

VHP Series Four L5794/L7044GSI-MOB

Multi-Fuel Mobile Power Generation

943/1,148 kWb (50 Hz @ 1,000 rpm)

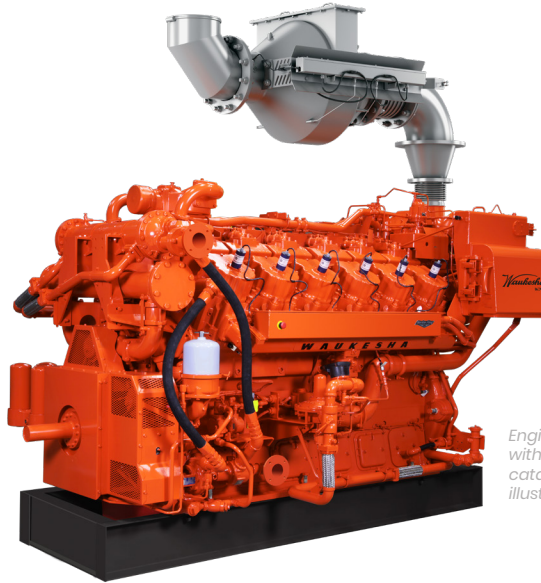
Technical Data

VHP* L7044GSI MOB

Cylinders	V12
Piston displacement	115 L (7,040 cu. in.)
Compression ratio	8:1
Bore & stroke	238 x 216 mm (9.375" x 8.5")
Jacket water system capacity	379 L (100 gal.)
Lube oil capacity	719 L (190 gal.)
Starting system	620 - 1034 kPa air/gas; optional 24V electric

VHP L5794GSI MOB

Cylinders	V12
Piston displacement	95 L (5,788 cu. in.)
Compression ratio	8.25:1
Bore & stroke	216 x 216 mm (8.5" x 8.5")
Jacket water system capacity	405 L (107 gal.)
Lube oil capacity	719 L (190 gal.)
Starting system	620 - 1034 kPa air/gas; optional 24V electric



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

With over 100 years of engine design, development and manufacturing experience, Waukesha* gas engines are redefining oil field power generation in drill rig applications with a non-road US EPA mobile certified solution that provides diesel-like performance, fuel flexibility to run on natural gas/field gas and low emissions output for excellent engine performance.

Operation – runs and provides power like a diesel without the cost of diesel fuel

Flexibility – reliable, proven fuel flexibility across a wide Btu range

Emissions – Capable of ultra-low emissions, below 185 mg/Nm³ NOx.

Mobility – Simple to package with a pony skid or tailboard skid for plug and play operation

Power – maintains consistent power output across changing field conditions

Standard Engine Features

1. Flywheel machined for generator coupling
2. Side inlet jacket water pump header
3. Jacket water outlet includes Dresser coupling
4. Auxiliary water thermostatic valve
5. Main bearing temperature sensors
6. Exhaust temperature sensors
7. Front stub shaft
8. Standard air/gas starter, optional electric starters
9. Three-way catalytic converter, includes housing, elements, flexible bellows; integrated catalyst silencer option
10. I/O box with display and MIL functionality
11. Single point fuel Inlet
12. 5 spin-on oil filters
13. Closed breather system

Engine Power Ratings At Site Conditions

L5794GSI using 91 WKI fuel, kWb

Ambient temperature °C	Elevation m							
	250	500	750	1000	1250	1500	1750	2000
25	943	943	943	943	943	935	918	904
30	943	943	943	943	943	935	918	904
38	943	943	943	943	943	935	918	904
40	940	940	940	940	940	934	918	904
50	923	923	923	923	923	923	918	904

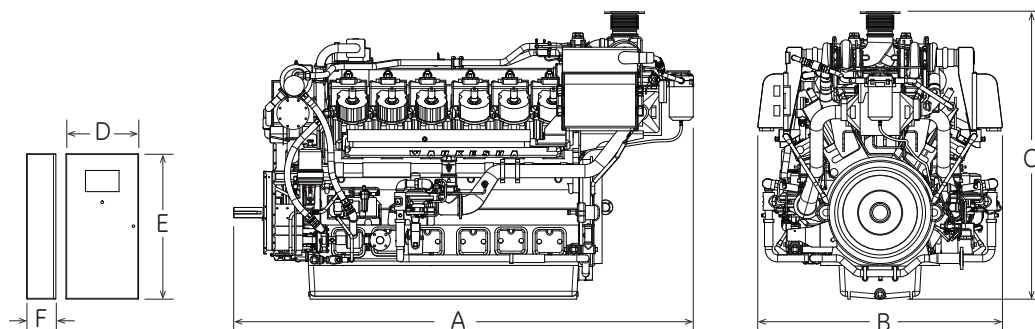
L7044GSI using 91 WKI fuel, kWb

Ambient temperature °C	Elevation m							
	250	500	750	1000	1250	1500	1750	2000
25	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148
30	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148
38	1,148	1,148	1,148	1,148	1,138	1,125	1,111	1,088
40	1,144	1,144	1,140	1,127	1,114	1,101	1,087	1,061
50	1,034	1,020	1,007	994	981	967	954	931

Fuel Standard: All natural gas engine ratings are based on 900 BTU/ft³ (35.38 MJ/m³) SLHV, 91 WKI minimum, commercial quality natural gas. Refer to S-7884-7 (latest version) for full gaseous fuel specifications.

Dimensions/Weight

model	A mm (in)	B mm (in)	C mm (in)	D mm (in)	E mm (in)	F mm (in)	weight kg (lb)
L5794GSI MOB	3,734 (147)	2,159 (85)	2,485 (97.83)	610 (24)	1,219 (48)	274 (10.80)	11,230 (24,760)
L7044GSI MOB	3,734 (147)	2,159 (85)	2,485 (97.83)	610 (24)	1,219 (48)	274 (10.80)	11,000 (24,250)



*I/O Panel shipped loose.

**Engine shipped on shipping skid

Three-Way Catalyst (TWC)

Newly designed, cost effective and durable three-way catalytic (TWC) converters are an integral part of our system for US EPA Mobile Certification, which eliminates the need for costly on site emissions testing.

Designed to reduce nitrogen oxides (NOx), carbon monoxide (CO) and hydrocarbons (HC's) by >95% on engines fueled with field gas, LNG, CNG and HD-5 propane. Count on our catalytic converters to deliver easy maintenance, and maximum performance. The TWC has been sized to work in conjunction with our air fuel ratio control to meet the most stringent emissions requirements cost effectively.

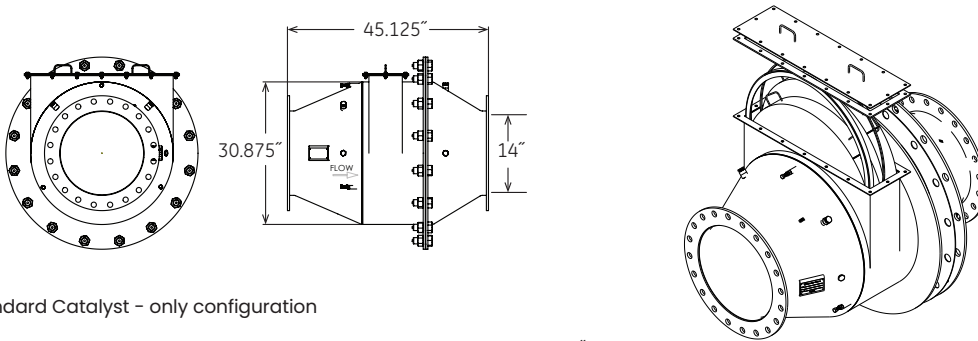
At the heart of the TWC converter is the catalyst element, which is manufactured using sufficient amounts of durable and highly dispersed Platinum Group Metals (PGM). Our metal monoliths supporting the PGM, are brazed, thin-walled stainless steel honeycomb, which are nearly impervious to damage from mechanical or thermal shock and metallurgic erosion.

Meeting your emissions requirements for NOx, CO and hydrocarbon (HC) emissions from mobile and stationary SI (spark ignited) engines is made easier with these new TWC converters. The TWC converters are formulated to achieve high

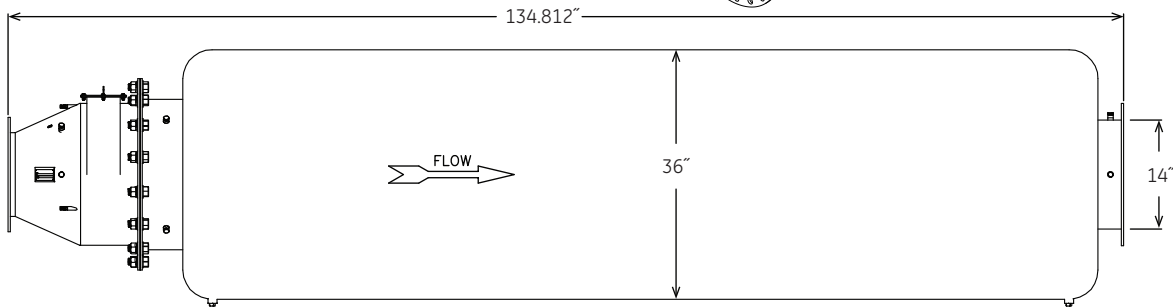
conversion of formaldehyde and CO as well as NOx. The unique design and construction of our catalyst element also reduces backpressure: This means fuel savings and longer catalyst life.

The TWC converter is a dual element design for the VHP L5794/L7044GSI-MOB engines. Its removable cover allows easy access for maintenance and catalyst element replacement.

As an option; Waukesha TWC converter-silencers are recommended for use where equipment must operate continuously in quiet locations—near hospitals, schools, stores, apartments, hotels and residential areas.



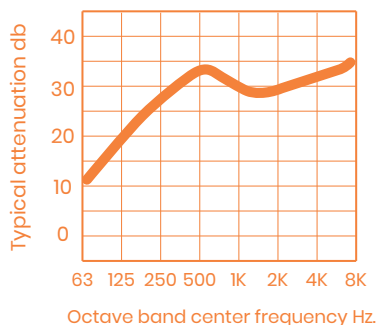
Standard Catalyst - only configuration



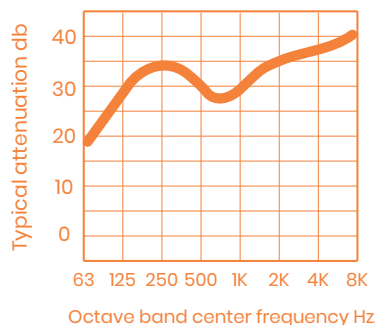
Optional integrated catalyst/silencer

Silencer Sound Attenuation

Critical grade silencer
25-30 dbA



Hospital grade silencer
30-35 dbA



Technical Features

Feature	Description	Advantages
Emissions	US EPA Mobile Certification	Mobile 365 days per year, our package simplifies emissions permitting & compliance
Fuel Flexibility	Dual fuel certified (NG & HD-5 propane)	950 - 1650 BTU HHV on field gas, and on HD-5 propane
Transient Response	Operates load steps like a diesel	Up to 65% load steps and 100% load shed, No load banks Rich burn technology enables low cost onsite power
Packageability	Available engine & genset configurations	<ul style="list-style-type: none"> Includes TWC, skid, and I/O box with display and MIL functionality Meets standard on-road dimensions and weight
Unparalleled Support		<ul style="list-style-type: none"> Providing unparalleled support for all North America Waukesha factory trained technicians service entire engine/ genset Providing a range of preventative maintenance programs

Performance Data

Intercooler Water Temperature 130°F (54°C)
for 1200 RPM/60 Hz Operation

		L5794GSI MOB	L7044GSI MOB
	Power kWb	943	1,148
	BSFC @ 100% Load (LHV) kJ/kWh (Btu/bhp-hr)	10,606 (7,500)	10,884 (7,693)
	Fuel Consumption @ 100% load kW (Btu/hr x 1000)	2,528 (8,625)	3,157 (10,770)
	Fuel Consumption @ 75% load kW (Btu/hr x 1000)	1,989 (6,787)	2,479 (8,458)
	Fuel Consumption @ 50% load kW (Btu/hr x 1000)	1,459 (4,978)	1,790 (6,106)
	Fuel Consumption @ 25% load kW (Btu/hr x 1000)	924 (3,153)	1,108 (3,781)
	Fuel Consumption @ 10% load kW (Btu/hr x 1000)	603 (2,057)	698 (2,381)
Emissions @ 100% Load	NOx mg/Nm ³ @ 5% O ₂ (g/bhp-hr)	185 (0.5)	185 (0.5)
	CO mg/Nm ³ @ 5% O ₂ (g/bhp-hr)	667 (1.8)	444 (1.2)
	NMHC mg/Nm ³ @ 5% O ₂ (g/bhp-hr)	56 (0.15)	74 (0.20)
	THC mg/Nm ³ @ 5% O ₂ (g/bhp-hr)	513 (1.39)	630 (1.70)
Heat Balance	Heat to Jacket Water kW (Btu/hr x 1000)	736 (2,511)	946 (3,227)
	Heat to Lube Oil kW (Btu/hr x 1000)	109 (371)	135 (462)
	Heat to Intercooler kW (Btu/hr x 1000)	22 (73)	36 (121)
	Heat to Radiation kW (Btu/hr x 1000)	177 (604)	188 (642)
	Total Exhaust Heat kW (Btu/hr x 1000)	674 (2,298)	868 (2,961)
Intake/ Exhaust System	Induction Air Flow Nm ³ /hr (scfm)	2,467 (1,638)	2,970 (1,972)
	Exhaust Flow kg/hr (scfm)	3,336 (7,355)	4,160 (9,171)
	Exhaust Temperature °C (°F)	581 (1,077)	600 (1,112)

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.

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.

This engine meets all the requirements of the US EPA off road mobile regulation 40 CFR Part 1048 for SI engines. The emission values expressed are for reference only.

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