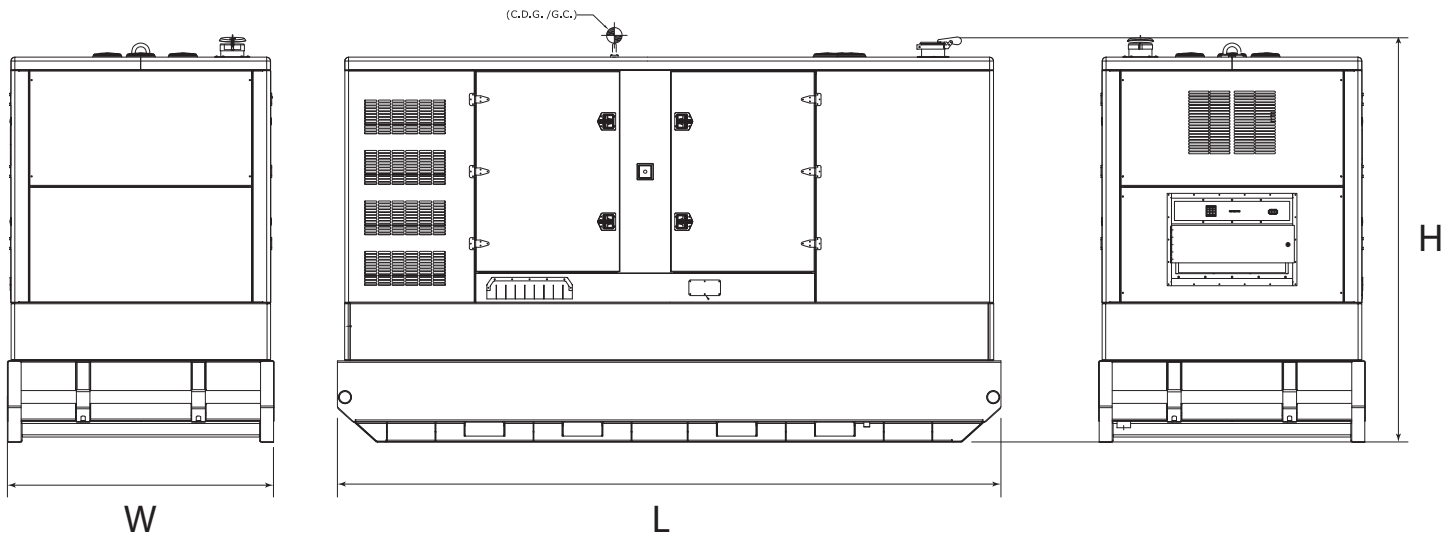
**Instrumentation and gauges included:** 3 ammeters, frequency meter, voltmeter plus selector, hour meter, fuel gauge, battery charger gauge, oil pressure gauge, water temperature gauge, siren and emergency stop button.



Pictures of Control Panel RH and Distribution Panel LH may include optional equipment and/or accessories

Model HRJW 310 T6

key dimensions, weight and sound level



Fuel Tank Data		Generator Data *				
Run Time Hours	Capacity (Gals)	L = Length	W = Width	H = Height	Weight lbs	dBa
23.8	438.2	165.4"	64.9"	104.9"	11,200	75

\* All measurements are approximate and for estimation purposes only. Weights are with dry fuel tank. Sound level measured at 23ft (7m) and does not account for ambient site conditions.

Codes and Standards Compliances used where applicable



- NFPA 99
- NFPA 110
- ISO 8528-5
- ISO 1708A.5
- ISO 3046
- BS5514
- SAE J1349
- DIN6271
- IEE C62.41 TESTING
- NEMA ICS 1

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