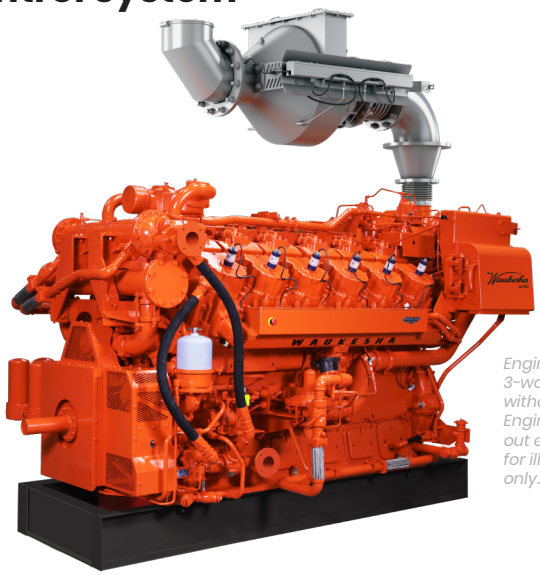
VHP Series Four L5794GSI

With ESM2 and emPact Emission Control System

920 - 1380 BHP (686 - 1029 kWb)



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

Technical Data

Cylinders	V12
Piston displacement	5788 cu. in. (95 L)
Compression ratio	8.25:1
Bore & stroke	8.5" x 8.5" (216 x 216 mm)
Jacket water system capacity	107 gal. (405 L)
Lube oil capacity	190 gal. (719 L)
Starting system	125 - 150 psi air/gas 24V electric

Dimensions l x w x h inch (mm)
147 (3734) x 85 (2159) x 97.83 (2485)

Weights lb (kg)
24,760 (11,230)

INNIO's Waukesha* VHP* Series Four* are the engines of choice for the harshest and most demanding gas compression, power generation and mechanical drive applications. The Series Four engines can reliably produce more power on hot field gases, at high altitudes, and in remote locations, all while delivering low emissions when paired with a 3-way catalyst (NSCR).

ESM*2 is the next-generation engine controller, adding functionality and benefits to the proven ESM platform.

The ESM2 customer interface is a 12" full-color touch screen display panel that allows users to see all engine parameters, trend data, view manuals, and walk through troubleshooting steps, eliminating the need for a laptop computer.

ESM2 directly reads exhaust and main bearing temperatures sensors and adds crankcase pressure, boost pressure, and an oil pressure permissive for starting the engine to the list of sensors available with the previous version of ESM.

Enhanced misfire detection can capture a single misfire event and an enhanced three-dimensional timing map allows for tighter engine control over the entire range of fuels.

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 afactory 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.

Performance Data

Intercooler Water Temperature 130°F (54°C)		1200 RPM	1000 RPM
	Power bhp (kWb)	1380 (1029)	1150 (858)
	BSFC (LHV) Btu/bhp-hr (kJ/kWh)	7665 (10846)	7496 (10602)
	Fuel Consumption Btu/hr x 1000 (kW)	10578 (3100)	8621 (2527)
emPact Catalyst-Out Emissions	NOx g/bhp-hr (mg/Nm³ @ 5% O_2)	0.5 (185)	
	CO g/bhp-hr (mg/Nm³ @ 5% O_2)	1.0 (370)	
	NMHC g/bhp-hr (mg/Nm³ @ 5% 0_2)	0.14 (58)	
	THC g/bhp-hr (mg/Nm³ @ 5% O_2)	1.26 (477)	
Engine-Out Emissions	NOx g/bhp-hr (mg/Nm³ @ 5% O_2)	13.50 (5011)	14.90 (5508)
	CO g/bhp-hr (mg/Nm³ @ 5% O_2)	10.50 (3770)	10.10 (3734)
	NMHC g/bhp-hr (mg/Nm³ @ 5% 0_2)	0.28 (105)	0.30 (110)
	THC g/bhp-hr (mg/Nm³ @ 5% O_2)	1.80 (682)	2.00 (733)
Heat Balance	Heat to Jacket Water Btu/hr x 1000 (kW)	3037 (890)	2512 (736)
	Heat to Lube Oil Btu/hr x 1000 (kW)	470 (138)	372 (109)
	Heat to Intercooler Btu/hr x 1000 (kW)	132 (39)	74 (22)
	Heat to Radiation Btu/hr x 1000 (kW)	674 (198)	605 (177)
	Total Exhaust Heat Btu/hr x 1000 (kW)	2959 (867)	2298 (674)
Intake/ Exhaust System	Induction Air Flow scfm (Nm³/hr)	2001 (3014)	1638 (2467)
	Exhaust Flow lb/hr (kg/hr)	8984 (4075)	7355 (3336)
	Exhaust Temperature °F (°C)	1136 (613)	1077 (581)

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 Waukesha 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.

INNIO* is a leading solutions provider of gas engines, power equipment, a digital platform and related services for power generation and gas compression at or near the point of use. With our Jenbacher* and Waukesha* product brands, INNIO pushes beyond the possible and looks boldly toward tomorrow. Our diverse portfolio of reliable, economical and sustainable industrial gas engines generates 200 kW to 10 MW of power for numerous industries globally. We can provide life cycle support to the more than 48,000 delivered gas engines worldwide. And, backed by our service network in more than 100 countries, INNIO connects with you locally for rapid response to your service needs. Headquartered in Jenbach, Austria, the business also has primary operations in Welland, Ontario, Canada, and Waukesha, Wisconsin, US.

Find your local support online:
www.innio.com/en/company/providers

IWK-119012-EN

*Indicates a trademark