

HIPOWER 625KVA  
&  
MAGNUM 625KVA



HIPOWER®

# RENTAL DIESEL GENERATOR SET

MODEL

## HRVW-625 T4F



60Hz RENTAL/PRIME/STANDBY POWER

500kW/60Hz/Rental/1800RPM



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

VOLTAGE VAC	120/208V		139/240V		277/480V		347/600V**	
RATING	Prime	Standby	Prime	Standby	Prime	Standby	Prime	Standby
PHASE	3		3		3		3	
PF	0.8		0.8		0.8		0.8	
HZ	60		60		60		60	
KW	500	550	500	550	500	550	500	550
KVA	625	680	625	680	625	680	625	680
AMPS	1734	1887	1503	1636	752	818	602	654
SKVA@30% VOLTAGE DIP	2070		2070		2070		N/A	
MLCB (AMPS)	2000		2000		2000		600	

### Description

HIPOWER® rental generators are an efficient, reliable and versatile source of mobile electrical power. Designed to operate in the most extreme working conditions. All HIPOWER® Rental Generators combine an 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.

Powered by a radiator-cooled, industrial VOLVO PENTA Diesel engine, which meets current Environmental Protection Agency (EPA) TIER 4 Final 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 105 degree °C alternator winding temperature rise.

### HIPOWER® Features and Benefits

**VOLVO PENTA Diesel Engine:** Long-life, heavy-duty, 4-cycle, direct injection engine 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.

**Air Filter:** 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), with Class F insulation. Automatic voltage regulator (AVR) providing close voltage regulation and skVA starting capability for electric motor loads.

Certification: ISO 8528-5.

**Fuel Tank:** Environmentally friendly steel base welded sub-base fuel tank with internal filling system and 110% containment capability for any diesel fuel, coolant or engine oil spills. Easy access for maintenance activities.

**Enclosure:** Fully sound attenuated enclosure, fabricated in 11-gauge steel, powder coated with finish that exceeds 1400-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 retaining frames. It can be cleaned with high-pressure water and is oil and fire resistant. Vertical air discharge for quiet operation. Wide steel lockable access doors with rubber seals, easy access for maintenance and service activities, lift off stainless steel hinges, corrosion resistant hardware and fasteners.

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

**Voltage Change Over Board:** Two-position, manual change over board. 120/208 and 277/480V 3-phase.

**Controls:** Digital control panel with manual and automatic start and stop features. Many programmable automatic functions for local and remote controls with LED lights, tamper proof engine hour recorder. Load Connections: Covered distribution panel for easy access to cable power outlets, receptacles, lugs and Camlocks.

HIMOINSA POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

Tel: 913 495 5557 | Fax: 913 495 5575 [www.hipowersystems.com](http://www.hipowersystems.com)

Codes and Standards Compliances used where applicable



## APPLICATION DATA

### ENGINE SPECIFICATION

Manufacturer	VOLVO PENTA
Model	TWD 1672 GE
EPA certified	Tier 4 FINAL
Crankshaft speed	1,800 rpm
Type	Diesel, 4-stroke
Injection	Direct
Aspiration	Turbocharged
Number of Cylinders	6
Cylinder arrangement	In-line
Displacement CID (liters)	983.9 (16.12)
Bore and Stroke ins (mm)	5.67 x 6.5 (144 x 165)
Nominal power	796 HP
Cooling	Liquid
Governor	Electronic
Governor Regulation Class	ISO 8528 Part 1 Class G3
Frequency Regulation	Isochronous
Starting motor & alternator	12 volt
Compression ratio	16.8:1
Air cleaner type	Heavy duty - single cartridge
Exhaust gas flow cu. ft./minute (cu.m. /minute)	4025 (114)
Max. Exhaust temp at full load degrees °F (°C)	793 (423)
Max. permissible back pressure - ins H2O (kPA )	76 (19)

### COOLING SYSTEM

Engine cooling air flow - cu. ft./min (cu. m/min)	30,207 (912)
Alternator cooling flow - cu. ft./min (cu. m/min)	2100 (59)
Total cooling air flow (engine + alternator + combustion) - cu. ft./min (cu. m/min)	TBD
Total cooling capacity - US gallons (liters)	25.3 (96)
Max. Operating Temperature °F (°C)	113 (45)

### LUBRICATION SYSTEM

Oil pan capacity - US gallons (liters)	11.1 (42)
Oil pan capacity with filter - US gallons (liters)	12.7 (48)
Oil cooler	Liquid
Recommended lubricating oil grade	SAE 10W-40 conventional DH4 (refer to owners manual)
Oil consumption at full load	< 0.1 % of fuel consumption
Oil pressure – psi (kPA)	58 (399)

### ENGINE ELECTRICAL SYSTEM

Starting motor voltage	24 volt
Cold Cranking Amps - minimum	300 Amp X 2
Battery charging Alternator	N/A
Battery capacity	225 Amps X 2

#### HIMOinsa POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

Tel: 913 495 5557 | Fax: 913 495 5575 [www.hipowersystems.com](http://www.hipowersystems.com)

Codes and Standards Compliances used where applicable



# APPLICATION DATA

## FUEL SYSTEM

Recommended fuel	# 2 - ULSD
Fuel supply line, min. ID mm(in.)	9.5 (3/8")
Fuel return line, min. ID, mm (in.)	9.5 (3/8")
Max. lift, fuel pump, type, m (ft)	TBD
Fuel filter	Secondary 5 Microns @ 98% Efficiency
DEF Tank capacity - US Gal.	42.3

## FUEL and DEF COMSUMPTION

	FUEL (Prime Power Rating)	DEF (% of fuel consumption)
100% load – US gallons/hour (L/hr)	27.9 (105.6)	7.1 %
75% load - US gallons/hour (L/hr)	25 (94.6)	TBA
50% load - US gallons/hour (L/hr)	17.3 (65.4)	TBA
25% load - US gallons/hour (L/hr)	9.9 (37.4)	TBA

## ALTERNATOR SPECIFICATION

Manufacturer	STAMFORD
Model	HCI 534 E with PMG
Voltages	120/208V - 277/480
Alternator Type	Four pole, rotating field
Excitation System	Brushless. PMG-excited
Power factor	0.8 / 1.0
Number of leads	12 leads, reconnectable
Stator Pitch	2/3
Insulation	Class H
Windings – Temperature Rise	Class F (105/40° C)
Enclosure (IEC-34-S)	IP23
Bearing	Single, sealed
Coupling	Flexible disc
Amortisseur windings	Full
Voltage regulation – no load to full load with MX341 AVR	± 1%
TIF	<50
Radio Frequency Emissions compliance	Meets requirements of most industrial and commercial applications
Line harmonics	5% maximum

## STANDARD ACCESSORIES

• Air Filter Restriction Indicator	• Leak Proof Tray
• Leakage Detection Sensor	• MLCB Auxiliary Contacts
• Battery Switch	• Shunt Trip on MLCB
• Crankcase Ventilation Filter	• 2 Positions Voltage Change Over Board
• Oil/Coolant Drain Extention	• PMG Excitation on Alternator
• Distribution Panel 2000A	• Low Coolant Level Sensor

• Distribution power panel \*See image RH back-page - NEMA 3R/IP67 0.09" aluminum panel, black powder coated, weather proof rated; 2 x15A 125V NEMA 5-15P Shore line connector; 6 sets 400A single pin Camlocks rated 400A with snap covers; color coded Camlocks 3Ø - 5W black, red blue, white & green; pad lockable 1/4 turn door access with cable trap; auxilliary bus bars with mechanical lugs; 1 single barrel lug per phase; mechanical lugs up to 2 x 600MCM cable

## OPTIONAL ACCESSORIES

• Battery Blanket	• Low cooland level Sensor
• Hydronic heater (5 kw)	• Engineered Options available upon request
• 3-Way Fuel valve	• Control Panel Heater
• 6 Amp - 10 Amp battery charger, 12/24V, UL Listed	• Oil Pan Heater
• Water Jacket Heater	• Trailer

### HIMOINSA POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

Tel: 913 495 5557 | Fax: 913 495 5575 [www.hipowersystems.com](http://www.hipowersystems.com)

Codes and Standards Compliances used where applicable



## CONTROL SYSTEMS STANDARD FEATURES - Generator Digital Control Panel

HIPOWER® COMAP IntelliGen NT Control Panel: The IntelliGen NT digital control panel is back-lit with icon LCD text display, and is PC configurable. IntelliGen NT is a comprehensive controller for both single and multiple gen-sets operating in standby or parallel modes. Compact construction is optimized for these purposes and various modifications allow customers to select the optimum type for a particular application. A built-in synchronizer and digital isochronous load sharer allow a total integrated solution for gen-sets in standby, island parallel or mains parallel. Native cooperation of up to 32 gen-sets is a standard feature. IntelliGen NT supports many standard ECU types and is specially designed to easily integrate new ones.

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. Support of engines with ECU (J1939, Modbus and other proprietary interfaces); alarm codes displayed in text form.

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



### HIMOINSA POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

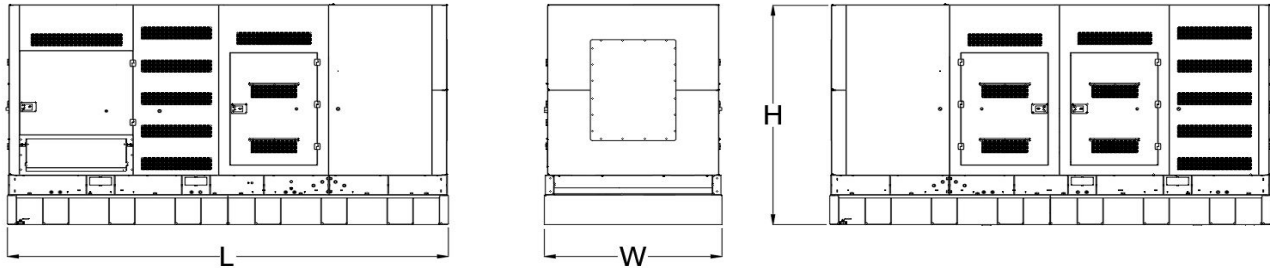
Tel: 913 495 5557 | Fax: 913 495 5575 [www.hipowersystems.com](http://www.hipowersystems.com)

Codes and Standards Compliances used where applicable



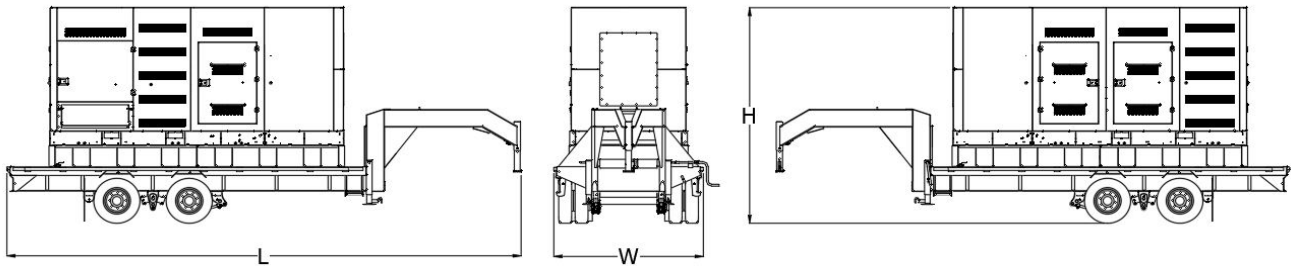
# DIMENSIONS, WEIGHTS & SOUND LEVELS

## ENCLOSED SET



CONFIGURATION	Fuel Tank Data (base option)		Generator Data *				
	Run Time Hours	Capacity (Gals)	L = Length	W = Width	H = Height	Weight lbs	dBA
Enclosed Set	19	600	200"	81"	112"	18700	72

## ENCLOSED SET WITH TRAILER



CONFIGURATION	Fuel Tank Data (base option)		Generator Data *				
	Run Time Hours	Capacity (Gals)	L = Length	W = Width	H = Height	Weight lbs	dBA
Enclosed Set with Trailer	19	600	315"	92"	140"	26900	72

\* All measurements are approximate and for estimation purposes only. Weights are without fuel tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

### ENGINE

- Volvo® TAD1642GE - turbocharged, diesel engine
  - Standby - 796 hp @ 1800 rpm
  - Prime – 724 hp @ 1800 rpm
  - 6 cylinder
  - 16.0 L displacement
  - Flex Tier 2 approved
- Steel, double wall fuel tank
  - 653 gal. (2472 L) capacity
  - 18 hr. run time – full load
  - Fuel tank built into skid of generator set
  - 120 % containment
- Fuel consumption at prime:
  - 100% - 32.8 gph (124 Lph)
  - 75% - 23.7 gph (90 Lph)
  - 50% - 16.3 gph (62 Lph)
- Fuel transfer pump with 3-way valve
- Cooling system capable of operating at 115°F (46°C) ambient
- Low coolant shutdown
- Radiator and oil drains plumbed to exterior
- Rubber vibration dampers isolate engine/generator from frame
- 2,500W In-line engine block heater
- Disposable air filter - paper element
- Air filter restriction indicator
- Variable speed clutch fan
- Electronic isochronous governing



### GENERATOR

- Marathon Electric® SUPERSTART™
  - Brushless
  - PMG Generator - critical grade power quality
  - 4 pole
  - Class H insulation
- Voltage regulation +/- 0.25% with Marathon DVR®2000E+ Voltage Regulator

### SYSTEM OUTPUT

- Dedicated 480V standard:
  - Three phase – 277 / 480V High Wye
  - 550 kW / 688 kVA – standby, three phase
  - 503 kW / 629 kVA – prime, three phase

### SYSTEM CONTROLS

- Power Zone® paralleling controller and display
  - Backlit, 800 x 480 pixel resolution color display
  - -40°F to 185°F (-40°C to 85°C) operating temperature range
  - Automatic coarse voltage adjustment
  - Integrated fine voltage adjustment
  - PLC functionality
- Push buttons for easy operation
  - Manual or Auto Start
  - Engine Start
  - Engine Stop/Reset
  - Alarm Mute
  - Operator Screens
    - Home
    - Engine
    - Generator
    - Voltage Adjust
  - Scrolling Arrows for Diagnostic Information
    - Engine diagnostic display
      - Oil pressure
      - Engine temperature
      - Fuel level
      - Battery
      - After treatment inlet/outlet temperature
      - Ash/soot levels
    - Generator diagnostic display
      - System kW output display
      - Line output & frequency display
    - Alarms
      - Warning
      - Shutdown
      - Electrical Trip
      - Engine
    - Alarm list – warnings / shutdowns; 250 event history log – date/time stamp
      - Fuel level: warning – 15%; shutdown – 5%
      - Over speed protection: shutdown – 115%
      - Oil pressure: warning – 27 psi; shutdown – 23 psi
      - Coolant temp: warning – 208°F (98°C); breaker trip – 214°F (101°C) Shut down - 217°F (103°C)
      - Battery voltage: over – 26.5VDC; under – 22VDC
      - Generator over voltage: warning – 110%; electrical trip – 111%
      - Generator under voltage: warning – 87%; electrical trip – 86%
      - Generator over frequency: warning – 105%; electrical trip – 110%
      - Generator under frequency: warning – 95%; electrical trip – 90%



**SYSTEM CONTROLS (continued)**

- Inputs/Outputs
- Auto Schedule
- Status
- Configuration of controller, firmware and connections
- Key load share features
  - Sequential set start
  - Manual voltage/frequency adjustment
  - R.O.C.O.F. and vector shift protection
  - Generator load demand
  - Automatic hours run balancing
  - Mains (Utility) de-coupling
  - Mains (Utility) de-coupling test mode
  - Dead bus sensing
  - Bus failure detection
  - Direct governor and AVR control
  - Volts and frequency matching
  - kW and kV Ar load sharing
  - Dead bus synchronizing

**ELECTRICAL CONTROLS**

- Remote start / stop contacts located next to lug box
- Lockable control box door with diagnostics window
- Lockable lug box with safety switch
  - Trips main breaker when lug door is opened
  - Disables voltage regulator
- Output ground connection lug inside lug box
- 1200/2000A motorized main breaker with shunt trip
- Camlocks
- Power distribution lighting
- Convenience receptacles with individual breakers
  - (2) 120V 20 Amp GFCI duplex outlets (NEMA 5-20R type)
  - (3) 120/ 240V 50 Amp, 3 pole, 4 wire Twistlock (Non-NEMA 6369)
  - Buck Transformer kit – Provides 120V at GFCI outlets when in 277/480V
- (2) 950 CCA wet cell batteries
  - Battery disconnect switch
  - 10A battery charger

### ENCLOSURE

- Aluminum, sound attenuated enclosure
  - UV & fade resistant, high temperature cured, white polyester powder paint
  - Insulated and baffled
  - Cabinet lighting
  - 83 dB(A) @ 23 ft. (7 m) – prime power
- Fully lockable enclosure including doors and fuel fill
- Stainless steel hinges on doors
- Emergency stop switch located on outside of enclosure
- Central lifting point
- Multi-lingual operating/safety decals
- Document holder with operating manual including AC/DC wiring diagrams

### TRAILER

- DOT approved tail, side, brake, and directional lights
  - Recessed rear lights
  - LED
- Transportation tie downs
- Safety chains with spring loaded safety hooks
- 3 in. (76.2 mm) lunette ring hitch
- (3) 8000 lb. (3629 kg) axles with electric brakes
- 12000 lb. (5443 kg) tongue jack with footplate
- ST215/75R17.5 tubeless tires – 16 ply
- Rear stabilizer jacks
- NATM compliant

### WEIGHT & DIMENSIONS

Skid mounted

- Dry weight: 13,990 lbs (6,345 kg)
- Operating weight: 18,750 lbs (8,505 kg)
- 212 x 75 x 110 in. (5.4 x 1.9 x 2.8 m)

Trailer mounted

- Dry weight: 17,240 lbs (7,820 kg)
- Operating weight: 22,000 lbs (9,979 kg)
- 264 x 102 x 129 in. (6.7 x 2.6 x 3.3 m)

### WARRANTY

1 Year/Unlimited hours; 2 Years / 2000 Hours\*

*\*Consult factory for details*

### CERTIFICATIONS

CSA Certified