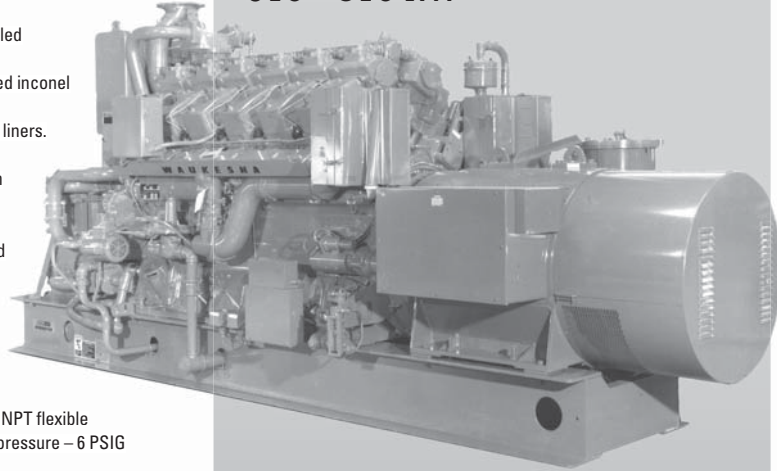


STANDARD EQUIPMENT

- AIR CLEANERS** – Dry type with rain shield and service indicators.
- BARRING DEVICE** – Manual.
- BEARINGS** – Heavy duty, replaceable, precision type.
- BREATHER** – Closed system.
- CONNECTING RODS** – Forged steel, rifle drilled.
- COOLING SYSTEM** – Choice of mounted radiator with pusher fan, core guard and duct adaptor, heat exchanger with expansion tank, or connection for remote radiator cooling. (One shutdown level switch for each circuit included on radiator and heat exchange units).
- CRANKCASE** – Integral crankcase and cylinder frame.
- CRANKSHAFT** – Counterweighted, forged steel, hardened journals, dynamically balanced, with sealed viscous vibration damper.
- CYLINDER HEADS** – Interchangeable valve-in-head type. Two hard faced intake and two hard faced inconel exhaust valves per cylinder. Hard faced intake and exhaust valve seat inserts.
- CYLINDERS** - VHP7100 Series, 9.375" (238 mm) bore x 8.5" (216 mm) stroke. Removable wet cylinder liners. Number of cylinders - Twelve.
- ENGINEATOR BASE** – Engine, generator and radiator or heat exchanger are mounted and aligned on a welded steel, wide flange base, designed for solid mounting on an inertia block, with standard base lifting eyes.
- ENGINE PROTECTION SHUTDOWN CONTACTS** – For high water temperature, low oil pressure, and overspeed (electronic speed switch – shipped loose). Two on/off pushbuttons are supplied, one on each side of the engine. Use all of the above in conjunction with a DC control panel for unit shutdown, (reference Engomatic® controls). Note: DC shutdown control panel is not supplied as standard.
- EXHAUST SYSTEM** - Water cooled exhaust manifold with single vertical exhaust at rear. Flexible stainless steel exhaust connection 8" (203 mm) long with 8" outlet flange.
- FUEL SYSTEM (G)** – Two natural gas 4" updraft carburetors, two Fisher S201 gas regulators, one 2" NPT flexible connection (shipped loose), and one 2" NPT Magnatrol gas solenoid valve (shipped loose). Fuel pressure – 6 PSIG minimum and 13 PSIG maximum.
- GENERATOR** - Open, dripproof, direct connected, fan cooled, 2/3 pitch, A.C. revolving field type, single bearing generator with brushless exciter, short circuit sustain (PMG type maintains 270% of rated generator current for up to 10 seconds on 105° C temperature rise generators; maintains 250% of current on 130° C rise generators) and damper windings. TIF and Deviation Factor within NEMA MG-1.32. Voltage 480/277, 3 phase, 4 wire, Wye 60 Hz and 400/230, 3 phase, 4 wire, Wye 50 Hz. Other voltages are available, consult factory. Insulation material NEMA Class F. Temperature rise within NEMA (105° C) for continuous power duty, within NEMA (130° C) for standby duty. All generators are rated at 0.8 Power Factor, are mounted on the engine flywheel housing and have multiple steel disc flexible coupling drive. Includes space heater, 115/230 V, 1 phase.
- GOVERNOR** – Woodward Model EG3P electric actuator (mounted), magnetic pickup (mounted) and a separate electric governor control, Woodward Model 2301D (shipped loose).
- IGNITION** – Waukesha Custom Engine Control® Ignition Module. Electronic digital ignition system.
- INSTRUMENT CONNECTIONS** – Type K thermocouples for jacket water temperature, and lube oil temperature wired to a common junction box. A single header block for lube oil pressure and intake manifold pressure is engine mounted. (Add Codes 6940A and 6940B if additional pressure points are required). Recommend optional Model 4000 remote engine instrument panel, especially for continuous power installations.
- JUNCTION BOXES** – Separate AC and DC junction boxes for engine wiring and external connections.
- LUBRICATION** – Full pressure, positive displacement pump. Full flow oil filter (shipped loose) and flexible connections. 50 or 60 Hz, 230 volt AC, single phase electric motor driven intermittent prelube pump with motor starter (other voltages can be specified). Note: External control logic required to start/stop prelube pump.
- OIL COOLER** – Shell and tube type (mounted).
- OIL PAN** – Cast alloy iron base type with removable doors.
- PAINT** – Oilfield Orange.
- PISTONS** – Aluminum with floating pin. Oil cooled. Naturally aspirated engines supplied with high compression ratio pistons.
- STARTING EQUIPMENT** – Two 24V DC electric starting motors, crank termination switch (shipped loose).
- VOLTAGE REGULATOR** (shipped loose) – SCR static automatic type providing 1% regulation from no load to full load, three phase sensing and automatic subsynchronous speed protection. Includes voltage adjustment rheostat (shipped loose).
- WATER CIRCULATING SYSTEM, AUXILIARY CIRCUIT** – For oil cooler and intercooler. Pump is belt driven from crankshaft pulley.
- WATER CIRCULATING SYSTEM, ENGINE JACKET** – Belt driven water pump, 175 – 180° F (79 – 82° C) thermostatic temperature regulation full flow bypass. Single ANSI flange connections for inlet and outlet on water connect units.

**VHP® Series Gas
Enginator® Generating
System**

610 - 810 kW



Enginator shown with options, less Extender Series features

Model VHP7100G

Naturally Aspirated
Gas Fueled Enginator

SPECIFICATIONS

Waukesha Engine L7042G, Four Cycle, Overhead Valve	Jacket Water Capacity 100 gal. (379 L)
Cylinders V 12	Starting System 24 V DC Electric
Piston	Fuel SLHV
Displacement 7040 cu. in. (115 L)	900 Btu/ft3 (35.3 MJ/m3)
Bore & Stroke 9.375" x 8.5" (238 x 216 mm)	Lube Oil Capacity 90 gal. (340 L)
Compression Ratio 10:1	



PERFORMANCE DATA: VHP7100G GAS ENGINEATOR® GENERATING SYSTEM

HEAT EXCHANGER COOLING OR WATER CONNECTION COOLING	CONTINUOUS POWER*		STANDBY POWER	
	1200 rpm 60 Hz	1000 rpm 50 Hz	1200 rpm 60 Hz	1000 rpm 50 Hz
kW RATING	725	635	810	710
Fuel Consumption x 1000 Btu/h (kW)	7541 (2210)	6475 (1897)	8330 (2441)	6904 (2023)
Jacket Water x 1000 Btu/h (kW)	2450 (718)	2110 (618)	2690 (788)	2243 (657)
Lube Oil x 1000 Btu/h (kW)	379 (111)	325 (95)	407 (119)	340 (100)
Heat Radiated x 1000 Btu/h (kW)	367 (108)	230 (67)	400 (117)	254 (74)
Exhaust Heat** x 1000 Btu/h (kW)	1871 (548)	1548 (454)	2068 (606)	1645 (482)
Exhaust Flow lb/h (kg/h)	7623 (3458)	6468 (1895)	8395 (3808)	6845 (3105)
Exhaust Temperature °F (°C)	1058 (570)	1033 (303)	1062 (572)	1037 (558)
Induction Air Flow scfm (m³/min)	1613 (46)	1368 (400)	1776 (50)	1452 (41)

RADIATOR COOLING - MOUNTED	CONTINUOUS POWER*		STANDBY POWER	
	1200 rpm 60 Hz	1000 rpm 50 Hz	1200 rpm 60 Hz	1000 rpm 50 Hz
kW RATING	700	610	785	685
Fuel Consumption x 1000 Btu/h (kW)	7541 (2210)	6475 (1897)	8330 (2441)	6904 (2023)
Jacket Water x 1000 Btu/h (kW)	2450 (718)	2110 (618)	2690 (788)	2243 (657)
Lube Oil x 1000 Btu/h (kW)	379 (111)	325 (95)	407 (119)	340 (100)
Heat Radiated x 1000 Btu/h (kW)	367 (108)	230 (67)	400 (117)	254 (74)
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Exhaust Temperature °F (°C)	1058 (570)	1033 (303)	1062 (572)	1037 (558)
Induction Air Flow scfm (m³/min)	1613 (46)	1368 (400)	1776 (50)	1452 (41)
Radiator Air Flow scfm (m³/min)	63000 (1784)	53000 (1501)	55000 (1558)	49000 (1388)

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

***Continuous Power Rating:** The highest electrical power output of the Engineator available for an unlimited number of hours per year, less maintenance. It is permissible to operate the Engineator® with up to 10% overload for two hours in each 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 Engineator (no overload) 24 hours a day, for the duration of the primary power source outage.

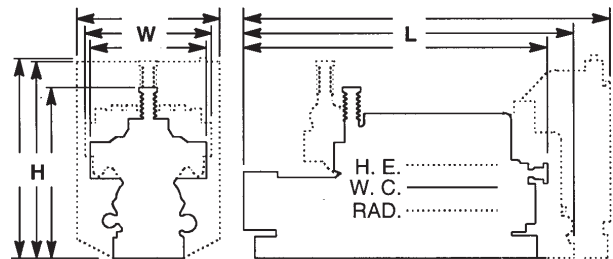
Rating Standard: The Waukesha Engineator power rating descriptions are in accordance to ISO 8528, DIN6271 and BS5514. It is also valid for ISO 3046/1-1986 with an engine mechanical efficiency of 90% and Tcra (clause 10.0) is limited to ± 10° F (5° C).

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

All natural gas engine ratings are based on a fuel of 900 Btu/ft³ (35.3 MJ/nm³) SLHV, with a 91 WKI®. For conditions or fuels other than standard, consult Dresser Waukesha Application Engineering Department.

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.

Cooling Equipment	L in (mm)	W in (mm)	H in (mm)	Avg. Wt. lb (kg)
Heat Exchanger	208 (5280)	80 (2030)	93 (2360)	32000 (14510)
Water Cooler	191 (4850)	80 (2030)	93 (2360)	31000 (14060)
Radiator	229 (5820)	84 (2130)	121 (3070)	34750 (15760)



Bulletin 8009 1008

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Waukesha

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