

Industrial Rental Towable Generator

Genset Ratings

 **Model: HRJW 90 T6**

Ratings Range - 60Hz Operation
1,800 rpm Diesel

Standby	kW	81
	kVA	101
Prime	kW	74
	kVA	92

Sound Attenuation:
at 7m / 23 ft **72 dBA**



Pictures may include optional equipment and/or accessories.
Generator available with or without trailer



Key features

- HIPOWER rental generators are an efficient, reliable and versatile source of power designed to operate in the most extreme working conditions. An unique combination of innovative materials and design features combine for easy user operation and dependable power you can rely on.
- The Genset features a heavy-duty John Deere 4 cycle diesel engine certified by the Environmental Protection Agency (EPA) to conform to Tier 3 non-road emissions regulations, an AC high capability alternator regulated by a precise Automatic Voltage Regulator controlled and protected by our own auto-start CEM7 control panel available CANBUS communications including a powerful microprocessor and easy user programming. A heavy-duty constructed chassis supports the complete set. The generator is protected by a best-in-class sound attenuated enclosure designed for durability and extreme application.
- Engine - generating set tested to ISO 8528-5.
- The Genset engine is certified by the Environmental Protection Agency (EPA) Tier 3 non-road emissions regulations.
- The brushless, single bearing, 4 poles, 12-wire generator end, with automatic voltage regulator has broad range reconnectability.
- The Genset is CSA certified.
- Global product support.
- Operations and maintenance manuals.
- 1 Year Standard Warranty. Extended warranties are also available.



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Standard features

Engine

- Industrial grade Tier 3 John Deere diesel Engine, 4 stroke, water cooled, provided with:
- Electric start 12V. (24V optional)
- Radiator with pusher fan.
- Standard water separator visible level fuel filter.
- Secondary water separator fuel filter.
- J1939 stop the engine with ECU John Deere.
- Electronic engine governor.
- HWT/LOP senders.
- Heavy duty 2-stage air filter with service indicator.
- Hot & rotating components (exhaust, fan,...) protections and radiator guards.
- Oil drain hand pump
- Spin type fuel and oil filters.

Alternator

- Self excited, self regulated alternator.
- Insulation class H, IP23 Protection.
- Automatic Voltage Regulator (AVR) (+/-1 %).
- Vacuum impregnation.
- Permanent Magnet Generator (PMG).

Control Panel

- Digital microprocessor based control panel with remote start capability.
- CEM7 Auto-start control panel (2 wires).
- **Engine protections:** High coolant temperature **(A)**, High coolant temperature by sensor **(W)**, Low engine temperature by sensor **(W)**, Low oil pressure**(A)**, Low coolant level**(A)**, Unexpected shutdown, Fuel level **(W)**, Stop failure, Battery voltage failure **(W)**, Battery charging alternator failure **(W)**, Overspeed**(A)**, Underspeed**(A)**, Start failure, Emergency stop.

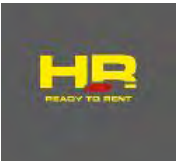
- **Alternator protections:** Over frequency **(A)**, Under frequency **(A)**, Over voltage **(A)**, Under Voltage **(A)**, Short-circuit**(A)**, Unbalanced voltage **(A)**, Incorrect phase sequence **(A)**, Reverse power **(A)**, Overload **(A)**.
- **Genset readings:** Voltage among phases, Voltage among phases and neutral, Amperage, Frequency, Apparent power(kVA), Active power (kW), Reactive power (kVA), Power factor.
- **Engine readings:** Fuel level(%), Battery voltage, R.P.M, Battery charge alternator voltage, Coolant temperature⁽¹⁾, Oil pressure⁽¹⁾.
- **Digital Metering:** Total hour counter, Partial hour counter, kW meter, Starts valid and Starts failure counters, Maintenance.
- **Communications (serial):** CANBUS - J1939 converter.
- **Communications (optional):** RS232, RS485, Modbus, CCLAN, Software for PC, Analog modem, GSM/GPRS modem, Remote screen, Tele-signal.
- **Other features:** Alarms history, External start, Start inhibition, Start under EJP normative, Pre-heating engine control, Genset contactor activation, Fuel transfer control, Engine temperature control, Manual Override, Programmable alarms, Genset start function in test mode, Programmable outputs, Magnetic Pick-up control.
- **Multilingual capability**
- Remote Communications to our **RAM7** Remote Annunciator Module **(optional)**.
- **NFPA110** Level Compatible.
- On/Off Switch.
- Emergency Stop Button.

NOTES :

- ★ All the protections are programmable to carry out "Warning Alarm without engine stop" or "Alarm with Engine Stop (with or without cooling cycle)".
- ★ **(A)** Alarm with Engine Stop.
- ★ **(W)** Warning Alarm without Engine Stop.
- ★ **(1)** Sensor installation necessary



Standard features



Power Panel

- 3P Main Line Circuit Breaker for overload protection (UL listed)/ CSA 22.2).
- Main bus / Hardwire connection panel with safety protection. (open thermal magnetic protection and alarm).
- Battery disconnect switch.
- Fuel cut-off solenoid and safety switches.

Control Panel BOX

- Auxiliary socket box IP67, with individual breaker protection and 2 GFCI DUPLEX 20A 125VGFI for 110v duplex and 3 TWIST-LOCK 50A 2P+N+G.
- Direct access to auxiliary sockets with suitable protection.
- Voltage selector switch. Lockable, with 3 positions (3phase 277/480V - 3phase 120/208V - 1phase 120/240V).

Electric Equipment

- Battery charging alternator.
- Gel type, heavy-duty Starting battery(s) installed and connected to the engine include cables and rack.
- Ground connection prepared for ground spike (not supplied).

Chassis

- Heavy duty skid base with forklift pockets and drawbars.
- Extended run time high capacity fuel tank.
- 110% spill containment for engine oil, coolant and fuel spills.
- Easy access for chassis cleaning and fast draining of fuel tank.

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- Oversized chassis to protect canopy with skids for dragging embedded and Forklift pockets for easy transport.
- Vibration isolators between chassis and generator.
- External fuel tank filling (lockable fuel cap)
- Chassis ready for mobile kit installation. (see mobile kits options).

Enclosure

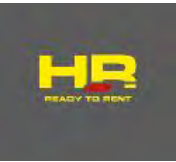
- Heavy duty sound attenuated canopy made with high quality 11 gauge steel.
- Powder coat paint which exceeds 1,000 hour salt spray test.
- Stainless steel hardware and fasteners.
- Ultra silent all weather enclosures with Rock-Wool insulation and curved edges with minimum outside fasteners.
- Reinforced Single eye lifting point.
- Fuel tank external filling system (lockable filler cap).
- Emergency stops (double protection for emergency stop; inside on control panel + external on canopy).
- Door with window to view control panel.
- Easy access to radiator fill through roof on enclosure.
- Outlet for power cables.
- Recesses provision for quick release couplings (external fuel supply).

Exhaust

- Steel residential silencer of -35dBA attenuation, with rain cap.



Optional features



Engine (optional)

- Water Jacket Heater
- Low coolant level sensor.
- Secondary water separator fuel filter - RACOR type (Decanting filter with water detection kit, alarm signal and sensor contact).
- Heavy duty, three stage air filter with service indicator.

Alternator (optional)

- Anti-condensation heater.

Electric Equipment (optional)

- Battery isolator.
- Automatic battery chargers.

Power Panel (optional)

- MPS - Multiple Parallel System.
- Multiple genset paralleling in three different voltages. (120/240 1Ph, 120/208V 3Ph or 277/480V 3Ph) achieved through the voltage selector switch.

Control Panel BOX (optional)

- Camlocks.

Electronics (optional)

- Remote Annunciator Module RAM7 to meet NFPA 110 installation.
- Digital timer.
- CANBUS - LAN, converter.
- CANBUS - USB, converter.
- Communication modules for tele-control.
- Transfer switch and MPS paralleling control panel.

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- Multiple remote annunciation options (CAN/USB, GSM, RS232, RS485, remote screen, tele-signal..).

Chassis (optional)

- Leakage detector sensor.

Fuel System (optional)


- Three way fuel valve with quick disconnect fittings.
- Automatic fuel transfer pump.

Trailers (optional)

- Road towing trailers to DOT standards.



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GENSET RATING											
GENSET Model	ENGINE Model	ALTERNATOR Model	VOLTAGE L-L	Ph	Hz	150°C RISE STANDBY RATING			125°C RISE PRIME RATING		
						kW	kVA	Amps L-L	kW	kVA	Amps L-L
HRJW 90 T6	4045HF285 - 94	UCI 224 G	120	1	60				42	53	2x219
			240	1	60				42	53	219
			208	3	60	79	99	274	72	90	250
			240	3	60	81	101	244	74	93	223
			480	3	60	81	101	122	74	93	111


ENGINE SPECIFICATIONS		
Manufacturer		JOHN DEERE
Engine model		4045HF285 -94
EPA Certification for:	Stage	Tier 3
Rated	RPM	1,800
Nominal Power (PRIME)	kW - HP	86 115
Nominal Power (STANDBY)	kW - HP	94 126
Engine type		Diesel 4 stroke
Inyection type		UNIT INJECTION
Aspiration type		TURBOCHARGED
Cylinder arrangement		4 - L
Bore and stroke	(mm) - In	(106 x 127) 4.19 x 5.00
Displacement	L - in3	4.5 275
Cooling system		Liquid (water+50%paraflu11)
Governor Type		electronic
Make		c
Standard		c
Starting voltage	Vcc	12
Air cleaner type		Medium duty w/double cartridge
Compression ratio		19.0 : 1

AMPERAGE	
1 Phase 120V	2x219 Amps
1 Phase 240V	219 Amps
3 Phase 208V	250 Amps
3 Phase 240V	233 Amps
3 Phase 480V	111 Amps
Main Line Circuit Breaker Rating	250 Amps

ALTERNATOR SPECIFICATIONS	
Manufacturer	Stamford
Model (480V)	UCI 224 G
Alternator Type	4 poles, rotating field
Excitation system	
Exciter Type	PMG
Leads: quantity, type	12, reconnectable
Stator Pitch	2/3
Insulation system	
Material	Class H
Temperature rise	150°C Standby 125°C Prime
Bearing: quantity, type	Single bearing sealed
Coupling	Flexible disc
Amortisseur windings	Full
Automatic Voltage regulator	
PMG regulator or EBS	MX341, Opt MX321
Voltage regulation, no load to full load	
PMG regulator	+/-1%, +/- 0.5%
Load acceptance	100% of rated standby current
Unbalanced load capability	20% of standby rating
Subtransient Reactance	
480V	12%
TIF	<50
Line Harmonics	5% Maximum
Peak motor starting kVA:	30% dip
480V	PMG excited MX series- 312kVA



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ELECTRICAL SYSTEM		12V
Battery charging alternator:		
Ground (negative/positive)		Negative
Volts (DC)	V	12
Ampere rating	Amp	75
Starter motor rated voltage (DC)	V	12
Starter motor rated	kW	2.03
Starter motor rated	HP	2.76
Battery recommendations		
Quantity & Min. Amps rating	Amp	1 x 180
Min. Cold Cranking Amps	Amp	800
Battery Voltage (DC)	V	12

FUEL SYSTEM		
Recommended fuel		#2 Diesel
Fuel supply line. min. ID	mm - in	11 - 0.44
Fuel return line. min. ID	mm - in	6 - 0.24
Fuel pump Type		Engine Driven
Max. Lift fuel pump	m - ft	6 - 1.83
Max. Flow to pump	(l/h) - gal/h	59 - 15.6
Fuel filter		
Secondary filter		2µm
Secondary Water Separator		Included
Primary filter		30µm
Primary Water Separator		Included

		PRIME		STANDBY	
		l/h	gal/h	l/h	gal/h
100% Load	l/h - gal/h	22.9	6.0	25.1	6.6
75% Load	l/h - gal/h	18.7	4.9	20.4	5.4
50% Load	l/h - gal/h	13.8	3.6	14.9	4.0
25% Load	l/h - gal/h	7.4	2.0	8.1	2.1

EXHAUST SYSTEM		PRIME	STANDBY
Exhaust manifold type		Dry	Dry
Exhaust outlet diameter			
Sound Attenuated version	mm - In	90 - 3.546	
Max. Exhaust temp. at full load	°C	561	576
	°F	1042	1069
Exhaust Gas Flow	kg/h - Lb/h	435.96 - 961.12	463.68 - 1022.2
	(m3/min) - ft3/min	(17.3) - 612	(18.4) - 651
Evacuated by the exhaust heat	kcal/kWh - kcal/kWh	0.00 - 813.72	
Maximum allowed back pressure	(mm/H2O) - inH2O	762 - 30	
	(kPa) - inH2O	7.5 - 30	

COOLING SYSTEM		
Engine cooling air flow	m3/s - ft3/s	3.8 - 133.4
Generator cooling air flow	m3/min - ft3/min	16.9 - 595.4
Total cooling air flow (engine + generator + combustion)		
Sound Attenuated version	m3/min - ft3/min	501.0 - 17,692.6
Total cooling capacity	l - gal	651.0 - 22,989.8
Antifreeze recommended	l - gal	27.1 - 7.2

LUBRICATION SYSTEM		
Oil Filter: quantity. type		1 x Cartridge
Oil pan capacity	l - gal	15 - 3.96
Oil pan capacity with filter	l - gal	12 - 3.17
Oil cooler		Water Cooled
Recommended Oil		15W-40 or API CI-4 PLUS o CI-4
Specific oil consumption full load	% fuel	<0,1%
Oil Press	(psi) - kPA	46 - 320

VENTILATION REQUIREMENTS		
Air requirement for combustion at 100% load/rated speed	m3/h - ft3/h	398.4 - 14040
Cooling airflow	m3/h - ft3/h	- - -
Heat rejected to ambient:		
From engine	kW - btu/min	52.5 - 2990
From alternator	kW - btu/min	1.56 - 88.78



Control & Power Panel

1. **CM Control Panel.**
 - ✓ CEM7 Auto-start control panel.
 - ✓ On/Off Switch..
 - ✓ Emergency Stop.

2. **CP Power Panel.**
 - ✓ Main Line Circuit Breaker for overload protection (UL listed / CSA22.2).
 - ✓ Main bus /hardwire connection panel with safety protection.
 - ✓ Fuel cut-off solenoid and safety switches



Pictures may include optional equipment and/or accessories.

Control Panel BOX

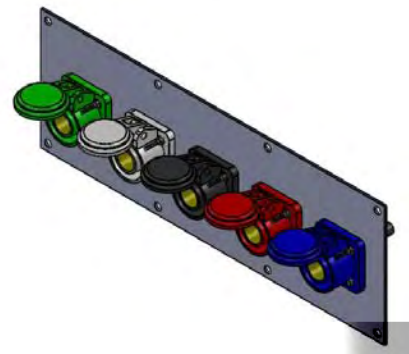
1. **Auxiliary socket box IP67 with:**
 - ✓ Individual breaker protection for sockets
 - ✓ 2 GFCI duplex 20A 125VGFI for 110v duplex
 - ✓ and 3 TWIST-LOCK 50A 2P+N + G



Pictures may include optional equipment and/or accessories.

Optional features Control Panel BOX

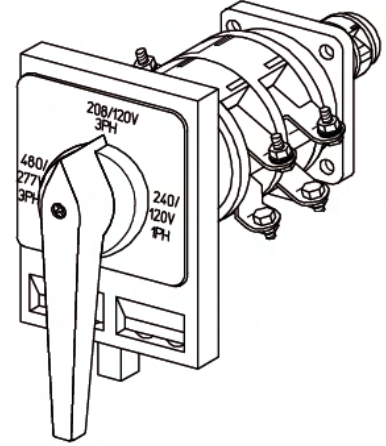
1. Camlocks



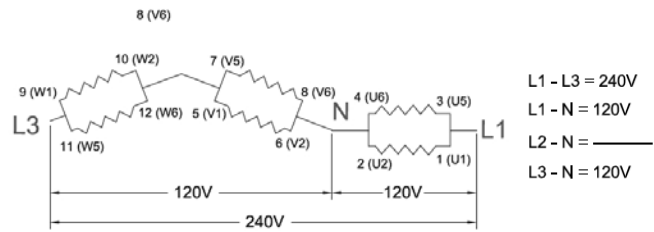
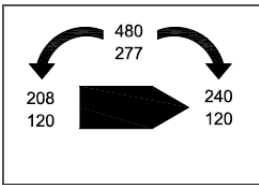
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Voltage Selector Switch

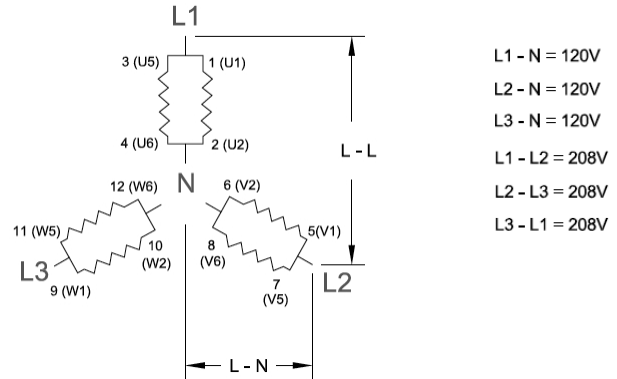
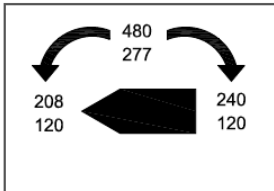
1. Voltage selector switch 3 positions padlockable (12h / 09h/ 03h).
 - ✓ High (Series) Wye 480/277V 3Ph Y.
 - ✓ Low (Parallel) Wye 208/120V 3Ph YY.
 - ✓ Low (Parallel) Zig Zag 240/120V 1Ph ZZ.
2. 7 contact stages, 14 contacts.
3. Switching angle 90°.



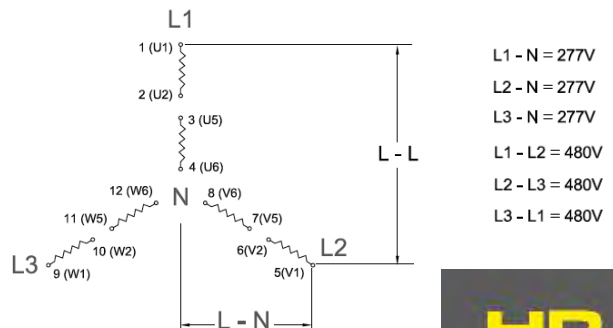
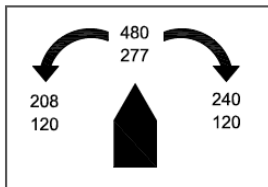
AC Generator Startor Winding connected for 2Phase +Neutral Parallel Zig-Zag: 120/240 VAC 60Hz



AC Generator Startor Winding connected for 3Phase Low Wye: 208/120 VAC 60Hz

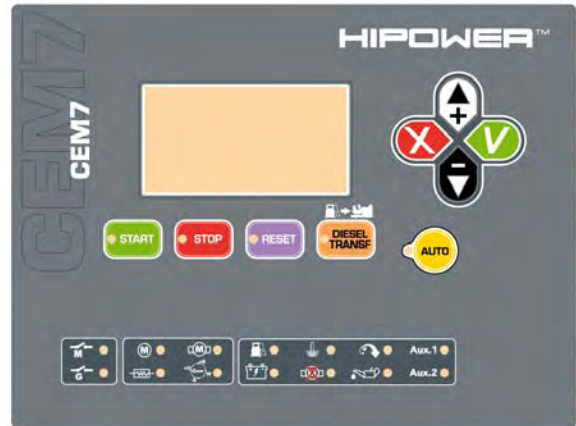


AC Generator Startor Winding connected for 3Phase Low Wye: 480/277 VAC 60Hz



CEM7 Auto-start control panel

1. Voltage between each Phase & Neutral.
2. Voltage between Phases.
3. Current (Amps) on each Phase.
4. Frequency.
5. Active, Apparent & Reactive Power.
6. Power Factor.
7. Instant Power (kWH) and Accumulative power (day, month & year).
8. Fuel reserve.
9. Oil pressure, coolant temperature.
10. Battery voltage.
11. Battery charging alternator voltage.
12. Engine Speed.
13. Hours running (total & partial).



NOTES :

- ★ All the protections are programmable to carry out "Warning Alarm without engine stop" or "Alarm with Engine Stop (with or without cooling cycle)".
- ★ (A) Alarm with Engine Stop.
- ★ (W) Warning Alarm without Engine Stop.
- ★ (1) Sensor installation necessary.

Engine Alarms

1. High coolant temperature (A).
2. Low oil pressure (A).
3. Low coolant level (A).
4. Unexpected shutdown.
5. Low fuel level (W).
6. Stop failure.
7. Battery voltage failure (W).
8. Battery charging alternator failure (W).
9. Overspeed (A).
10. Under-speed (A).
11. Start failure.
12. Emergency stop.


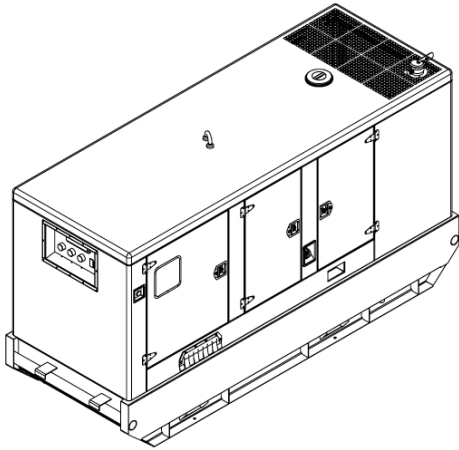
Generators Alarms

1. Over-load (A).
2. Unbalanced voltage (A).
3. Over voltage (A).
4. Under voltage (A).
5. Over frequency (A).
6. Under frequency (A).
7. Short-circuit (A).
8. Reverse Power (A).
9. Incorrect phase sequence (A).





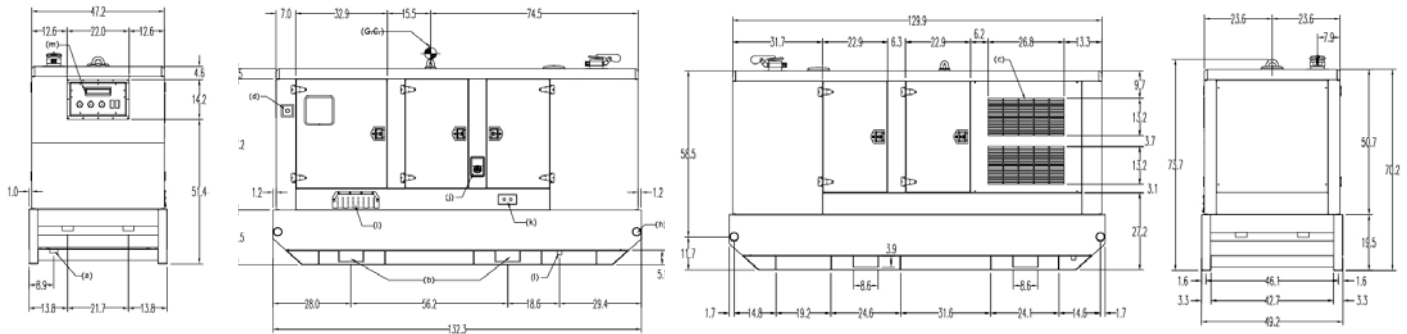
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Enclosure model	ER			
	(Length x Width x Height)			
Overall size (L x W x H)	in	132.3 x 49.2 x 74.0		
	mm	3360 x 1250 x 1880		
Dry weight (with std. accessories)	Lb	Kg	4690	2125
Trailer size (L x W x H)	in	200 x 82 x 16		
	mm	5020 x 2083 x 406		
Trailer weight	Lb	Kg	1460	665
Fuel Tank Capacity	Gal	L	130.7	495
Run Time (Hr)	100%	75%	50%	25%
	21.6	26.5	36	66.8



NOTE: The drawings are only representative of the overall dimensions.
 For full detailed drawings please consult your local distributor or contact Himoina Power Systems www.hipowersystems.com



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