

## BASIC ENGINEATOR SPECIFICATIONS

**AIR CLEANER** – Two stage, dry element type with rain shield and service indicator.

**BASE** – Engine, generator and optional cooling components are mounted on heavy, structural steel base suitable for lifting.

**BREATHER** – Crankcase, closed.

**CAMSHAFT** – Forged alloy steel, quiet helical gear drive.

**CONNECTING RODS** – Forged alloy steel. Angle split.

**COOLING SYSTEM** – Choice of mounted radiator with pusher fan, core guard and duct adaptor, heat exchanger with shipped loose expansion tank or connections for remote radiator cooling.

**CRANKCASE** – Integral alloy cast iron crankcase and cylinder frame with nodular iron main bearing caps.

**CRANKSHAFT** – Forged alloy steel with precision ground and induction hardened main and crankpin journals, statically and dynamically balanced. Viscous vibration damper.

**CYLINDERS** – Replaceable wet cylinder liners of centrifugally cast alloy iron.

**EXHAUST SYSTEM** – Water cooled exhaust manifold. Single vertical exhaust connection with ANSI 125# outlet flange.

**FUEL SYSTEM** – Natural gas carburetor, gas pressure regulator, 24V DC gas solenoid valve (shipped loose). Pressure required: 5 – 15 psig.

**GENERATOR** – Open, drip-proof, direct connected, synchronous, fan cooled, AC revolving field type, 2/3 pitch, single bearing generator with PMG brushless exciter for 300% short circuit sustain (250% for 50 Hz) and motor starting. TIF and Deviation Factor within NEMA MG-1.32. Voltage: 480/277, 3 phase, 12 wire Wye, 60 Hz, and 380/220 12 wire Wye, 50 Hz. Temperature rise within NEMA 105° C for continuous duty, within NEMA 130° C for standby duty. Voltage regulation is ± 0.5%. All generators are rated at 0.8 power factor, are mounted on the engine flywheel housing, and have multiple steel disc flexible coupling drive. All continuous power gensets have 10% overload capability.

**GOVERNOR** – Woodward 1724 Electrically powered governor (EPG) control system. Includes mounted actuator and magnetic pickup, and control box. 24V DC operation.

**IGNITION SYSTEM** – Altronic V, solid state low tension magneto, with ground switch, coils, cables and spark plugs. Non shielded.

**INSTRUMENT PANEL** – Engine mounted, includes water temperature, oil pressure gauges.

**JUNCTION BOXES** – Separate AC & DC junction boxes for engine wiring and external connections.

**LUBRICATION SYSTEM** – Gear type pump, full pressure system. Adjustable relief valve and full flow depth type heavy duty centrifugal oil filter. Engine mounted plate type oil cooler. Industrial type oil pan of cast aluminum alloy.

**PAINT** – Oilfield orange.

**PISTONS** – Aluminum alloy, with cast iron top ring insert. Oil cooled. Top ring is chrome plated keystone type. 10:1 Compression ratio.

**ENGINE PROTECTION SHUTDOWN CONTACTS** – High water temperature, low oil pressure, and overspeed.

**STARTING SYSTEM** – 24V DC starting motor. Crank termination switch (shipped loose).

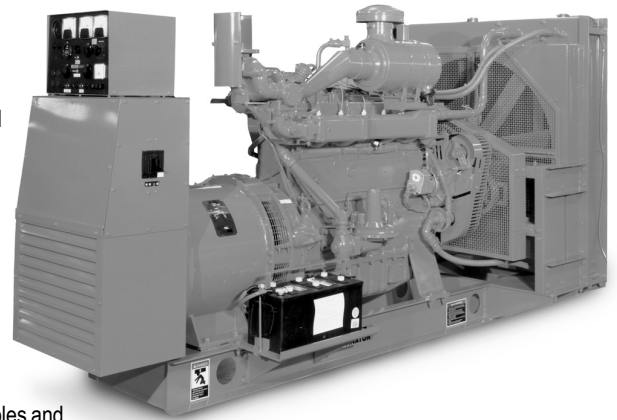
**VOLTAGE REGULATOR** – Automatic type.

### WATER CIRCULATING SYSTEM

**Jacket Water Circuit** – 180° – 190° F (82° – 88° C) thermostatic temperature regulation. Belt-driven pump for jacket water and oil cooler.

# VSG11G

## VSG Series Gas Engineator® Generating System 65 - 100 kW



Engineator shown with options.

**Model VSG11G**  
 Naturally Aspirated Gas Fueled Engineator

## SPECIFICATIONS

<b>Waukesha Engine</b> F11G Gas Engine	<b>Jacket Water Capacity</b> 7.1 gal. (27 L)
<b>Cylinders</b> Inline 6	<b>Starting System</b> 24V DC Electric
<b>Piston Displacement</b> 673 cu. in. (11 L)	<b>Fuel LHV</b> 900 Btu/ft <sup>3</sup> (33.5 J/cm <sup>3</sup> )
<b>Bore &amp; Stroke</b> 5.0" x 5.71" (127 x 145 mm)	<b>Lube Oil Capacity</b> 6.1 gal. (23 L)
<b>Compression Ratio</b> 10:1	

## PERFORMANCE DATA: VSG11G GAS ENGINATOR® GENERATING SYSTEM

HEAT EXCHANGER COOLING	PRIME POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
<b>kW RATING</b>	<b>90</b>	<b>75</b>	<b>100</b>	<b>80</b>
Fuel Consumption x 1000 Btu/h (kW)	1131 (331)	926 (271)	1223 (358)	1002 (294)
Jacket Water x 1000 Btu/h (kW)	382 (112)	328 (96)	405 (119)	348 (102)
Lube Oil x 1000 Btu/h (kW)	42 (12)	34 (10)	44 (13)	36 (11)
Heat Radiated x 1000 Btu/h (kW)	82 (24)	69 (20)	80 (23)	80 (23)
Exhaust Heat** x 1000 Btu/h (kW)	318 (93)	239 (70)	353 (103)	265 (78)
Exhaust Flow lb/h (kg/h)	935 (424)	765 (347)	1010 (458)	830 (376)
Exhaust Temperature °F (°C)	1049 (565)	970 (521)	1069 (576)	991 (533)
Induction Air Flow scfm (m³/min)	205 (6)	170 (5)	220 (6)	180 (5)

WATER CONNECTION COOLING	PRIME POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
<b>kW RATING</b>	<b>90</b>	<b>75</b>	<b>100</b>	<b>80</b>
Fuel Consumption x 1000 Btu/h (kW)	1131 (331)	926 (271)	1223 (358)	1002 (294)
Jacket Water x 1000 Btu/h (kW)	382 (112)	328 (96)	405 (119)	348 (102)
Lube Oil x 1000 Btu/h (kW)	42 (12)	34 (10)	44 (13)	36 (11)
Heat Radiated x 1000 Btu/h (kW)	82 (24)	69 (20)	80 (23)	80 (23)
Exhaust Heat** x 1000 Btu/h (kW)	318 (93)	239 (70)	353 (103)	265 (78)
Exhaust Flow lb/h (kg/h)	935 (424)	765 (347)	1010 (458)	830 (376)
Exhaust Temperature °F (°C)	1049 (565)	970 (521)	1069 (576)	991 (533)
Induction Air Flow scfm (m³/min)	205 (6)	170 (5)	220 (6)	180 (5)

RADIATOR COOLING - MOUNTED	PRIME POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
<b>kW RATING</b>	<b>80</b>	<b>65</b>	<b>90</b>	<b>75</b>
Fuel Consumption x 1000 Btu/h (kW)	1131 (331)	926 (271)	1223 (358)	1002 (294)
Jacket Water x 1000 Btu/h (kW)	382 (112)	328 (96)	405 (119)	348 (102)
Lube Oil x 1000 Btu/h (kW)	42 (12)	34 (10)	44 (13)	36 (11)
Heat Radiated x 1000 Btu/h (kW)	74 (22)	77 (22)	72 (21)	70 (21)
Exhaust Heat** x 1000 Btu/h (kW)	318 (93)	239 (70)	353 (103)	265 (78)
Exhaust Flow lb/h (kg/h)	935 (424)	765 (347)	1010 (458)	830 (376)
Exhaust Temperature °F (°C)	1049 (565)	970 (521)	1069 (576)	991 (533)
Induction Air Flow scfm (m³/min)	205 (6)	170 (5)	220 (6)	180 (5)
Radiator Air Flow scfm (m³/min)	16000 (453)	13000 (368)	16000 (453)	13000 (368)

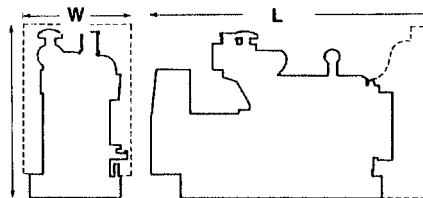
Typical heat balance data is shown. Consult factory for guaranteed data.

**\*Prime Power Rating:** The highest load and speed which can be applied 24 hours a day, seven days a week, 365 days per year except for normal maintenance. It is permissible to operate the engine at up to 10% overload for two hours in every 24 hour period.

**Standby Power Rating:** This rating applies to those systems used as a secondary source of electrical power. This rating is the electrical power output of the Enginator® (no overload) 24 hours a day, for the duration of the primary power source outage.

\*\*Heat rejection based on cooling exhaust gas to 85° F (29° C).

Cooling Equipment	L in (mm)	W in (mm)	H in (mm)	Avg. Wt. lb (kg)
Heat Exchanger	102 (2600)	38 (970)	60 (1530)	4700 (2140)
Water Cooler	94 (2390)	38 (970)	60 (1530)	4300 (1960)
Radiator	116 (2950)	56 (1430)	70 (1780)	5400 (2450)



Waukesha

### WAUKESHA POWER SYSTEMS

#### WAUKESHA ENGINE

#### DRESSER, INC.

1000 West St. Paul Avenue

Waukesha, WI 53188-4999

Phone: (262) 547-3311 Fax: (262) 549-2795

waukeshaengine.dresser.com

Bulletin 8069 0402

### WAUKESHA ENGINE

#### DRESSER INDUSTRIAL PRODUCTS, B.V.

Farmsumerweg 43, Postbus 330

9900 AH Appingedam, The Netherlands

Phone: (31) 596-652222 Fax: (31) 596-628111

Consult your local Waukesha Distributor for system

application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.