

### 60Hz POWER RATINGS

Voltage AC	Phase	PF	Standby		Prime <sup>1</sup>	
			kW	A	kW	A
120/240	1	1	14	58	13	53
120/208	3	0.8	14	49	13	44
277/480	3	0.8	14	21	13	19

<sup>1</sup> Prime power rating is reference only. Actual power may vary depending on fuel gas quality and operating condition like altitude and ambient temperature

## Overview of the SIMMAX series of Industrial Generator Sets

Simson-Maxwell generators are factory-built in facilities that utilize the latest technology, mechanical and electrical component assembly, production, and testing. Each model is the result of computer-aided design and modeling backed up by exhaustive prototype-testing. Our development technology results in a unique range of innovative designs for highly reliable generator sets backed-up by a comprehensive warranty covering all components.

## Standard Configuration of Industrial Sets

- Long-life, heavy-duty, 4-cycle, Natural Gas (NG) engines from a world-renowned manufacturer for economy of operation and maximum reliability and durability. Capable of step load and rated load acceptance as per engine manufacturer's specification.
- Cooling: Radiator with belt driven pusher fan or motor driven remote radiator.
- Filtration: Light duty replaceable element air-cleaner.
- Alternator: Single bearing, 4-pole, rotating field, self-excited, self-ventilated, 12-wire re-connectable (6-wire dedicated for 600V), 60Hz brushless alternator with Class H insulation. Automatic voltage regulator (AVR) providing close voltage regulation.
- Arrangement: Open skid with engine and alternator units close coupled together and with seismic anti-vibration isolators mounted between the assembly and a heavy-duty steel base. Lifting lugs are provided as per application.
- Auto Start Control Panel: Digital auto-start microprocessor based control panel with remote start capability.
- Starting System: Electric starter motor, battery cables and belt driven charging alternator.
- CSA certified and meets CSA C282 requirements.

### ENGINE SPECIFICATION

Manufacturer	Ford
Model	TSG415
Crank shaft speed: rpm	1800
Fuel type	Natural Gas
Aspiration	Natural
Number of cylinder	4
Cylinder arrangement	Inline
Displacement: L	1.5
Bore: mm	79
Stroke: mm	76.4
Engine standby power: kW	14
Engine prime power: kW	12.6
Cooling	Water cooled
Governor	Electronic
Starting motor voltage	12V DC
Compression ration	11.0:1
Air cleaner type	Replaceable element type

### EXHAUST SYSTEM

Maximum engine exhaust temperature: °F (°C)	1097.6 ( 592 )
Exhaust gas flow: CFM (m3/hr)	102.0 ( 173.3 )
Max. permissible back pressure: PSI (kPa)	2.948 ( 20.4 )

### COOLING SYSTEM<sup>1 2</sup>

Radiator cooling air flow: CFM (m3/hr)	1491 ( 2534 )	@Max 40°C ambient temperature
Max. restriction of cooling air: in.w.g. (kPa)	1.148 ( 0.3 )	
Engine combustion air flow: CFM (m3/hr)	33.4 ( 57 )	
Total intake air requirement: CFM (m3/hr)	1524.4 ( 2590 )	
Coolant capacity: Litre	5.25	

### HEAT BALANCE

Heat at rejection to coolant: kW	15.0
Heat at rejection radiation from engine: kW	4.2
Heat at rejection to engine exhaust: kW	8.3

### LUBRICATION SYSTEM

Oil pan capacity: Litre	3.1
Oil pan capacity with filter: Litre	3.8
Oil cooler	None
Recommended lubricating oil grade	GF-4, SAE 5W-20
Oil consumption at full load: Litre/hr	-
Oil pressure: PSI (kPa)	1.5 ( 10 )

<sup>1</sup> SIMMAX recommends to limit the enclosure air intake velocity to 650ft/minute, and the discharge air velocity to 750 ft/min.

<sup>2</sup> SIMMAX offers options of Air Fuel Ratio Controller and Catalytic converter to ensure engines are emission compliant.

# SIMMAX



**POWER  
GENERATION**

## NATURAL GAS PRODUCT LINE

**SGFW14 T6**

120/240/208/480/600 Volts  
60 Hz/1800 RPM | Standby/Prime

### ENGINE ELECTRICAL SYSTEM

Starting motor voltage	12V DC
Battery capacity	4D, 12V, 1000A
Cranking Amps minimum	750

### FUEL SYSTEM

Recommended fuel	Natural Gas Fumigation 38.7 MJ/m <sup>3</sup> (UK) 39.0 MJ/m <sup>3</sup> (USA)
Fuel supply line, min. ID: mm	25.0
Fuel supply line max. pressure: kPa	3.4838
Fuel supply line min. pressure: kPa	2.7

### FUEL CONSUMPTION

	Standby Power		Prime Power
100% Load Standby: BTU/hr	156427.0	100% Load Prime: BTU/hr	132964.0
75% Load Standby: BTU/hr	129936.1	75% Load Prime: BTU/hr	110446.0
50% Load Standby: BTU/hr	94824.0	50% Load Prime: BTU/hr	80601.0
25% Load Standby: BTU/hr	65389.0	25% Load Prime: BTU/hr	55581.0

### ALTERNATOR SPECIFICATION

Alternator manufacturer	STAMFORD
Alternator model	PI144
Voltage	120V - 480V
Alternator type	Four pole, Rotating field
Excitation system	Brushless, Self excited (EBS option available)
Power factor	0.8
Number of leads	12 leads reconnectable (120V-480V)
Stator pitch	2/3
Insulation	Class H
Windings - temperature rise / Ambient °C	125 / 40
Enclosure rating	IP23
Bearing	Single, Sealed
Amortisseur windings	Full
Voltage regulation	± 1%
TIF	<50
Line harmonics	5% MAXIMUM
Alternator cooling air flow: CFM (m <sup>3</sup> /hr)	251 ( 427 )

### STANDARD FEATURES

• Radiator with pusher fan	• Vibration isolators
• Replaceable element type	• All rotating components protected with metal guards
• Light-duty engine start batteries with cables	• Operation and maintenance manual
• Emergency stop switch	• CSA certified
• Control Panel (See next page for details)	• Steel base for mounting

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## NATURAL GAS PRODUCT LINE

### SGFW14 T6

120/240/208/480/600 Volts  
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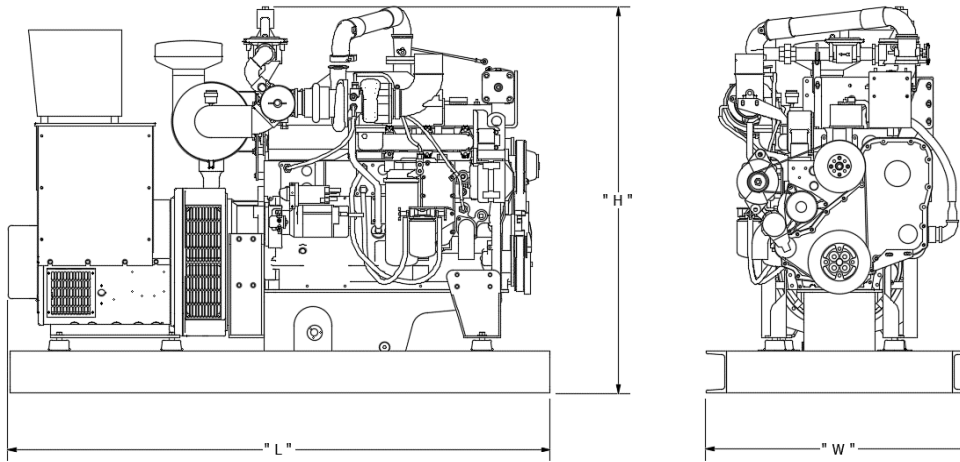
## Control Systems Standard Features - Generator Digital Control Panel

### Standard Configuration of Control Systems

- IntelliLite MRS 16 Controller
- Numerous control systems available, depending on customer requirements
- Automatic or manual start/stop
- Pre-lube function with timers
- Adjustable crank attempts
- Engine warm up/cooling functions
- Digital metering with alarms and shutdowns
- LCD display
- LED indicators
- In-built PLC function
- RS232 (optional RS485 or CAN) communication
- Data logging up to 350 events
- Password protection
- Option available for IntelliGen-NT controller, expansion modules for additional IOs and communication.



## Key dimensions and Weights <sup>1</sup>



### GENERATOR DATA <sup>2</sup>

L = LENGTH - inch (mm)	W = WIDTH - inch (mm)	H = HEIGHT - inch (mm)	DRY WEIGHT - lbs (kg)
50 ( 1270 )	25 ( 635 )	35 ( 889 )	1097.0 ( 497.6 )

<sup>1</sup>Images are reference only.

<sup>2</sup>All measurements are approximate and for estimation purposes only. Any deviation can change dimensions. Materials and specifications subject to change without notice.



Simson Maxwell

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