

MODEL

HRFW-400 T4F



60Hz MOBILE/PRIME/STANDBY POWER

320kW/60Hz/Mobile/1800RPM



VOLTAGE VAC	120/240V		120/208V		120/240V		277/480V		347/600V**	
RATING	Prime	Standby	Prime	Standby	Prime	Standby	Prime	Standby	Prime	Standby
PHASE	1		3		3		3		3	
PF	1.0		0.8		0.8		0.8		0.8	
HZ	60		60		60		60		60	
KW	210		320	352	320	352	320	352	N/A	N/A
KVA	210		400	440	400	440	400	440	N/A	N/A
AMPS	875		1110	1221	1110	1221	481	529	N/A	N/A
SKVA@30% VOLTAGE DIP	675		1000		1000		1375		N/A	

Description

HIPOWER® mobile generators are an efficient, reliable and versatile source of mobile electrical power. Designed to operate in the most extreme working conditions. All HIPOWER® Mobile 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 FPT 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 °C alternator winding temperature rise.

HIPOWER® Features and Benefits

FPT 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, 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: CSA, ISO 8528-5.

HIPOWER® Features and Benefits

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 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 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.

Exhaust: Low noise, steel residential-type exhaust silencer with rain cap.

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

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.

APPLICATION DATA

ENGINE SPECIFICATION

Manufacturer	FPT
Model	C13ENTZW69
EPA certified	TIER 4F
Crankshaft speed	1,800 rpm
Type	Diesel, 4-stroke
Injection	Direct - Electronic common rail
Aspiration	Turbocharged
Number of Cylinders	6
Cylinder arrangement	In-line
Displacement CID (liters)	787 (12.9)
Bore and Stroke ins (mm)	5.3 x 5.9 (135 x 150)
Nominal power	477 HP
Cooling	Liquid
Governor	Electronic
Governor Regulation Class	ISO 8528 Part 1 Class G3
Frequency Regulation	Isochronous
Starting motor & alternator	24 volt
Compression ratio	16.5:1
Air cleaner type	Heavy Duty - Single Cartridge
Exhaust gas flow cu. ft./minute (cu.m. /minute)	1448 (41)
Max. Exhaust temp at full load degrees °F (°C)	932 (500)
Max. permissible back pressure - ins H2O (kPA)	80.4 (20)

COOLING SYSTEM

Engine cooling air flow - cu. ft./min (cu. m/min)	16,315 (462)
Alternator cooling flow - cu. ft./min (cu. m/min)	2,098 (59.4)
Total cooling air flow (engine + alternator + combustion) - cu. ft./min (cu. m/min)	19,140 (542)
Total cooling capacity - US gallons (liters)	11(41.5)
Max. Operating Temperature °F (°C)	113 (45)

LUBRICATION SYSTEM

Oil pan capacity - US gallons (liters)	7.4 (28)
Oil pan capacity with filter - US gallons (liters)	8.5 (32)
Oil cooler	Liquid
Recommended lubricating oil grade	SAE 10W-40 API SE/CC (refer to owners manual)
Oil consumption at full load	0.25% of fuel consumption
Oil pressure – psi (kPA)	87 (600)

ENGINE ELECTRICAL SYSTEM

Starting motor voltage	24 volt
Cold Cranking Amps - minimum	1300 Amp
Battery charging Alternator	55 Amp
Battery capacity	650 Amp X 2

HIMOinsa POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

Tel: 913 495 5557 | Fax: 913 495 5575 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.)	9.525 (0.375)
Fuel return line,min. ID, mm (in.)	9.525 (0.375)
Max. lift, fuel pump, type, m (ft)	TBD
Fuel filter	Cartridge with replacement filter element

FUEL and DEF COMPSUMTION	FUEL (Prime Power Rating)	DEF (% of fuel consumption)
100% load – US gallons/hour (L/hr)	23.1 (87.4)	10.4 %
75% load - US gallons/hour (L/hr)	17.4 (65.9)	
50% load - US gallons/hour (L/hr)	13 (49.2)	
25% load - US gallons/hour (L/hr)	7.2 (27.3)	

ALTERNATOR SPECIFICATION

Manufacturer	STAMFORD
Model	S4L1D-F
Voltages	120/208v.; 277/480v.; 120/240V
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	• Buck Transformer for Auxiliary 120VAC Outlets
• Leakage Detection Sensor	• Coolant heater
• Battery Switch	• Shunt Trip on MLCB
• Crankcase Ventilation Filter	• 3 Position Voltage Selector Switch
• Oil/Coolant Drain Extension	• PMG Excitation on Alternator
• Distribution Panel 1200A	• Leakage Detector Sensor
• MLCB Auxiliary Contacts	• Leak Proof Tray
• Extended Maintenance Interval up to 500 Hrs.	• 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; individual Square-D QOOU branch breakers; 2 x 20A 125V NEMA5-20 GFCI duplex receptacles; 3 x 50A 125/250V CS6369 twist-lock receptacles & Lexan covers; 2 x15A 125V NEMA 5-15P Shore line connector; 3 sets 400A single pin Camlocks rated 400A with snap covers; color coded Camlocks 3Ph - 5W black, red blue, white & green; pad lockable 1/4 turn door access with cable trap; auxiliary bus bars with mechanical lugs; 1 single barrel lug per phase; mechanical lugs up to 2 x 600MCM cable

OPTIONAL ACCESSORIES

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

HIMOINSA POWER SYSTEMS, INC.

16600 South Theden Street, Olathe, KS 66062

Tel: 913 495 5557 | Fax: 913 495 5575 www.hipowersystems.com

Codes and Standards Compliances used where applicable



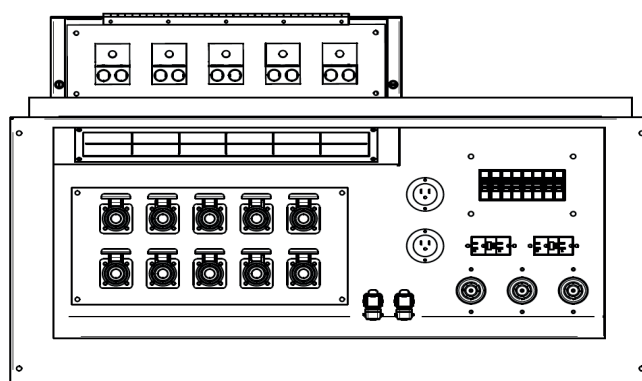
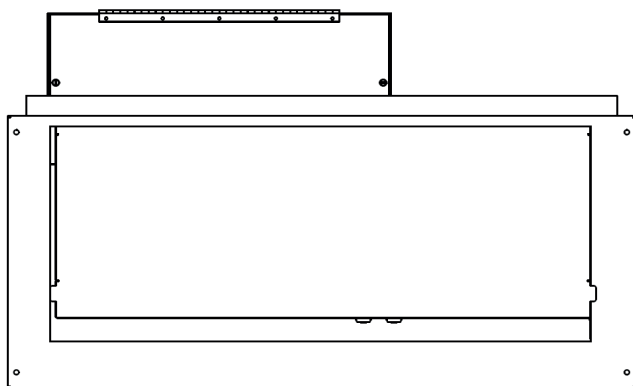
CONTROL SYSTEMS STANDARD FEATURES - Generator Digital Control Panel

HIPOWER® COMAP IG500 Control Panel: The IntelliGen 500 digital control panel is back-lit with icon LCD text display, and is PC configurable. IntelliGen 500 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 500 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

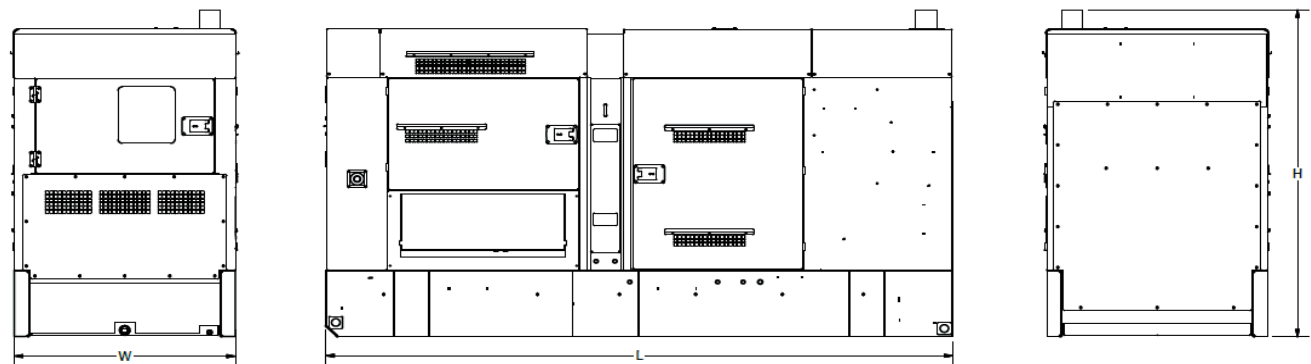
Tel: 913 495 5557 | Fax: 913 495 5575 www.hipowersystems.com

Codes and Standards Compliances used where applicable



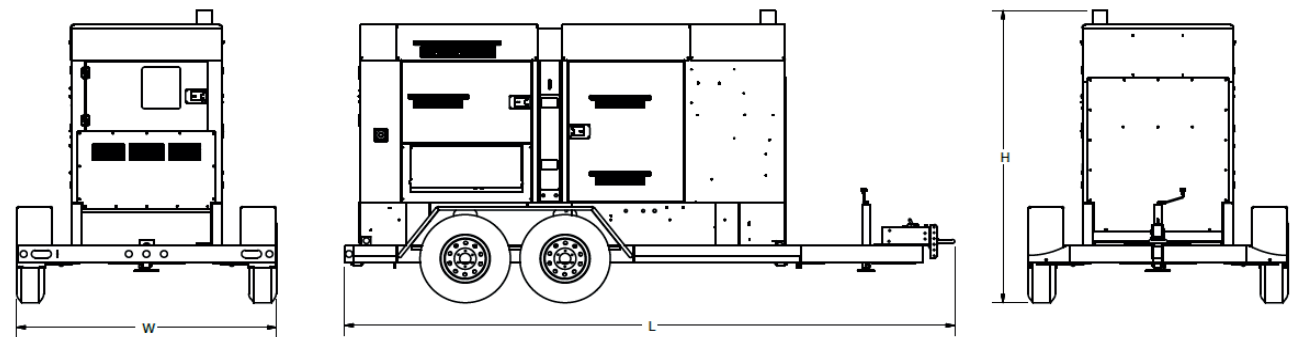
DIMENSIONS, WEIGHTS & SOUND LEVELS

ENCLOSED SET



CONFIGURATION	Fuel Tank Data (base option)			Generator Data *				
	Run Time Hours	Capacity (Gals) DEF	Capacity (Gals) DIESEL	L = Length	W = Width	H = Height	Weight lbs	dBA
Enclosed Set	20	35.4	449	178"	64"	99"	15000	79

ENCLOSED SET WITH TRAILER



CONFIGURATION	Fuel Tank Data (base option)			Generator Data *				
	Run Time Hours	Capacity (Gals) DEF	Capacity (Gals) DIESEL	L = Length	W = Width	H = Height	Weight lbs	dBA
Enclosed Set with Trailer	20	35.4	449	264"	102"	129"	17000	79

* 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.

REV 1