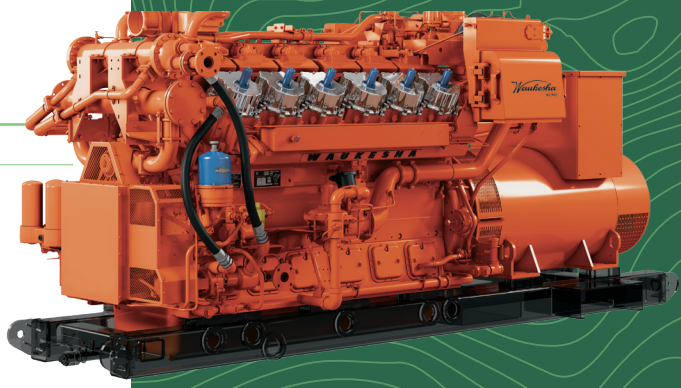
VHP® Series Four® VHP7100GSID S4

Enginator® Generating System

835 - 1,050 kW



Technical Data

Engine	L7042GSID, four cycle
Cylinders	V12
Piston displacement	7,040 cu. in. (115 L)
Compression ratio	8:1
Bore & stroke	9.375” x 8.5” (238 x 216)
Jacket water system capacity	100 gal. (379 L)
Lube oil capacity	190 gal. (719 L)
Starting system	24V each

Dimensions l x w x h inch (mm)

Heat exchanger
235 (5,970) x 85 (2,160) x 103 (2,620)
Water connection
205 (5,208) x 85 (2,160) x 103 (2,620)
Radiator
260 (6,600) x 124 (3,150) x 160 (4,060)

Weights lb (kg)

Heat exchanger	40,000 (18,140)
Water connection	38,000 (17,230)
Radiator	46,000 (20,860)

INNIO’s Waukesha® VHP® Series Four® VHP7100GSID provides a rich-burn solution for power generation applications with extremely low fuel pressure. Boosting the fuel pressure utilizing the turbocharger allows for inlet pressures down to 3.25 psig (0.22 bar).

Because of its rugged design and ability to maximize power on a wide range of poor quality fuels, the VHP7100GSID is an excellent choice for oil field power generation applications. It’s also the engine of choice for applications with large transient or fast-requirements due to its ability to reach synchronous speed and full load in less than 15 seconds from start signal with a ramp load. The VHP7100GSID can accommodate a 100% load step, or 2 50% load steps with 5 seconds of recovery time while keeping frequency and voltage variations with 10%. Lifecycle enhancements, such as engine-mounted lube oil cooler, spin-on oil filters for primary filtration and a centrifugal oil filter for secondary filter ensure operating costs are minimized without sacrificing reliability.

The ESM® engine controller integrates all systems into a single box, providing speed control, knock control, fault diagnostics, and spark timing. E-Help is a downloadable service program that provides step-by-step troubleshooting help.

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Performance Data

Intercooler Water Temperature 130°F (54°C)		Continuous Power 60 Hz 1200 RPM	Continuous Power 50 Hz 1000 RPM
	Power kW (heat exchanger/water connection cooling)	1,050	875
	Power kW (radiator cooling)	1,000	835
	BSFC (LHV) Btu/bhp-hr (kJ/kWh)	8,005 (11,325)	7,836 (11,086)
	Fuel Consumption Btu/hr x 1000 (kW)	11,847 (3,473)	9,662 (2,833)
Engine-Out Emissions	NOx g/bhp-hr (mg/Nm^3 @ 5% O_2)	14.10 (5,232)	13.7 (5,072)
	CO g/bhp-hr (mg/Nm^3 @ 5% O_2)	11.30 (4,173)	9.7 (3,582)
	NMHC g/bhp-hr (mg/Nm^3 @ 5% 0_2)	0.34 (126)	0.34 (127)
	THC g/bhp-hr (mg/Nm^3 @ 5% O_2)	2.30 (842)	2.3 (845)
Heat Balance	Heat to Jacket Water Btu/hr x 1000 (kW)	3,499 (1,026)	2,939 (862)
	Heat to Lube Oil Btu/hr x 1000 (kW)	548 (161)	445 (131)
	Heat to Intercooler Btu/hr x 1000 (kW)	148 (43)	98 (29)
	Heat to Radiation Btu/hr x 1000 (kW)	697 (204)	621 (182)
	Total Exhaust Heat Btu/hr x 1000 (kW)	3,406 (998)	2,607 (764)
Intake/Exhaust System	Induction Air Flow scfm (Nm^3/hr)	2,166 (3,262)	1,769 (2,664)
	Exhaust Flow lb/hr (kg/hr)	10,074 (4,570)	8,227 (3,732)
	Exhaust Temperature °F (°C)	1,156 (624)	1,093 (589)
	Radiator Air Flow scfm (m3/min) (radiator cooling)	100,000 (2,832)	85,000 (2,407)

Rating Standard: The Waukesha Enginator ratings are based on ISO 3046/1-1995 with an engine mechanical efficiency of 90% and auxiliary water temperature Tcra 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 Enginator available for an unlimited number of hours per year, less maintenance. It is permissable to operate the Enginator 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.

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.

Waukesha – an INNIO brand - INNIO's Waukesha engines are at the forefront of the energy transition, providing reliable and compliant energy solutions for distributed gas compression and power generation applications. The brand's rich and lean-burn engines, ranging from 335 hp to 5,000 hp, set an industry standard for low emissions, high reliability, and fuel flexibility.

Waukesha products are continuously upgraded to help operators stay emission-compliant without sacrificing operational excellence. These upgrades include new and remanufactured engines and parts, as well as conversion and modification kits, all of which are backed by OEM warranty and more than 115 years of engine expertise. Additionally, our Waukesha digital solutions include a collaborative solution with Detechtion Technologies for gas compression applications and INNIO's myPlant platform for power generation applications. Both solutions provide customers with enhanced monitoring and optimization capabilities, resulting in improved performance and reduced downtime.

We connect locally with our customers to enable a rapid response to their service needs, providing enhanced support through our broad network of distributors and solution providers with parts, services, and digital offerings.

Waukesha engines are engineered in Waukesha, Wisconsin, U.S., and manufactured in Welland, Ontario, Canada. To learn more about the company's products and services, please visit INNIO's website at **www.waukeshaengine.com** or follow Waukesha engines on **LinkedIn**.

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