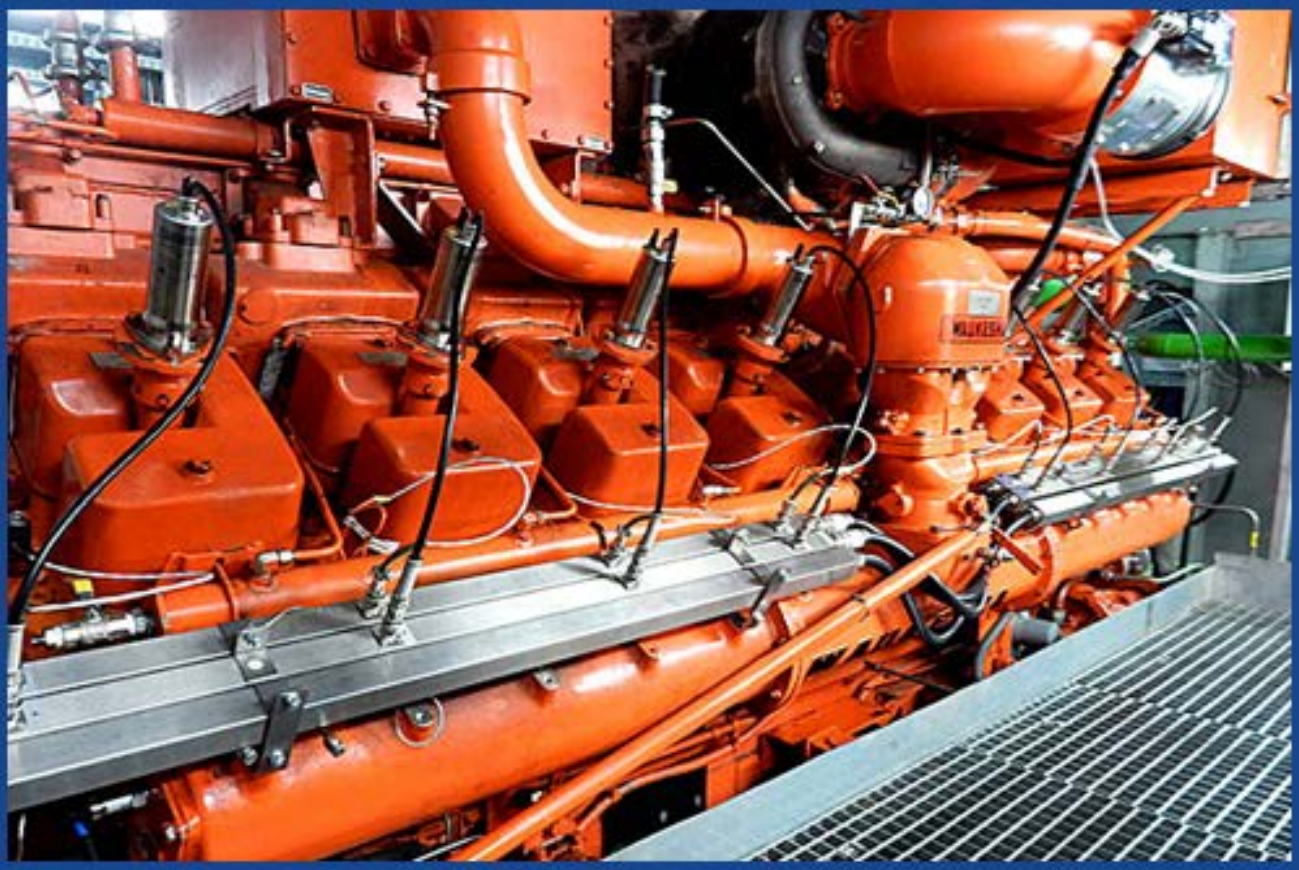


Power will shape our future.

Waukesha Power Ratings

Gas Compression & Mechanical Drives

Waukesha* Natural Gas Fueled Engines (Continuous Duty)

275GL*+				750 rpm		800 rpm		900 rpm		1000 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb
16V275GL+ with ESM2	17,398 in³ (285 L)	10.83 x 11.81" (275 x 300 mm)	9:1	3750	2796	4000	2983	4500	3356	5000	3729
12V275GL+ with ESM2	13,048 in³ (213.9 L)	10.83 x 11.81" (275 x 300 mm)	9:1	2812	2097	3000	2237	3375	2517	3750	2796
16V275GL+ with ESM2, Fuel Flex	17,398 in³ (285 L)	10.83 x 11.81" (275 x 300 mm)	8:1	3750	2796	4000	2983	4500	3356	5000	3729
12V275GL+ with ESM2, Fuel Flex	13,048 in³ (213.9 L)	10.83 x 11.81" (275 x 300 mm)	8:1	2812	2097	3000	2237	3375	2517	3750	2796

VHP*				800 rpm		900 rpm		1000 rpm		1200 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb
P9394GSI S5	9388 in³ (153.9 L)	9.375 x 8.5" (238 x 216 mm)	9.7:1	—	—	1875	1398	2083	1554	2500	1864
L7044GSI S5	7040 in³ (115.4 L)	9.375 x 8.5" (238 x 216 mm)	9.7:1	—	—	1425	1063	1583	1181	1900	1417
L7044GSI			8:1	1120[1]	835[1]	1260[1]	940[1]	1400[1]	1044[1]	1680[1]	1253[1]
L7042GSI S5			9.7:1	—	—	1125	839	1250	932	1500	1119
L7042GSI S4			8:1	987[1]	736[1]	1110[1]	828[1]	1233[1]	920[1]	1480[1]	1104[1]
L5794GSI	5788 in³ (94.9 L)	8.5 x 8.5" (216 x 216 mm)	8.2:1	920[1]	686[1]	1035[1]	772[1]	1150[1]	858[1]	1380[1]	1029[1]
L5794LT			10.2:1	614[5]	458[5]	1005[5]	749[5]	1208	901	1450	1081
L5774LT			10.2:1	614[5]	458[5]	934[5]	696[5]	1067	795	1280	954
F3524GSI	3520 in³ (57.7 L)	9.375 x 8.5" (238 x 216 mm)	8:1	560[1]	418[1]	630[1]	470[1]	700[1]	522[1]	840[1]	626[1]
F3514GSI			8:1	493[1]	368[1]	555[1]	414[1]	617[1]	460[1]	740[1]	552[1]

VGF*				1200 rpm		1400 rpm		1500 rpm		1600 rpm		1800 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb
P48GSI/GSID	2924 in³ (48 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	830	620	885	660	945	705	1065	800
P48GL/GLD			11:1	710[4]	530[4]	830[4]	620[4]	885[4]	660[4]	945[4]	705[4]	1065[4]	800[4]
P48GL			8.7:1	—	—	830	620	885	660	945	705	1065	800
P48GL/GLD			11:1	—	—	910[3]	680[3]	975[3]	730[3]	1040[3]	775[3]	1175[3]	880[3]
L36GSI/GSID	2193 in³ (36 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	620	460	670	500	710	530	800	600
L36GL/GLD			11:1	—	—	620	460	670	500	710	530	800	600
L36GL			8.7:1	—	—	620	460	670	500	710	530	800	600
L36GL/GLD			11:1	—	—	685[3]	510[3]	735[3]	550[3]	780[3]	580[3]	880[3]	660[3]
H24SE	1462 in³ (24 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	415	310	445	330	475	355	530	400
H24GL/GLD			11:1	355[4]	265[4]	415[4]	310[4]	445[4]	330[4]	475[4]	355[4]	530[4]	400[4]
H24GL			8.7:1	—	—	415	310	445	330	475	355	530	400
H24GL/GLD			11:1	—	—	455[3]	340[3]	490[3]	365[3]	520[3]	390[3]	585[3]	440[3]
F18SE	1096 in³ (18 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	310	230	335	250	355	265	400	300
F18GL/GLD			11:1	—	—	310	230	335	250	355	265	400	300
F18GL			8.7:1	—	—	310	230	335	250	355	265	400	300
F18GL/GLD			11:1	—	—	340[3]	255[3]	365[3]	275[3]	390[3]	290[3]	440[3]	330[3]
F18G			11:1	160	119	185	138	200	149	215	160	240	179

Notes:
- All ratings are at an intercooler water temperature of 130°F (54.4°C).
- LFPS available on L5794LT engine for power generation applications only.

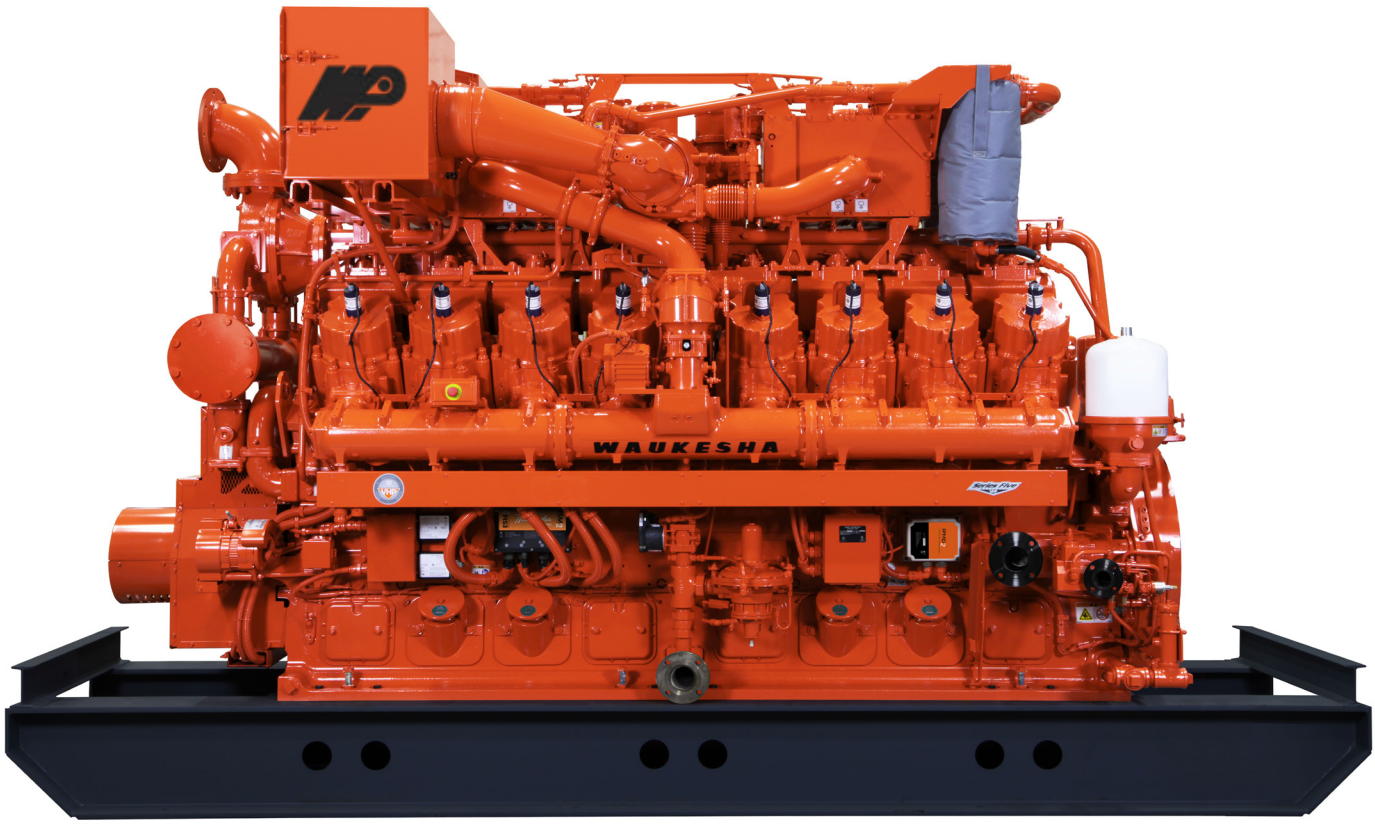
ISO Standard Power (Continuous Power Rating): The highest load and speed which can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance. It is permissible to operate the engine at up to 10% overload for two hours in every 24 hour period.

Mechanical Drives

Waukesha Natural Gas Fueled Engines (Intermittent Duty)

VGF Model	Disp.	Bore & Stroke	C.R.	1200 rpm bhp	1200 rpm kWb	1400 rpm bhp	1400 rpm kWb	1500 rpm bhp	1500 rpm kWb	1600 rpm bhp	1600 rpm kWb	1800 rpm bhp	1800 rpm kWb
P48GSI/GSID	2924 in³ (48 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	910	680	975	730	1040	775	1175	880
P48GL/GLD			11:1	785[4]	585[4]	910[4]	680[4]	975[4]	730[4]	1040[4]	775[4]	1175[4]	880[4]
P48GL			8.7:1	—	—	910	680	975	730	1040	775	1175	880
L36GSI/GSID	2193 in³ (36 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	685	510	735	550	780	580	880	660
L36GL/GLD			11:1	—	—	685	510	735	550	780	580	880	660
L36GL			8.7:1	—	—	685	510	735	550	780	580	880	660
H24SE	1462 in³ (24 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	455	340	490	365	520	390	585	440
H24GL/GLD			11:1	395[4]	290[4]	455[4]	340[4]	490[4]	365[4]	520[4]	390[4]	585[4]	440[4]
H24GL			8.7:1	—	—	455	340	490	365	520	390	585	440
F18SE	1096 in³ (18 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	—	—	340	255	365	275	390	290	440	330
F18GL/GLD			11:1	—	—	340	255	365	275	390	290	440	330
F18GL			8.7:1	—	—	340	255	365	275	390	290	440	330
F18G			11:1	180	130	205	155	220	165	240	180	265	195

1) Engine available with Low Fuel Pressure System (LFPS) with the same ratings. Refer to Technical Data for LFPS ambient and altitude adjustments.
3) These power ratings require pricebook option Code 1100 (176 BMEP). They are available continuously when applied per WKI* Power and Timing Curve S7079-19. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.
4) Inline engine ratings are 1200 - 1400 rpm for low speed turbocharger operation and 1400 - 1800 rpm for high speed turbocharger operation. Vee engine ratings are 1100 - 1600 rpm for low speed turbocharger operation and 1400 - 1800 rpm for high speed turbocharger operation.
5) No overload allowed.



Power Generation

Waukesha Natural Gas Fueled Engine & Enginator*

275GL+	Remote Radiator Cooling (kWe)			Engines Only (kWb)		
	60Hz	50Hz			60Hz	50Hz
Model	Continuous	Continuous	Model		Continuous	Continuous
	900 rpm	1000 rpm			900 rpm	1000 rpm
16V275GL+ with ESM2	3200	3600	16V 275GL+		3356	3729
12V275GL+ with ESM2	2410	2685	12V 275GL+		2517	2796
16V275GL+ with ESM2, Fuel Flex	3200	3600	16V 275GL+		3356	3729
12V275GL+ with ESM2, Fuel Flex	2410	2685	12V 275GL+		2517	2796

VHP	Remote Radiator Cooling (kWe)		Engines Only (kWb)		
	60Hz	50Hz		60Hz	50Hz
Model	Continuous	Continuous	Model	Continuous	Continuous
	1200 rpm	1000 rpm		1200 rpm	1000 rpm
VHP9504GSI S5	1770	1600	P9394GSI	1860	1680
VHP7104GSI/GSID S5	1350[6]	1235	L7044GSI S5	1417[6]	1300
VHP7104GSI/GSID	1200	1100[7]	L7044GSI	1253	1153[7]
VHP7100GSI/GSID S5	1065[6]	1005	L7042GSI S5	1116[6]	1053
VHP7100GSI/GSID S4	1050	875	L7042GSI S4	1104	920
VHP5904LT/LTD	1025	900[7]	L5794LT	1078	947[7]
VHP5904GSI/GSID	980	900[7]	L5794GSI	1029	947[7]
VHP3604GSI/GSID	600	540[7]	F3524GSI	627	573[7]

VGF	Remote Radiator Cooling (kWe)				Engines Only (kWb)		
	60Hz		50Hz			60Hz	50Hz
Model	Continuous	Standby	Continuous	Standby	Model	Continuous	Continuous
	1800 rpm	1800 rpm	1500 rpm	1500 rpm		1800 rpm	1500 rpm
VGF48SE	760	1050	—	—	P48SE	1065	—
VGF48GL/GLD	830[3]	860	685[3]	715	P48GL/GLD	880[3]	730[3]
VGF48GSI/GSID	750	825	625	685	P48GSI/GSID	800	660
VGF36GL/GLD	620[3]	645	515[3]	535	L36GL/GLD	660[3]	550[3]
VGF36GSI/GSID	560	620	475	515	L36GSI/GSID	600	500
VGF24GL/GLD	415[3]	425	340[3]	355	H24GL/GLD	440[3]	365[3]
VGF24SE	375	410	310	340	H24SE	400	330
VGF18GL/GLD	310[3]	315	250[3]	260	F18GL/GLD	330[3]	275[3]
VGF18SE	280	310	230	255	F18SE	300	250

Power Generation

Radiator Cooling (Unit Mounted)

VHP Model	60Hz Continuous (kWe)	50Hz Continuous (kWe)
	1200 rpm	1000 rpm
VHP7104GSI/GSID S5	1285[6]	1190
VHP7104GSI/GSID	1150[1]	1050[1,7]
VHP7100GSI/GSID S5	1020[6]	975
VHP7100GSI/GSID S4	1000[1]	835[1,7]
VHP5904LT	990	860[7]
VHP5904LTD	990	860[1,7]
VHP5904GSI/GSID	940[1]	860[1,7]
VHP3604GSI/GSID	560[1]	500[1,7]

VGF Model	60Hz Continuous (kWe)	60Hz Standby (kWe)	50Hz Continuous (kWe)	50Hz Standby (kWe)
	1800 rpm	1800 rpm	1500 rpm	1500 rpm
VGF48GL/GLD	810[3]	825	670[3]	700
VGF48GSID	730	800	610	650
VGF36GL/GLD	590[3]	625	500[3]	525
VGF36GSID	530	600	450	490
VGF24GL/GLD	390[3]	405	325[3]	350
VGF24SE	350	395	295	325
VGF18GL/GLD	295[3]	300	240[3]	250
VGF18SE	265	300	220	240

mobileFLEX

Natural Gas Fueled Engine & Enginator (Continuous Duty)

Power Generation, **60Hz**, EPA Certified
(Mobile Tier 2 Certified Per 40 CFR 1048)
(Stationary Certified Per 40 CFR 60 JJJJ)

Model	Remote Radiator Cooling (kWe)	Model	Engines Only (kWb)
VHP Enginator	1200 rpm	Engine	1200 rpm
VHP7104GSI-EPA	1200	L7044GSI-EPA	1253

VGF Enginator	1800 rpm	Engine	1800 rpm
VGF24SE-EPA	375	H24SE-EPA	400

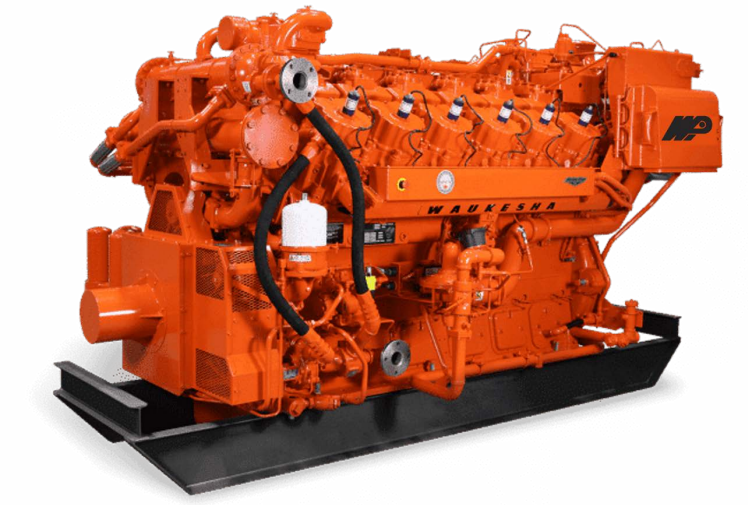
Mobile Power Generation, **50 Hz**
50 Hz Engines are not EPA Certified (Non-North America Only)

Model	Remote Radiator Cooling (kWe)	Model	Engines Only (kWb)
VHP Enginator	1000 rpm	Engine	1000 rpm
VHP7104GSI-MOB	1100[7]	L7044GSI-MOB	1153[7]

1) Engine available with Low Fuel Pressure System (LFPS) with the same ratings. Refer to technical data for LFPS ambient and altitude adjustments.
3) These power ratings require pricebook option Code 1100 (176 BMEP). They are available continuously when applied per WKI Power and Timing Curve S7079-19. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.
6) 60Hz rating available only for GSI S5 model.
7) No overload allowed.

Generator Standby Power Rating (kWe): This rating applies to those systems used as a secondary source of electrical power. This rating is the output the system will produce continuously (no overload), 24 hours per day for the duration of the prime power source outage.

Notes: kWe output is based on 0.8 Power Factor Enginator efficiency.



Alternative Fuels

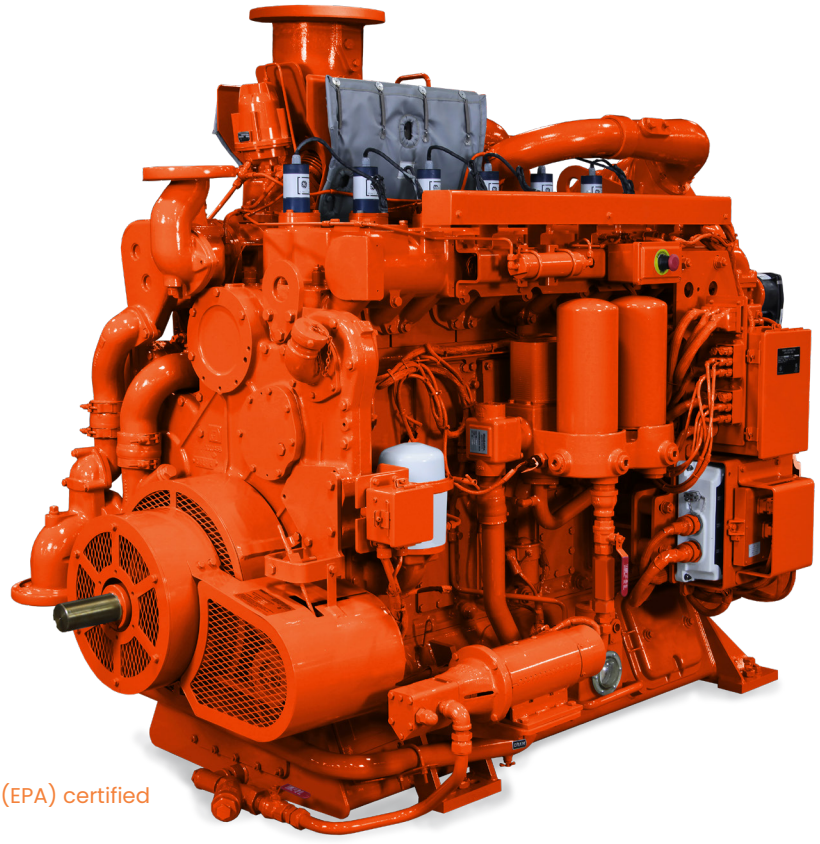
Biogas - Landfill - Digester (Continuous Duty)

VHP				1000 rpm			1200 rpm		
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	kWe*	bhp	kWb	kWe*
L5794LT	5788 in³ (94.9 L)	8.5 x 8.5" (216 x 216 mm)	10.2:1	1270[1,7]	947[1,7]	900[1,7]	1445[1]	1078[1]	1025[1]

VGF				1500 rpm			1800 rpm		
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	kWe*	bhp	kWb	kWe*
P48GLD	2924 in³ (48 L)	5.98 x 6.5" (152 x 165 mm)	11:1	885[11]	660[11]	625[11]	1060[11]	800[11]	750[11]
L36GLD	2193 in³ (36 L)	5.98 x 6.5" (152 x 165 mm)	11:1	670[11]	500[11]	475[11]	800[11]	600[11]	560[11]
H24GLD	1462 in³ (24 L)	5.98 x 6.5" (152 x 165 mm)	11:1	445[11]	330[11]	310[11]	530[11]	400[11]	375[11]
F18GLD	1096 in³ (18 L)	5.98 x 6.5" (152 x 165 mm)	11:1	335[11]	250[11]	230[11]	400[11]	300[11]	280[11]

1) Engine available with Low Fuel Pressure System (LFPS) with the same ratings. Refer to technical data for LFPS ambient and altitude adjustments.
7) No overload allowed.
11) Engine operation using 400 - 500 Btu/ft³ (15.7 - 19.7 MJ/m³). Landfill fuel requires 175°F (80°C) ICW. Option code 1100 is not available.

Notes:
- Low Btu (calorific value) fueled engines operate on fuel with 400 Btu/ft³ (15.7 MJ//m³) or greater saturated low heat (net calorific value) and are equipped with special low Btu fuel system.
- VGF GLD - Gas lean combustion with draw-thru carburetion. Minimum regulated gas supply pressure is 8" H2O (12.44 mbar)
- Generator efficiencies are typical values. Please consult with your packager.
- All ratings are at an intercooler water temperature of 130°F (54.4°C).



Waukesha Engine Model Prefix Designations

Number of cylinders except 275GL
which states actual number of cylinders.
P = 16 H = 8 L = 12 F = 6

Suffix Designations

G = Naturally aspirated
GSI = Turbocharged intercooled
GSID = Turbocharged intercooled draw-thru
GL = Turbocharged intercooled lean burn
LT = Lean combustion turbulence
GLD = Turbocharged intercooled lean burn draw-thru
LTD = Lean combustion turbulence draw-thru
EPA = United States Environmental Protection Agency (EPA) certified
MOB = Mobile, non-certified, Non-North America
SE = Turbocharged intercooled draw-thru with ESM

HD-5 Propane Fueled Engines

(Continuous Duty)

275GL+				900 rpm		1000 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb
16V275GL+ with ESM2, Fuel Flex	17,398 in³ (285 L)	10.83 x 11.81" (275 x 300 mm)	8:1	3750	2800	4175	3115
12V275GL+ with ESM2, Fuel Flex	13,048 in³ (213.9 L)	10.83 x 11.81" (275 x 300 mm)	8:1	2812	2100	3130	2336

VHP				900 rpm		1000 rpm		1200 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb	bhp	kWb
P9394GSI S5	9388 in³ (153.9 L)	9.375 x 8.5" (238 x 216 mm)	9.7:1	1600	1193	1780	1327	2135	1592
L7044GSI S5	7040 in³ (115.4 L)	9.375 x 8.5" (238 x 216 mm)	9.7:1	1200	895	1333	994	1600	1193
L7044GSI			8:1	864	644	960	716	1152	859
L7042GSI S5			9.7:1	1125	839	1250	932	1500	1119
L7042GSI S4			8:1	864	644	960	716	1152	859
L5794GSI	5788 in³ (94.9 L)	8.5 x 8.5" (216 x 216 mm)	8.2:1	789	588	877	654	1052	785
F3524GSI	3520 in³ (57.7 L)	9.375 x 8.5" (238 x 216 mm)	8:1	472	352	524	391	629	469

VGF				1500 rpm		1800 rpm	
Model	Disp.	Bore & Stroke	C.R.	bhp	kWb	bhp	kWb
P48GSID	2924 in³ (48 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	609	454	731	545
P48GL/GLD			11:1	496	370	604	450
P48GL			8.7:1	885[19]	660[19]	1065[19]	800[19]
L36GSID	2193 in³ (36 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	457	341	548	409
L36GL/GLD			11:1	376	280	442	330
L36GL			8.7:1	670[19]	500[19]	800[19]	600[19]
H24SE	1462 in³ (24 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	366	273	439	327
H24GL/GLD			11:1	249	186	299	223
H24GL			8.7:1	445[19]	330[19]	530[19]	400[19]
F18SE	1096 in³ (18 L)	5.98 x 6.5" (152 x 165 mm)	8.6:1	274	204	329	246
F18GL/GLD			11:1	187	139	224	167
F18GL			8.7:1	335[19]	250[19]	400[19]	300[19]
F18G			11:1	187	139	224	167

19) Contact Application Engineering regarding stability in Power Generation applications

Notes:
- No overload allowed on all HD-5 propane ratings.
- Requires a minimum of 34 WKI fuel.
- Engine may require optional fuel system.
- All ratings are at an intercooler water temperature of 130°F (54.4°C).

Rating Standard: All models: Ratings conform to ISO 3046/1 (latest version) with a mechanical efficiency of 90% and auxiliary water temperature, Tcra, as specified in the Power Rating Chart, Bulletin 1079 (latest version) limited to ±10° F (±5.5° C). Ratings are also valid for SAE J1349, BS 5514, DIN 6271 and API 7B-11C standard atmospheric reference conditions.

Fuel Standard: All natural gas engine ratings are based on 900 BTU/ft³ (35.38 MJ/m³ [25, V(0; 101.325)]) SLHV, 91 WKI minimum, commercial quality natural gas. Refer to S-7884-7 (latest version) for full gaseous fuel specifications.

ISO Standard Power (Continuous Power Rating): The highest load and speed that can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance at ISO standard ambient reference conditions. Unless otherwise stated, at ISO standard ambient reference conditions, it is permissible to operate the engine at up to 110% of the ISO Standard Power or the maximum power indicated by the intermittent rating, whichever is lower, for two hours in every 24 hour period.

ISO Service Power (Site Continuous Power Rating): The highest load and speed that can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance at the operating and ambient conditions of the site application. Unless otherwise stated, it is permissible to operate the engine at up to 110% of the ISO Service Power (see the Overload Power definition) or the intermittent power rating available at the site operating and ambient conditions, whichever is lower, for two hours in every 24 hour period.

Overload Power: The power that an engine is permitted to supply, with a duration and frequency of use depending upon the service application, at stated ambient conditions, immediately after operating at its ISO Service Power rating. Unless otherwise stated, it is permissible to operate the engine at up to 110% of the ISO Service Power or the intermittent power rating available at the site operating and ambient conditions, whichever is lower, for two hours in every 24 hour period. For situations without a defined intermittent power, the allowable 10% overload power is reduced from ISO standard ambient reference conditions by the applicable rating adjustments listed in the Intermittent/Standby Power column.

Intermittent Power Rating: The highest load and speed that can be applied in variable speed mechanical system applications only. Operation at this rating is limited to a maximum of 3500 hours per year.

Generator Continuous Power Rating (kWe): The highest load and speed which can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance. Unless otherwise stated, it is permissible to operate the engine at up to 110% of the generator continuous power rating for two hours in every 24 hour period.

Generator Standby Power Rating (kWe): This rating applies to those systems used as a secondary source of electrical power. This rating is the output the system will produce continuously 24 hours per day for the duration of the prime power source outage. No overload is allowed. This rating may reduce the lifecycle intervals.

Purposely designed for the oil & gas industry's most challenging and remote environments, our earliest technologies are still among the industry's best performers. Committed to each customer's success, today Waukesha is building on this foundation by evolving engine technologies, innovating new service capabilities, and increasing the impact of its distributors and packagers.

Reliability + Productivity

Waukesha Gas Engines maximize uptime and prevent unplanned downtime through reliable and available engines that excel in the most challenging and remote environments with:

- Smart controls, data analytics and equipment intelligence.
- Fuel flexibility and robust performance.

Short Payback + Long-Term ROI

With an immediate upfront capital expenditure advantage, and lasting operational expenditure savings, Waukesha's engines lower overall cost of ownership by:

- Reducing maintenance and downtime.
- Generating short and long-term bottom-line benefits.

Maintenance + Upgrades

Optimize engine performance, improve fuel efficiency, and equip existing engines with today's advanced technologies, using:

- Remanufactured OEM warrantied parts and engines.
- Customized maintenance and parts programs.

Service + Support

End-users and channel partners have direct access to Waukesha's deep expertise through dedicated sales engineering teams, committed to each customer's success. This includes:

- Technical support through industry and engine-specific experts.
- Customized training and customer service solutions.

Visit **https://www.energy.wpi.com** for more information on Waukesha's gas engines and services.

IWK-019010-EN