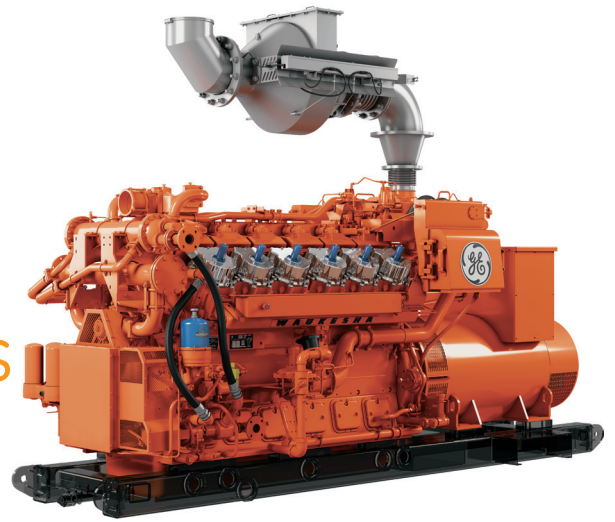


# Waukesha\* gas engines VHP\* Series Four\* Enginator\* generating system VHP5904GSI/GSID

with **emPact Emission Control System**

860 - 980 kW



Engine supplied with 3-way catalyst but without exhaust piping. Engine-out and catalyst-out exhaust piping shown for illustrative purposes only

GE's Waukesha VHP generator sets are built for efficiency, durability and longevity providing reliable power for continuous and intermittent power applications. Reliable 12 cylinder VHP generator sets, rated at 500-1100 kWe at 50 Hz (1000 rpm) continuous duty to 1200 kWe at 60 Hz (1200 rpm) intermittent duty, are ideal for remote sites.

Standard on the GSI configuration, Waukesha's emPact Emission Control System combines an engine, catalyst, and air/fuel ratio control, factory-designed for optimal interaction and maximum performance. It consists of a GE-supplied catalyst, pre- and post-catalyst oxygen sensing, and differential temperature and pressure sensors. emPact's closed-loop control system measures the engine

exhaust and automatically adjusts the air/fuel ratio to keep the catalyst operating at maximum efficiency, even as speed, load, fuel, and ambient conditions change.

The emPact display panel provides real-time engine operating parameters, including faults, alarms, and shutdowns. A logging function allows all data—including catalyst temperature and pressure differential—to be saved to a USB device to simplify emissions reporting.

Waukesha's emPact Emission Control System provides a one-stop shop for compliance and the simplest method of obtaining and meeting emission permits.

## technical data

Waukesha engine	L5794GSI, four cycle
Cylinders	V12
Piston displacement	5788 cu. in. (95 L)
Compression ratio	8.25:1
Bore & stroke	8.5" x 8.5" (216 mm x 216 mm)
Jacket water system capacity	107 gal. (405 L)
Lube oil capacity	190 gal. (719 L)
Starting system	24V electric

### Dimensions l x w x h inch (mm)

Heat exchanger	235 (5970) x 85 (2160) x 103 (2620)
Water connection	205 (5208) x 85 (2160) x 103 (2620)
Radiator	260 (6600) x 124 (3150) x 160 (4060)

### Weights lb (kg)

Heat exchanger	40000 (18140)
Water connection	38000 (17230)
Radiator	46,000 (20860)



imagination at work

# performance data

## Continuous Power

Intercooler Water Temperature 130°F (54°C)

		60 Hz 1200 RPM	50 Hz 1000 RPM
	Power kW (heat exchanger/water connection cooling)	980	900
	Power kW (radiator cooling)	940	860
	BSFC (LHV) Btu/bhp-hr (kJ/kWh)	7665 (10843)	7433 (10515)
	Fuel Consumption Btu/hr x 1000 (kW)	10578 (3100)	9403 (2754)
emPact Catalyst-Out Emissions (GSI only)	NOx g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	0.5 (185)	
	CO g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	1.0 (370)	
	NMHC g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	0.14 (58)	
	THC g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	1.26 (477)	
Engine-Out Emissions	NOx g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	13.50 (5011)	12.80 (4736)
	CO g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	10.20 (3770)	10.40 (3849)
	NMHC g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	0.28 (105)	0.29 (109)
	THC g/bhp-hr (mg/Nm <sup>3</sup> @ 5% O <sub>2</sub> )	1.80 (682)	2.00 (725)
Heat Balance	Heat to Jacket Water Btu/hr x 1000 (kW)	3037 (890)	2699 (791)
	Heat to Lube Oil Btu/hr x 1000 (kW)	470 (138)	391 (115)
	Heat to Intercooler Btu/hr x 1000 (kW)	132 (39)	95 (28)
	Heat to Radiation Btu/hr x 1000 (kW)	674 (198)	630 (185)
	Total Exhaust Heat Btu/hr x 1000 (kW)	2959 (867)	2568 (753)
Intake/Exhaust System	Induction Air Flow scfm (Nm <sup>3</sup> /hr)	2001 (3014)	1784 (2687)
	Exhaust Flow lb/hr (kg/hr)	8984 (4075)	8011 (3634)
	Exhaust Temperature °F (°C)	1136 (613)	1101 (594)
	Radiator Air Flow scfm (m <sup>3</sup> /min) (radiator cooling)	100000 (2832)	85000 (2407)

**Rating Standard:** The Waukesha Enginotor ratings are based on ISO 3046/1-1995 with an engine mechanical efficiency of 90% and auxiliary water temperature T<sub>cr</sub> as specified limited to ±10°F (±5°C). Ratings also valid for ISO 8528 and DIN 6271, BS 5514 standard atmospheric conditions.

**Continuous Power Rating:** The highest electrical power output of the Enginotor available for an unlimited number of hours per year, less maintenance. It is permissible to operate the Enginotor with up to 10% overload for two hours in each 24 hour period.

All data according to full load and subject to technical development and modification.

emPact catalyst-out emissions valid from 100% - 75% load and 1200 rpm to 900 rpm and assume proper engine/catalyst maintenance and manual adjustment as necessary

Consult your local GE Power & Water's representative 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.



GE Power & Water  
1101 West Saint Paul Ave.  
Waukesha, WI 53188-4999  
P: 1.262.547.3311  
F: 1.262.549.2759

Visit us online at:  
[www.ge-waukesha.com](http://www.ge-waukesha.com)

©2013 General Electric Company  
All Rights Reserved

0214 GEA-18921