DRESSER
Waukesha

WAUKESHA ENGINE

Power Ratings

WAUKESHA ENGINE
POWER RATINGS

Waukesha Engine manufactures spark ignited gaseous fueled engines and Enginator® systems for gas compression, electric power generation, cogeneration and mechanical drive applications — ranging in output from 100 to 4800 bhp (75-3250 kWe).

Waukesha Engine's many years of experience have shown that natural gas engines can power or drive just about anything. Waukesha offers a full line of heavy-duty, gaseous-fueled engines that can be put to work in a variety of markets including gas compression, electric power generation, cogeneration, and general mechanical drive applications (pumps, air compressors, chillers, blowers).

With decades of experience in engine technology together with excellent engineering skills, Waukesha has found cost-effective solutions for many customer needs. Customers recognize that Waukesha engines can power all types of equipment and do it more cost effectively.

Waukesha manufactures engines in the United States (Waukesha, Wisconsin) and in Europe (Appingedam, The Netherlands). Both manufacturing facilities are certified by the world's leading registrar, Lloyd's Register Quality Assurance (LQRA), to the ISO 9001 Quality Management Standard.

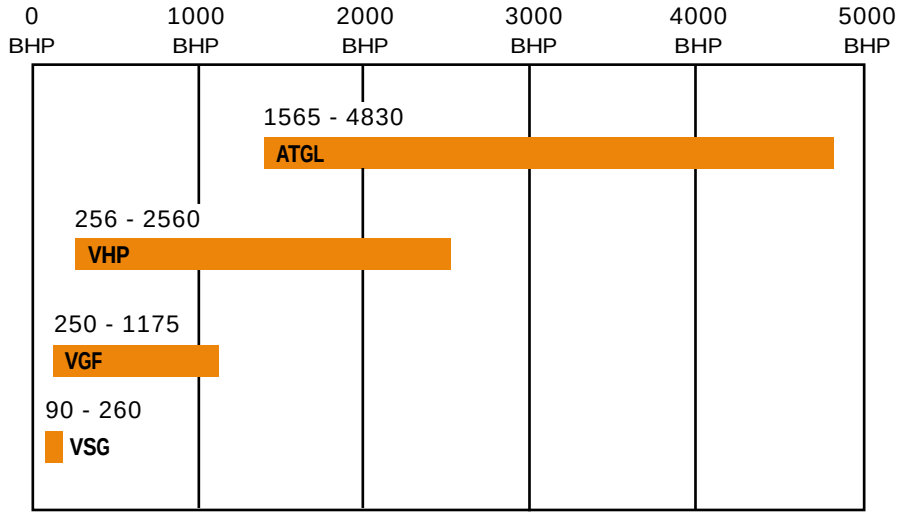
Regional sales offices stand ready to serve our customers, distributors, and OEMs.

With a global distribution network, Waukesha services all major marketing areas. Waukesha distributors are on call 24 hours a day, with the parts and service personnel to provide quick responsive solutions to customers' needs.

Waukesha Engine has found solutions to almost any customer concern and need. Our innovative product design improvements keep pace with customers' ever-increasing standards. From demands for higher loads and speeds, to simple, long-term reliability, Waukesha understands those needs and continues to design, build, and service the best engines in the marketplace.

This Power Ratings Bulletin supersedes all Power Ratings Bulletins prior to 12/01.

Waukesha Engine Family Ranges



Product Designations

Engine Series

Waukesha manufactures four engine families — the **ATGL, VHP, VGF,** and **VSG.**

Prefix Designations

The prefix attached to an engine model indicates the number of cylinders (except ATGL which states actual number): **P = 16, L = 12, H = 8, F = 6.**

- VHP **L**7042GL engine is a 12 cylinder engine
- VGF **P**48 GL is a 16 cylinder engine
- **16**V-AT27GL is a 16 cylinder engine

Numeric Designations

The numeric designation in each engine model name indicates the displacement of the engine model in either English units of cubic inches or metric units of liters.

- The **VHP** series show a **displacement in cubic inches**. For example: the **VHP L7042**GL indicates a displacement of **7,040 in³**.
- The **VGF** and **VSG** series show a **displacement in liters.** For example: the **VGF P48**GL indicates a displacement of **48 liters**.
- The **VSG F11G** indicates a displacement of **11 liters.**
- The **ATGL** series is designated by a **numeric indicative of the bore size in millimeters**. For example: the "**27**" of the 16V-AT**27**GL indicates a **275 millimeter bore**.

Suffix Designations

G	= Naturally aspirated
GSI	= Turbocharged, intercooled
GSID	= Turbocharged, intercooled, draw thru
LT	= Lean combustion turbulence
LTD	= Lean combustion turbulence, draw-thru
GL	= Turbocharged, intercooled, lean burn
GLD	= Turbocharged, intercooled, lean burn, draw-thru

Other Waukesha Engine Products

Waukesha Power Systems Enginator Series

The Enginator is a Waukesha Engine registered trademark of an engine generator set packaged by Waukesha Power Systems. WPS also designs and assembles Engomatic® panels (switchgear control systems).

Waukesha Power Systems Modulator Series

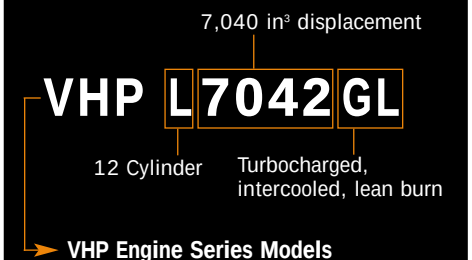
Waukesha's Modulator is a self-contained power plant designed to provide on-site power generation anywhere power is needed. The preassembled unit is powered by Waukesha's reliable VGF or VHP Series Enginators.

Custom Engine Controls (CEC) Series

AFM	=	Air/Fuel Module
DSM	=	Detonation Sensing Module
IM	=	Ignition Module
TCM	=	Turbocharger Control Module
KDM	=	Knock Detection Module

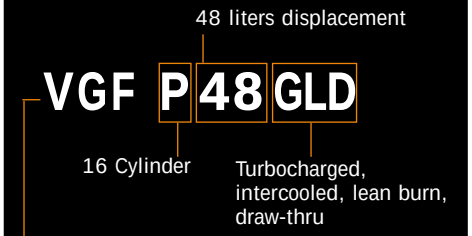
Waukesha Engenius™ Series

ESM™ = Engine System Manager



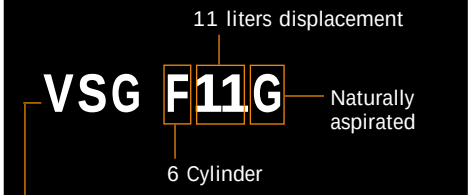
VHP Engine Series Models

P9390G, GSI, GL;
L7044GSI;
L7042G, GSI, GL, GLD;
L5774LT
L5794GSI, LT;
L5790GSI, GL, GLD;
F3524GSI;
F3521GSI, GL, GLD;
F2895GSI, GL, GLD



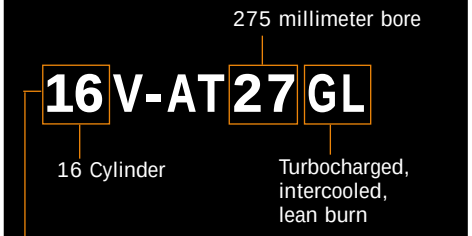
VGF Engine Series Models

P48GL, GLD, GSID;
L36GL, GLD, GSID;
H24GL, GLD, GSID;
F18GL, GLD, GSID



VSG Engine Series Models

F11G, GSI, GSID



ATGL Engine Series Models:

16V-AT27GL
12V-AT27GL
8L-AT27GL

English

°F = (Degrees C x 1.8) + 32

Torque lb-ft = $\frac{5250 \times BHP}{rpm}$

BMEP (psi) = $\frac{150.8 \times \text{Torque (lb-ft)}}{\text{Displacement (cubic inches)}}$

BHP = $\frac{BMEP \times \text{Displacement (cubic inches)} \times rpm}{792{,}000}$

Metric

°C = $\frac{(\text{Degrees F-32})}{1.8}$

Torque (N•m) = $\frac{kW_b \times 9550}{rpm}$

BMEP (bar) = $\frac{kW_b \times 1200}{\text{Displacement (liters)} \times rpm}$

kW_b = $\frac{BMEP_{(bar)} \times \text{Displacement (liters)} \times rpm}{1200}$

Displacement

Displacement = $\frac{\pi D^2}{4} \times S \times C = 0.7854\ D^2SC$

Where: Displacement = cubic inch.

D = Bore Dia. in. C = No. of cyl.

S = Stroke in. p = 3.1416

Piston Speed

Piston Speed = P = $\frac{NS}{6}$ Where: P = Ft. per Min.
N = rpm
S = Stroke in

Formulas To Determine kW, KVA, Reactive KVA, BHP And Amperes (for three phase AC)

KVA = $\frac{1.73 \times \text{Volts} \times \text{Amps}}{1000}$

kW = KVA x PF

kW_e = kW_B x Eff

BHP = $\frac{1.73 \times \text{Volts} \times \text{Amps} \times PF}{.746 \times 1000 \times Eff}$

BHP = $\frac{kW}{.746 \times Eff}$

AMPS = $\frac{BHP \times .746 \times 1000 \times Eff}{1.73 \times \text{Volts} \times PF}$

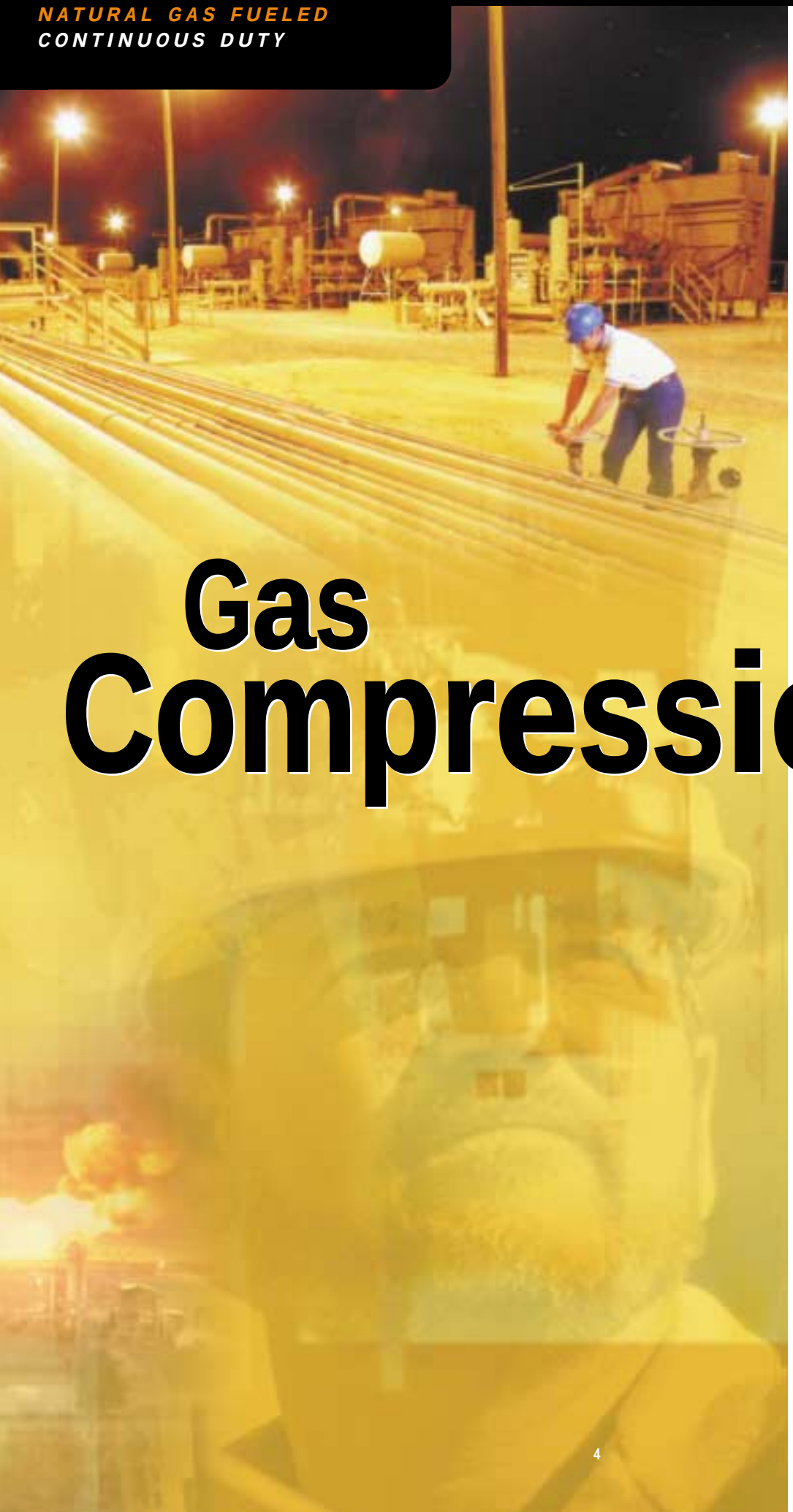
AMPS = $\frac{kW \times 1000}{1.73 \times \text{Volts} \times PF}$

AMPS = $\frac{KVA \times 1000}{1.73 \times \text{Volts}}$

Reactive KVA = KVA x $\sqrt{1 - PF^2}$

BORE & STROKE/ DISPLACEMENT CHART

Model	Displacement	Bore/Stroke
ATGL VEE-16 16V-AT27GL		
English	17,398 in^3	10.83 x 11.81″
Metric	(285 L)	(275 x 300 mm)
ATGL VEE-12 12V-AT27GL		
English	13,048 in^3	10.83 x 11.81″
Metric	(214 L)	(275 x 300 mm)
ATGL IN-LINE 8 8L-AT27GL		
English	8699 in^3	10.83 x 11.81″
Metric	(143 L)	(275 x 300 mm)
VHP VEE-16 P9390		
English	9388 in^3	9.375 x 8.5″
Metric	(154 L)	(238 x 216 mm)
VHP VEE-12 L7042/L7044		
English	7040 in^3	9.375 x 8.5″
Metric	(116 L)	(238 x 216 mm)
VHP VEE-12 L5790/L5794/ L5774		
English	5788 in^3	8.5 x 8.5″
Metric	(95 L)	(216 x 216 mm)
VHP IN-LINE 6 F3521/F3524		
English	3520 in^3	9.375 x 8.5″
Metric	(58 L)	(238 x 216 mm)
VHP IN-LINE 6 F2895		
English	2894 in^3	8.5 x 8.5″
Metric	(47 L)	(216 x 216 mm)
VGF VEE-16 P48		
English	2924 in^3	5.98 x 6.5″
Metric	(48 L)	(152 x 165 mm)
VGF VEE-12 L36		
English	2193 in^3	5.98 x 6.5″
Metric	(36 L)	(152 x 165 mm)
VGF IN-LINE 8 H24		
English	1462 in^3	5.98 x 6.5″
Metric	(24 L)	(152 x 165 mm)
VGF IN-LINE 6 F18		
English	1096 in^3	5.98 x 6.5″
Metric	(18 L)	(152 x 165 mm)
VSG IN-LINE 6 F11		
English	673 in^3	5.5 x 5.71″
Metric	(11 L)	(127 x 145 mm)



Gas Compression

Engine Family	Model
ATGL™	16V-AT27GL
	16V-AT27GL
	12V-AT27GL
	12V-AT27GL
	8L-AT27GL
	8L-AT27GL
VHP™	P9390GSI
	P9390GSI
	P9390GL
	P9390GL
	P9390G
	P9390G
	L7044GSI
	L7042GSI
	L7042GSI
	L7042GL
	L7042GL
	L7042G
	L7042G
	L5794GSI
	L5790GSI
	L5790GSI
	L5794LT
	L5794LT
	L5774LT
	L5790GL
	L5790GL
	F3524GSI
	F3521GSI
	F3521GSI
	F3521GL
	F3521GL
	F2895GSI
	F2895GSI
	F2895GL
	F2895GL
VGF™	P48GSID
	P48GL/GLD
	P48GL[1]/GLD[1]
	L36GSID
	L36GL/GLD
	L36GL[1]/GLD[1]
	H24GSID
	H24GL/GLD
	H24GL[2]
	H24GL[1]/GLD[1]
	F18GSID
	F18GL/GLD
	F18GL[2]
	F18GL[1]/GLD[1]
VSG™	F11GSI/GSID
	F11GSI/GSID
	F11G

[1]These power ratings require pricebook option Code 1100 (176 BMEP) and DSM. They are available continuously when applied per WKI™ Power and Timing Curve S7079-14. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.

[2]Ratings with low compression ratio (8.7:1) pistons, also apply to HD-5 propane fueled engines.

[3]Low speed turbocharger required for operation at 1000 - 1400 rpm on Inline engines for from 1100 - 1600 rpm on Vee engines.

Continuous Duty

I.C. Water Temp. (Tcra)		C.R. (compression ratio)	800 rpm		900 rpm		1000 rpm		1200 rpm		1400 rpm		1500 rpm		1600 rpm		1800 rpm	
°F	°C		bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb	bhp	kWb
90°	32°	9:1	3600	2686	4050	3020	4500	3356	—	—	—	—	—	—	—	—	—	—
130°	54°	9:1	3600	2686	4050	3020	4500	3356	—	—	—	—	—	—	—	—	—	—
90°	32°	9:1	2640	1967	2970	2216	3295	2458	—	—	—	—	—	—	—	—	—	—
130°	54°	9:1	2508	1871	2820	2104	3130	2335	—	—	—	—	—	—	—	—	—	—
90°	32°	9:1	1760	1312	1980	1477	2200	1641	—	—	—	—	—	—	—	—	—	—
130°	54°	9:1	1670	1246	1880	1405	2090	1560	—	—	—	—	—	—	—	—	—	—
85°	29°	8:1	1375	1025	1547	1154	1719	1282	2063	1538	—	—	—	—	—	—	—	—
130°	54°	8:1	1314	980	1478	1102	1642	1224	1970	1469	—	—	—	—	—	—	—	—
85°	29°	10.5:1	1375	1025	1547	1154	1719	1282	2063	1538	—	—	—	—	—	—	—	—
130°	54°	10.5:1	1314	980	1478	1102	1642	1224	1970	1469	—	—	—	—	—	—	—	—
—	—	10:1	976	738	1090	813	1194	890	1366	1019	—	—	—	—	—	—	—	—
—	—	8:1	900	671	998	744	1081	806	1216	907	—	—	—	—	—	—	—	—
130°	54°	8:1	1120	836	1260	940	1400	1044	1680	1253	—	—	—	—	—	—	—	—
85°	29°	8:1	1031	769	1160	865	1289	961	1547	1154	—	—	—	—	—	—	—	—
130°	54°	8:1	985	735	1108	826	1232	919	1478	1102	—	—	—	—	—	—	—	—
85°	29°	10.5:1	1031	769	1160	865	1289	961	1547	1154	—	—	—	—	—	—	—	—
130°	54°	10.5:1	985	735	1108	826	1232	919	1478	1102	—	—	—	—	—	—	—	—
—	—	10:1	732	546	818	610	896	668	1024	764	—	—	—	—	—	—	—	—
—	—	8:1	675	503	748	558	810	604	912	680	—	—	—	—	—	—	—	—
130°	54°	8.2:1	920	686	1035	772	1150	858	1380	1029	—	—	—	—	—	—	—	—
85°	29°	8.2:1	848	632	954	711	1060	790	1272	949	—	—	—	—	—	—	—	—
130°	54°	8.2:1	810	604	911	679	1013	755	1215	906	—	—	—	—	—	—	—	—
85°	29°	10.2:1	—	—	—	—	1265	944	1515	1130	—	—	—	—	—	—	—	—
130°	54°	10.2:1	—	—	—	—	1205	899	1445	1078	—	—	—	—	—	—	—	—
130°	54°	10.2:1	—	—	—	—	1040	776	1250	933	—	—	—	—	—	—	—	—
85°	29°	10:1	848	632	954	711	1060	790	1272	949	—	—	—	—	—	—	—	—
130°	54°	10:1	810	604	911	679	1013	755	1215	906	—	—	—	—	—	—	—	—
130°	54°	8:1	560	418	630	470	700	522	840	627	—	—	—	—	—	—	—	—
85°	29°	8:1	516	385	580	433	644	480	773	577	—	—	—	—	—	—	—	—
130°	54°	8:1	492	367	554	413	615	459	738	550	—	—	—	—	—	—	—	—
85°	29°	10.5:1	516	385	580	433	644	480	773	577	—	—	—	—	—	—	—	—
130°	54°	10.5:1	492	367	554	413	615	459	738	550	—	—	—	—	—	—	—	—
85°	29°	8.2:1	424	316	477	356	530	395	636	474	—	—	—	—	—	—	—	—
130°	54°	8.2:1	405	302	455	339	506	377	607	453	—	—	—	—	—	—	—	—
85°	29°	10:1	424	316	477	356	530	395	636	474	—	—	—	—	—	—	—	—
130°	54°	10:1	405	302	455	339	506	377	607	453	—	—	—	—	—	—	—	—
130°	54°	8.7:1	—	—	—	—	—	—	—	—	830	620	885	660	945	705	1065	800
130°	54°	11:1	—	—	—	—	—	—	710[3]	530[3]	830[2]	620[2]	885	660	945	705	1065	800
130°	54°	11:1	—	—	—	—	—	—	—	—	910[2]	680[2]	975	730	1040	775	1175	880
130°	54°	8.7:1	—	—	—	—	—	—	—	—	620	460	670	500	710	530	800	600
130°	54°	11:1	—	—	—	—	—	—	530[3]	400[3]	620[2]	460[2]	670	500	710	530	800	600
130°	54°	11:1	—	—	—	—	—	—	—	—	685[2]	510[2]	735	550	780	580	880	660
130°	54°	8.7:1	—	—	—	—	—	—	—	—	415	310	445	330	475	355	530	400
130°	54°	11:1	—	—	—	—	—	—	355[3]	265[3]	415[2]	310[2]	445	330	475	355	530	400
130°	54°	8.7:1	—	—	—	—	—	—	—	—	415[2]	310[2]	445	330	475	355	530	400
130°	54°	11:1	—	—	—	—	—	—	—	—	455[2]	340[2]	490	365	520	390	585	440
130°	54°	8.7:1	—	—	—	—	—	—	—	—	310	230	335	250	355	265	400	300
130°	54°	11:1	—	—	—	—	—	—	265[3]	220[3]	310[2]	230[2]	335	250	355	265	400	300
130°	54°	8.7:1	—	—	—	—	—	—	—	—	310[2]	230[2]	335	250	355	265	400	300
130°	54°	11:1	—	—	—	—	—	—	—	—	340[2]	255[2]	365	275	390	290	440	330
85°	29°	10:1	—	—	—	—	—	—	166	124	194	145	208	155	222	165	250	186
130°	54°	10:1	—	—	—	—	—	—	166	124	194	145	208	155	222	165	250	186
—	—	10:1	—	—	—	—	—	—	90	67	105	78	112	84	120	90	135	101

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 or the maximum load indicated by the intermittent rating, whichever is lower, for two hours in every 24 hour period.*

Mechanical Drives

Engine Family	Model
ATGL™	16V-AT27GL
	16V-AT27GL
	12V-AT27GL
	12V-AT27GL
	8L-AT27GL
	8L-AT27GL
VHP™	P9390GSI
	P9390GSI
	P9390GL
	P9390GL
	P9390G
	P9390G
	L7044GSI
	L7042GSI[1]
	L7042GSI[1]
	L7042GL[2]
	L7042GL[2]
	L7042G
	L7042G
	L5794GSI
	L5790GSI[1]
	L5790GSI[1]
	L5794LT[2]
	L5794LT[2]
	L5790GL[2]
	L5790GL[2]
	F3524GSI
	F3521GSI[1]
	F3521GSI[1]
	F3521GL[2]
	F3521GL[2]
	F2895GSI[1]
	F2895GSI[1]
	F2895GL[2]
	F2895GL[2]
VGF™	P48GSID
	P48GL/GLD
	L36GSID
	L36GL/GLD
	H24GSID
	H24GL/GLD
	F18GSID
	F18GL/GLD
VSG™	F11GSI/GSID
	F11GSI/GSID
	F11G

[1] Engine available with draw-thru carburetion with the same ratings.

[2] Refer to pages 12 and 13 for VHP GL engines equipped with draw-thru carburetion (low fuel pressure system).

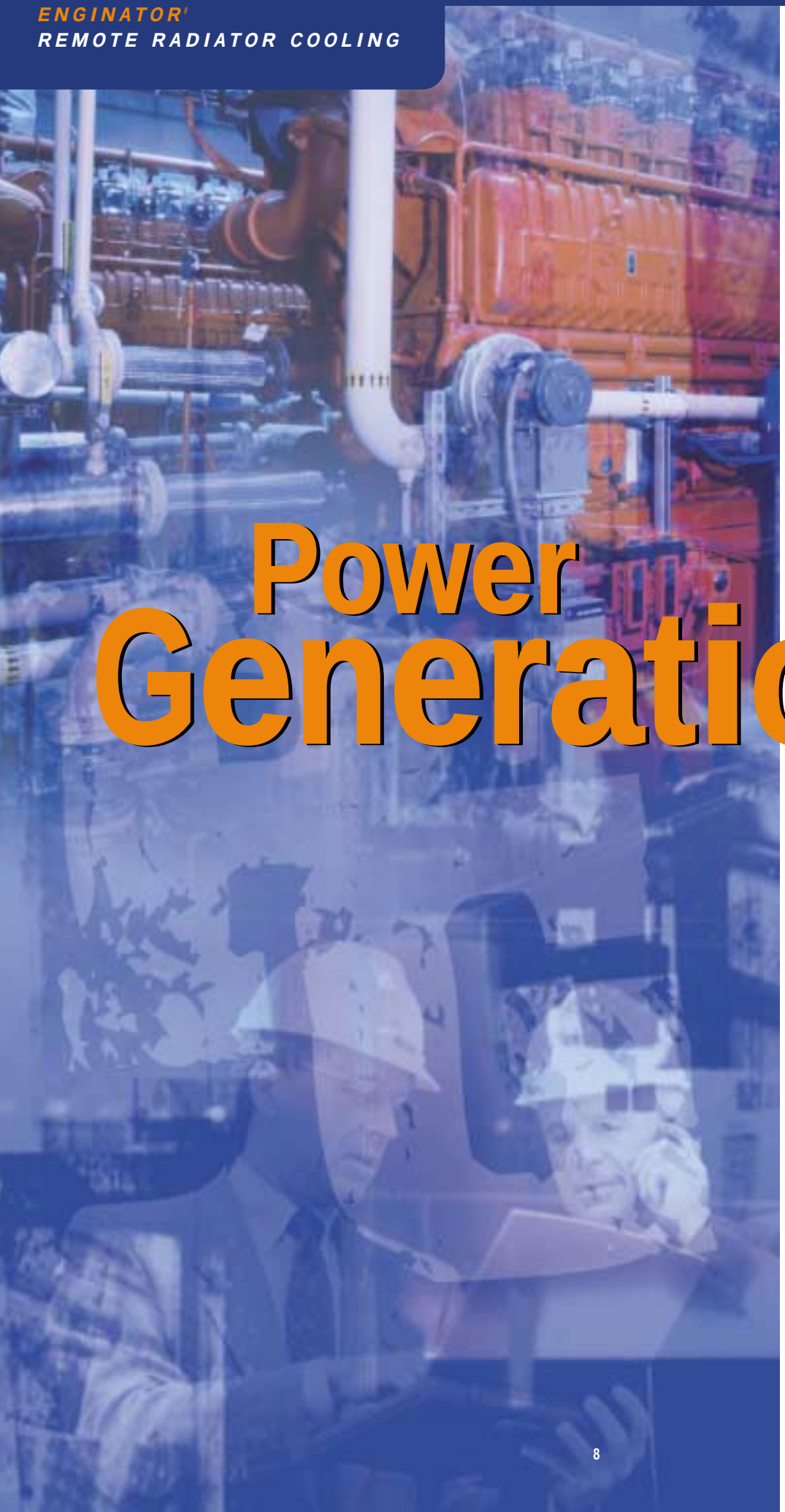
[3]Low speed turbocharger required for operation at 1000 - 1400 rpm on Inline engines or from 1100 - 1600 rpm on Vee engines.

Intermittent Duty

I.C. Water Temp. (Tcra)	C.R. (compression ratio)	800 rpm	900 rpm	1000 rpm	1200 rpm	1400 rpm	1500 rpm	1600 rpm	1800 rpm
°F °C		bhp kWb	bhp kWb	bhp kWb	bhp kWb	bhp kWb	bhp kWb	bhp kWb	bhp kWb
90° 32°	9:1	— —	4350 3244	4830 3602	— —	— —	— —	— —	— —
130° 54°	9:1	— —	4130 3080	4590 3423	— —	— —	— —	— —	— —
90° 32°	9:1	— —	3267 2437	3625 2704	— —	— —	— —	— —	— —
130° 54°	9:1	— —	3102 2314	3443 2569	— —	— —	— —	— —	— —
90° 32°	9:1	— —	2178 1625	2420 1809	— —	— —	— —	— —	— —
130° 54°	9:1	— —	2068 1546	2299 1716	— —	— —	— —	— —	— —
85° 29°	8:1	1707 1273	1920 1432	2134 1591	2560 1909	— —	— —	— —	— —
130° 54°	8:1	1631 1216	1835 1368	2039 1520	2447 1825	— —	— —	— —	— —
85° 29°	10.5:1	1513 1128	1702 1269	1891 1410	2270 1693	— —	— —	— —	— —
130° 54°	10.5:1	1445 1078	1626 1213	1806 1347	2167 1616	— —	— —	— —	— —
— —	10:1	1098 819	1227 915	1344 1002	1536 1145	— —	— —	— —	— —
— —	8:1	1013 755	1122 837	1216 907	1368 1020	— —	— —	— —	— —
130° 54°	8:1	1120 836	1260 940	1400 1044	1680 1253	— —	— —	— —	— —
85° 29°	8:1	1280 954	1440 1074	1600 1193	1920 1432	— —	— —	— —	— —
130° 54°	8:1	1223 912	1376 1026	1528 1139	1834 1368	— —	— —	— —	— —
85° 29°	10.5:1	1134 846	1276 952	1418 1057	1702 1269	— —	— —	— —	— —
130° 54°	10.5:1	1084 808	1219 909	1355 1010	1626 1213	— —	— —	— —	— —
— —	10:1	824 614	920 686	1008 752	1152 859	— —	— —	— —	— —
— —	8:1	760 567	842 628	912 680	1026 765	— —	— —	— —	— —
130° 54°	8.2:1	920 686	1035 772	1150 858	1380 1029	— —	— —	— —	— —
85° 29°	8.2:1	1052 784	1184 883	1315 981	1579 1177	— —	— —	— —	— —
130° 54°	8.2:1	1005 749	1131 843	1257 937	1508 1125	— —	— —	— —	— —
85° 29°	10.2:1	— —	— —	1390 1037	1665 1242	— —	— —	— —	— —
130° 54°	10.2:1	— —	— —	1315 981	1580 1178	— —	— —	— —	— —
85° 29°	10:1	933 696	1049 782	1166 869	1399 1043	— —	— —	— —	— —
130° 54°	10:1	891 664	1002 747	1114 831	1337 997	— —	— —	— —	— —
130° 54°	8:1	560 418	630 470	700 522	840 627	— —	— —	— —	— —
85° 29°	8:1	640 477	720 537	800 597	960 716	— —	— —	— —	— —
130° 54°	8:1	611 456	688 513	764 570	917 684	— —	— —	— —	— —
85° 29°	10.5:1	568 424	638 476	708 528	850 634	— —	— —	— —	— —
130° 54°	10.5:1	541 403	598 446	677 505	812 606	— —	— —	— —	— —
85° 29°	8.2:1	526 392	592 441	658 491	789 588	— —	— —	— —	— —
130° 54°	8.2:1	503 375	566 422	628 468	754 562	— —	— —	— —	— —
85° 29°	10:1	466 347	525 391	583 435	700 522	— —	— —	— —	— —
130° 54°	10:1	446 333	501 374	557 415	668 498	— —	— —	— —	— —
130° 54°	8.7:1	— —	— —	— —	— —	910 680	975 730	1040 775	1175 880
130° 54°	11:1	— —	— —	— —	785[3] 585[3]	910[3] 680[3]	975 730	1040 775	1175 880
130° 54°	8.7:1	— —	— —	— —	— —	685 510	735 550	780 580	880 660
130° 54°	11:1	— —	— —	— —	585[3] 440[3]	685[3] 510[3]	735 550	780 580	880 660
130° 54°	8.7:1	— —	— —	— —	— —	455 340	490 365	520 390	585 440
130° 54°	11:1	— —	— —	— —	395[3] 290[3]	455[3] 340[3]	490 365	520 390	585 440
130° 54°	8.7:1	— —	— —	— —	— —	340 255	365 275	390 290	440 330
130° 54°	11:1	— —	— —	— —	295[3] 220[3]	340[3] 255[3]	365 275	390 290	440 330
85° 29°	10:1	— —	— —	— —	173 129	202 151	217 162	231 172	260 194
130° 54°	10:1	— —	— —	— —	166 124	194 145	208 155	222 165	250 186
— —	10:1	— —	— —	— —	100 75	117 87	125 93	133 99	150 112

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.*

NOTE: For continuous duty power ratings for mechanical drives, please see pages 4 and 5.



Power Generation

130°F 54°C (Tcra)
Intercooler Water Temperature

Engine Family	Model
ATGL™ *[1]10% overload not available on these ratings. Contact factory for allowable overload ratings. Output based on .8 Power Factor.*	16V-AT27GL 12V-AT27GL 8L-AT27GL
VHP™ *[2]5% overload allowed.* *[3]No overload allowed.*	VHP9500GSI VHP9500GL VHP7104GSI VHP7104GSID VHP7100GSI VHP7100GSID VHP7100GL VHP5904LT VHP5904LTD VHP9500G VHP5904GSI VHP5904GSID VHP5900GSI VHP5900GSID VHP5900GL VHP7100G VHP3604GSI VHP3604GSID VHP3600GSI VHP3600GSID VHP3600GL VHP2900GSI VHP2900GSID VHP2900GL
VGF™ *[4]FOR CONTINUOUS ONLY - These power ratings require pricebook option Code 1100 and DSM. They are available continuously when applied per WKI™ Power and Timing Curve S7079-14. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.*	VGF48GL VGF48GLD VGF48GSID VGF36GL VGF36GLD VGF36GSID VGF24GL VGF24GLD VGF24GSID VGF18GL VGF18GLD VGF18GSID
VSG™	VS11GSI VS11GSID VS11G

Remote Radiator Cooling (kWe)

60Hz									50Hz			
Continuous			Peak Shave*			Standby			Continuous		Standby	
1800 rpm	1200 rpm	900 rpm	1800 rpm	1200 rpm	900 rpm	1800 rpm	1200 rpm	900 rpm	1500 rpm	1000 rpm	1500 rpm	1000 rpm
—	—	2960 [1]	—	—	2960	—	—	2960	—	3250 [1]	—	3250
—	—	2000	—	—	2140	—	—	2200	—	2220	—	2440
—	—	1330	—	—	1425	—	—	1460	—	1480	—	1630
—	1400	—	—	1500	—	—	1750	—	—	1175	—	1450
—	1400	—	—	1490	—	—	1540	—	—	1175	—	1295
—	1200	—	—	1250	—	—	1300	—	—	1100 [3]	—	1100
—	1200	—	—	1250	—	—	1300	—	—	1100 [3]	—	1100
—	1050	—	—	1180	—	—	1300	—	—	875	—	1075
—	1050	—	—	1180	—	—	1300	—	—	875	—	1075
—	1050	—	—	1100	—	—	1155	—	—	875	—	965
—	1025	—	—	1080	—	—	1125	—	—	900 [2]	—	940
—	1025	—	—	1025	—	—	1025	—	—	900	—	900
—	975	—	—	975	—	—	1075	—	—	850	—	950
—	980	—	—	1035	—	—	1060	—	—	900 [3]	—	900
—	980	—	—	1035	—	—	1060	—	—	900 [3]	—	900
—	865	—	—	970	—	—	1060	—	—	720	—	880
—	865	—	—	970	—	—	1060	—	—	720	—	880
—	865	—	—	910	—	—	955	—	—	720	—	795
—	725	—	—	725	—	—	810	—	—	635	—	710
—	600	—	—	630	—	—	650	—	—	540 [3]	—	540
—	600	—	—	630	—	—	650	—	—	540 [3]	—	540
—	525	—	—	585	—	—	650	—	—	435	—	535
—	525	—	—	585	—	—	650	—	—	435	—	535
—	525	—	—	550	—	—	580	—	—	435	—	480
—	425	—	—	485	—	—	525	—	—	350	—	440
—	425	—	—	485	—	—	525	—	—	350	—	440
—	425	—	—	455	—	—	470	—	—	350	—	385
830 [4]	—	—	830	—	—	860	—	—	685 [4]	—	715	—
830 [4]	—	—	830	—	—	860	—	—	685 [4]	—	715	—
750	—	—	750	—	—	825	—	—	625	—	685	—
620 [4]	—	—	620	—	—	645	—	—	515 [4]	—	535	—
620 [4]	—	—	620	—	—	645	—	—	515 [4]	—	535	—
560	—	—	560	—	—	620	—	—	475	—	515	—
415 [4]	—	—	415	—	—	425	—	—	340 [4]	—	355	—
415 [4]	—	—	415	—	—	425	—	—	340 [4]	—	355	—
375	—	—	375	—	—	410	—	—	310	—	340	—
310 [4]	—	—	310	—	—	315	—	—	250 [4]	—	260	—
310 [4]	—	—	310	—	—	315	—	—	250 [4]	—	260	—
280	—	—	280	—	—	310	—	—	230	—	255	—
150	—	—	150	—	—	180	—	—	125	—	150	—
150	—	—	150	—	—	180	—	—	125	—	150	—
90	—	—	90	—	—	100	—	—	75	—	80	—

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.*

****Peak Shave:*** *These ratings are based on 3400 hours per year at ISO Standard reference conditions. Peak shaving and standby ratings may reduce lifecycle intervals.*

ENGINATOR™ UNIT MOUNTED RADIATOR COOLING

130°F 54°C (Tcra) I.C. Water Temp.

Engine Family	Model	60Hz Continuous (kWe) 1800 rpm	60Hz Continuous (kWe) 1200 rpm	60Hz Standby (kWe) 1800 rpm	60Hz Standby (kWe) 1200 rpm	50Hz Continuous (kWe) 1500 rpm	50Hz Continuous (kWe) 1000 rpm	50Hz Standby (kWe) 1500 rpm	50Hz Standby (kWe) 1000 rpm
VHP™	VHP7104GSI/GSID	—	1150	—	1260	—	1050 [2]	—	1050
	VHP7100GSI/GSID	—	1000	—	1260	—	840	—	1050
	VHP7100GL	—	1025	—	1130	—	845	—	930
	VHP5904LT	—	990	—	1090	—	825	—	900
	VHP5904LTD[2]	—	990	—	1090	—	825	—	825
	VHP9500G	—	950	—	1065	—	820	—	930
	VHP5904GSI/GSID	—	940	—	1030	—	860 [2]	—	860
	VHP5900GSI/GSID	—	835	—	1050	—	690	—	860
	VHP5900GL	—	835	—	920	—	690	—	760
	VHP7100G	—	700	—	800	—	610	—	685
	VHP3604GSI/GSID	—	560	—	615	—	500 [2]	—	500
	VHP3600GSI/GSID	—	500	—	625	—	410	—	515
	VHP3600GL	—	500	—	550	—	410	—	450
	VHP2900GSI/GSID	—	400	—	505	—	335	—	415
	VHP2900GL	—	400	—	450	—	335	—	370
VGF™	VGF48GL	808[3]	—	825	—	670[3]	—	700	—
	VGF48GLD	808[3]	—	825	—	670[3]	—	700	—
	VGF48GSID	730[3]	—	800	—	610[3]	—	650	—
	VGF36GL	590[3]	—	625	—	500[3]	—	525	—
	VGF36GLD	590[3]	—	625	—	500[3]	—	525	—
	VGF36GSID	530[3]	—	600	—	450[3]	—	490	—
	VGF24GL	388[3]	—	405	—	330[3]	—	350	—
	VGF24GLD	388[3]	—	405	—	330[3]	—	350	—
	VGF24GSID	350[3]	—	400	—	300[3]	—	325	—
	VGF18GL	294[3]	—	300	—	245[3]	—	250	—
	VGF18GLD	294[3]	—	300	—	245[3]	—	250	—
	VGF18GSID	265[3]	—	300	—	220[3]	—	240	—
VSG™	VS11GSI	140	—	175	—	120	—	145	—
	VS11GSID	140	—	175	—	120	—	145	—
	VS11G	80	—	90	—	65	—	75	—

[1] 5% overload allowed.

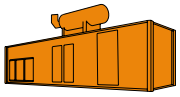
[2] No overload.

[3] GL AND GLD MODELS ONLY, with high compression ratio (11:1) pistons. These power ratings require price-book option Code 1100 and DSM. They are available continuously when applied per WKI™ Power and Timing Curve S7079-14. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.

For Power Unit ratings, please contact the Waukesha Sales Engineering Department.

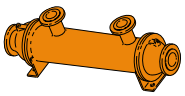
MODULATOR™ SYSTEMS CONTINUOUS DUTY

Waukesha's Modulators are self-contained power plants with radiator cooled Enginators individually packaged in ISO shipping containers.



Engine Family	Model	60Hz 1800 rpm	60Hz 1200 rpm	50Hz 1500 rpm	50Hz 1000 rpm
VGF™	VGF18GL[1]/GLD[1]	290	—	240	—
	VGF18GSID	265	—	220	—
	VGF24GL[1]/GLD[1]	380	—	315	—
	VGF24GSID	340	—	285	—
	VGF36GL[1]/GLD[1]	575	—	475	—
	VGF36GSID	515	—	430	—
	VGF48GL[1]/GLD[1]	750	—	625	—
	VGF48GSID	680	—	565	—
VHP™	VHP5904GSID	—	920	—	840
	VHP5904LTD	—	965	—	840

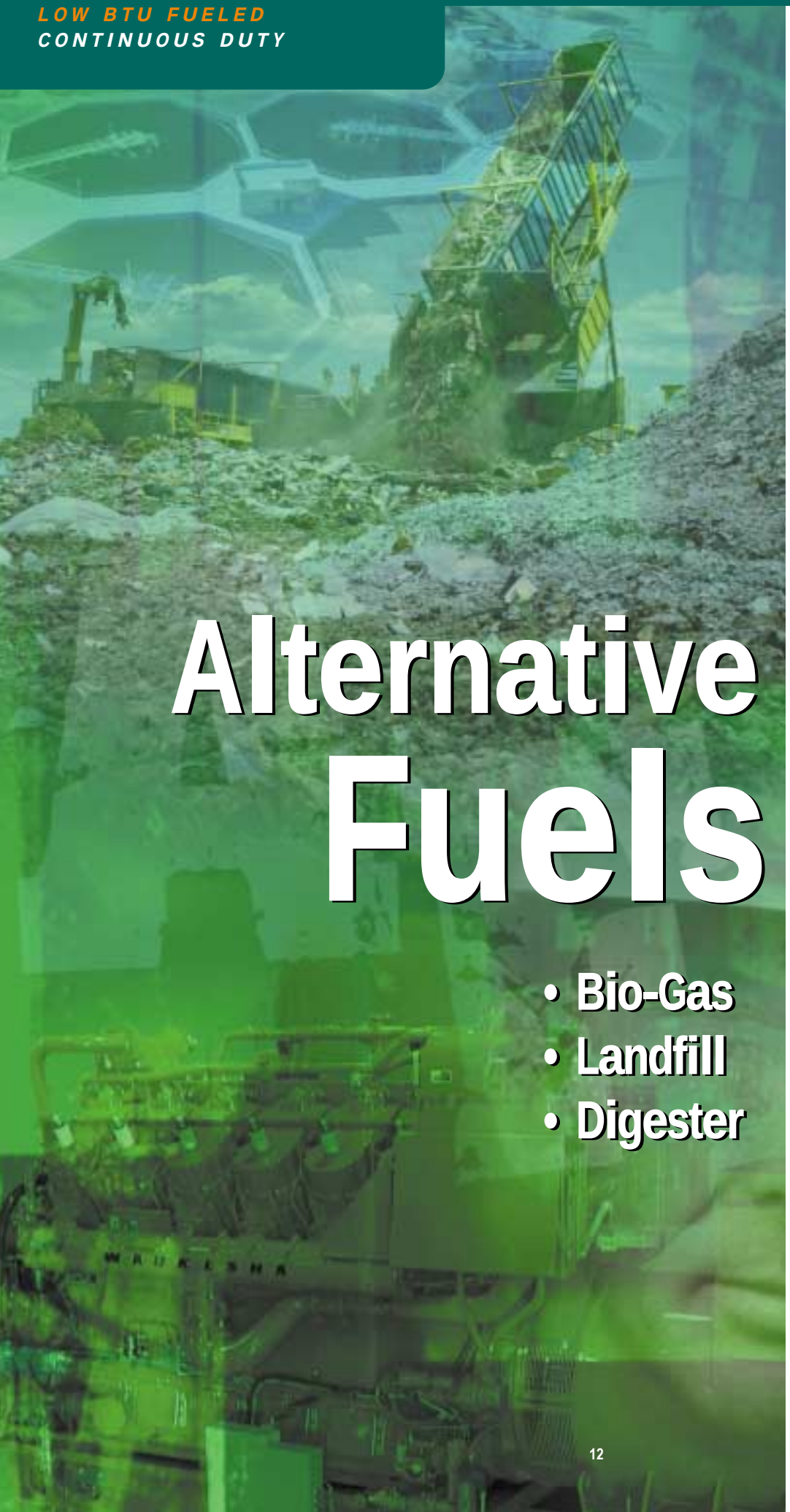
[1] Ratings for GL/GLD engines are based on engine code 1100 176 BMEP with 5% overload capability. Requires pipeline quality natural gas with a minimum SLHV of 850 Btu/FT³, 85 WKI™ per S7079-14.



Engine Family	Model	60Hz Continuous (kWe) 1800 rpm	1200 rpm	900 rpm	60Hz Standby (kWe) 1800 rpm	1200 rpm	900 rpm	50Hz Continuous (kWe) 1500 rpm	1000 rpm	50Hz Standby (kWe) 1500 rpm	1000 rpm
ATGL™	**16V-AT27GL**	—	—	2960[1]	—	—	3100	—	3250[1]	—	3430
90°F (32°C) I.C. Water Temp.	**12V-AT27GL**	—	—	2100	—	—	2310	—	2340	—	2570
[1]10% overload not available	**8L-AT27GL**	—	—	1400	—	—	1540	—	1550	—	1710
VHP™	**VHP9500GSI**	—	1475	—	—	1825	—	—	1225	—	1520
85°F (29°C) I.C. Water Temp.	**VHP9500GL**	—	1475	—	—	1625	—	—	1225	—	1350
[3]5% overload allowed	**VHP7104GSI/GSID[4]**	—	1200	—	—	1310	—	—	1100[5]	—	1100
[4]130°F (54°C) Intercooler Water Temperature	**VHP7100GSI/GSID**	—	1100	—	—	1350	—	—	920	—	1125
[5]No overload	**VHP7100GL**	—	1100	—	—	1210	—	—	920	—	1015
	VHP5904LT	—	1075	—	—	1175	—	—	900[3]	—	975
	VHP5904LTD[5]	—	1075	—	—	1075	—	—	900	—	900
	VHP5904GSI/GSID[4]	—	980	—	—	1080	—	—	900[5]	—	900
	VHP9500G	—	975	—	—	1075	—	—	850	—	950
	VHP5900GSI/GSID	—	900	—	—	1125	—	—	750	—	925
	VHP5900GL	—	900	—	—	990	—	—	750	—	825
	VHP7100G	—	725	—	—	810	—	—	635	—	710
	VHP3604GSI/GSID	—	600	—	—	650	—	—	540[5]	—	540
	VHP3600GSI/GSID	—	550	—	—	675	—	—	450	—	560
	VHP3600GL	—	550	—	—	600	—	—	450	—	495
	VHP2900GSI/GSID	—	450	—	—	550	—	—	375	—	450
	VHP2900GL	—	450	—	—	495	—	—	375	—	415
VGF™	**VGF48GL**	830[7]	—	—	860	—	—	685[7]	—	720	—
130°F (54°C) I.C. Water Temp.	**VGF48GLD**	830[7]	—	—	860	—	—	685[7]	—	720	—
[7]These power ratings require pricebook option Code 1100 and DSM. They are available continuously when applied per WKI™ Power and Timing Curve S7079-14. It is permissible to operate at up to 5% overload for two hours in each 24 hour period.	**VGF48GSID**	750[7]	—	—	825	—	—	625[7]	—	690	—
	VGF36GL	615[7]	—	—	645	—	—	515[7]	—	535	—
	VGF36GLD	615[7]	—	—	645	—	—	515[7]	—	535	—
	VGF36GSID	560[7]	—	—	620	—	—	475[7]	—	515	—
	VGF24GL	406[7]	—	—	425	—	—	340[7]	—	360	—
	VGF24GLD	406[7]	—	—	425	—	—	340[7]	—	360	—
	VGF24GSID	375[7]	—	—	410	—	—	310[7]	—	350	—
	VGF18GL	305[7]	—	—	315	—	—	250[7]	—	260	—
	VGF18GLD	305[7]	—	—	315	—	—	250[7]	—	260	—
	VGF18GSID	280[7]	—	—	310	—	—	240[7]	—	255	—
VSG™	**VS11GSI**	160	—	—	180	—	—	135	—	150	—
85°F (29°C) I.C. Water Temp.	**VS11GSID**	160	—	—	180	—	—	135	—	150	—
	VS11G	90	—	—	100	—	—	75	—	80	—

VHP7104 Enginator

VGF L36 Enginator with unit mounted radiator



Alternative Fuels

- Bio-Gas
- Landfill
- Digester

Engine Family	Model
VHP™ [1] *VHP Naturally Aspirated Engine ratings based on 600 Btu/ft3 (23.58 MJ/m3), saturated low heat (net calorific value).* [2] *Draw-thru carburetion*	P9390GSI P9390GSI P9390GL P9390GL P9390G[1] P9390G[1]
	L7042GSI L7042GSI L7042GL[2] L7042GL[2] L7042GL L7042GL L7042G[1] L7042G[1]
	L5794LT[2] L5794LT[2] L5790GSI L5790GSI L5790GL[2] L5790GL[2] L5790GL L5790GL
	F3521GSI[2] F3521GSI[2] F3521GL[2] F3521GL[2] F3521GL F3521GL
	F2895GSI[2] F2895GSI[2] F2895GL[2] F2895GL[2] F2895GL F2895GL
VGF™ [3]*Low speed turbo required for VGF operation at 1200 - 1400 rpm.* [4]*Engine operation using 400 - 500 Btu/ft³ (15.7 - 19.7 MJ/m³) fuel requires 175°F (80°C) ICW.*	P48GLD[4]
	L36GLD[4]
	H24GLD[4]
	F18GLD[4]
VSG™	F11GSI/GSID F11GSI/GSID F11G

Continuous Duty

I.C. Water Temp. (Tcra)		C.R. (compression ratio)	900 rpm			1000 rpm			1200 rpm			1500 rpm			1800 rpm		
°F	°C		bhp	kWb	kWe*	bhp	kWb	kWe*	bhp	kWb	kWe*	bhp	kWb	kWe*	bhp	kWb	kWe*
85°	29°	8:1	1547	1154	1096	1719	1282	1218	2063	1538	1461	—	—	—	—	—	—
130°	54°	8:1	1478	1102	1047	1642	1224	1163	1970	1469	1400	—	—	—	—	—	—
85°	29°	10.5:1	1547	1154	1096	1719	1282	1218	2063	1538	1461	—	—	—	—	—	—
130°	54°	10.5:1	1478	1102	1047	1642	1224	1163	1970	1469	1400	—	—	—	—	—	—
—	—	10:1	932	695	660	1021	761	723	1168	871	827	—	—	—	—	—	—
—	—	8:1	853	636	604	924	689	655	1040	776	737	—	—	—	—	—	—
85°	29°	8:1	1160	865	822	1289	961	913	1547	1154	1096	—	—	—	—	—	—
130°	54°	8:1	1108	826	785	1232	919	873	1478	1102	1050	—	—	—	—	—	—
85°	29°	10.5:1	—	—	—	1289	961	913	1280	955	907	—	—	—	—	—	—
130°	54°	10.5:1	—	—	—	1232	919	873	1280	955	907	—	—	—	—	—	—
85°	29°	10.5:1	1160	865	822	1289	961	913	1547	1154	1096	—	—	—	—	—	—
130°	54°	10.5:1	1108	826	785	1232	919	873	1478	1102	1050	—	—	—	—	—	—
—	—	10:1	699	521	495	766	571	542	876	653	620	—	—	—	—	—	—
—	—	8:1	640	477	453	693	517	491	780	582	553	—	—	—	—	—	—
85°	29°	10.2:1	—	—	—	1260	940	893	1515	1130	1074	—	—	—	—	—	—
130°	54°	10.2:1	—	—	—	1205	899	854	1445	1078	1025	—	—	—	—	—	—
85°	29°	8.2:1	954	711	675	1060	790	751	1272	949	902	—	—	—	—	—	—
130°	54°	8.2:1	911	679	645	1013	755	717	1215	906	865	—	—	—	—	—	—
85°	29°	10:1	—	—	—	1060	790	751	1052	785	746	—	—	—	—	—	—
130°	54°	10:1	—	—	—	1012	755	717	1052	785	746	—	—	—	—	—	—
85°	29°	10:1	954	711	675	1060	790	751	1272	949	902	—	—	—	—	—	—
130°	54°	10:1	911	679	645	1013	755	717	1215	906	861	—	—	—	—	—	—
85°	29°	8:1	580	433	411	644	480	456	773	576	547	—	—	—	—	—	—
130°	54°	8:1	554	413	392	615	459	436	738	550	525	—	—	—	—	—	—
85°	29°	10.5:1	580	433	411	644	480	456	640	477	—	—	—	—	—	—	—
130°	54°	10.5:1	554	413	392	615	459	436	640	477	—	—	—	—	—	—	—
85°	29°	10.5:1	580	433	411	644	480	456	773	577	548	—	—	—	—	—	—
130°	54°	10.5:1	554	413	392	615	459	436	738	551	523	—	—	—	—	—	—
85°	29°	8.2:1	477	356	338	530	395	375	636	474	450	—	—	—	—	—	—
130°	54°	8.2:1	455	339	322	506	377	358	607	453	425	—	—	—	—	—	—
85°	29°	10:1	477	356	338	530	395	375	526	392	—	—	—	—	—	—	—
130°	54°	10:1	455	339	322	506	377	358	526	392	—	—	—	—	—	—	—
85°	29°	10:1	477	356	338	530	395	375	636	474	450	—	—	—	—	—	—
130°	54°	10:1	455	339	322	506	377	358	607	453	430	—	—	—	—	—	—
130°	54°	11:1	—	—	—	—	—	—	710 [3]	530 [3]	500	885	660	625	1060	800	750
130°	54°	11:1	—	—	—	—	—	—	530 [3]	400 [3]	375	670	500	475	800	600	560
130°	54°	11:1	—	—	—	—	—	—	355 [3]	265 [3]	250	445	330	310	530	400	375
130°	54°	11:1	—	—	—	—	—	—	265 [3]	200 [3]	185	335	250	230	400	300	280
85°	29°	10:1	—	—	—	—	—	—	166	124	115	208	155	144	250	186	173
130°	54°	10:1	—	—	—	—	—	—	166	124	115	208	155	144	250	186	150
—	—	10:1	—	—	—	—	—	—	84	63	59	106	79	73	127	95	88

NOTE: Low Btu (calorific value) fueled engines operate on fuel with 400 Btu/ft³ (15.7 MJ//m³), saturated low heat (net calorific value), and are equipped with special low Btu (calorific value) fuel system.

NOTE: VGF GLD - Gas lean combustion with draw-thru carburetion. Minimum regulated gas supply pressure is 8" H2O (12.44 mbar)

NOTE: VSG G - Ratings based on 600 Btu/ft³ (23.58 MJ/m³), saturated low heat (net calorific value).

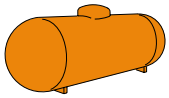
***NOTE:** For complete information regarding operation on Low Btu Fuel, see the S3955 series (latest version) Technical Data Sheets. See Price Book for proper hardware requirements.*

***NOTE:** For low Btu Intermittent Duty application ratings, consult the Waukesha Engine Sales Engineering Department.*

NOTE: Generator efficiencies are typical values. Please consult with your packager.

**kWe ratings are based on Waukesha Power Systems generator efficiencies.*

Continuous Duty



	Model	I.C. Water Temp. (Tcra) °F	°C	C.R. (compression ratio)	900 rpm bhp	kWb	1000 rpm bhp	kWb	1200 rpm bhp	kWb	1500 rpm bhp	kWb	1800 rpm bhp	kWb
VHP™ *No overload allowed.*	P9390GSI	85°	29°	8:1	1237	923	1327	990	1479	1103	—	—	—	—
	P9390GSI	130°	54°	8:1	1162	867	1244	928	1379	1029	—	—	—	—
	P9390GL	85°	29°	10.5:1	1237	923	1374	1025	1649	1230	—	—	—	—
	P9390GL	130°	54°	10.5:1	1184	883	1315	981	1578	1177	—	—	—	—
	P9390G	—	—	8:1	1066	795	1164	868	1303	972	—	—	—	—
	L7044GSI	130°	54°	8:1	944	704	1049	782	1259	939	—	—	—	—
	L7042GSI	85°	29°	8:1	928	692	996	743	1109	827	—	—	—	—
	L7042GSI	130°	54°	8:1	871	650	933	696	1035	772	—	—	—	—
	L7042GL	85°	29°	10.5:1	928	692	1031	769	1237	923	—	—	—	—
	L7042GL	130°	54°	10.5:1	888	662	987	736	1184	883	—	—	—	—
	L7042G	—	—	8:1	800	597	873	651	978	730	—	—	—	—
	L5794GSI	130°	54°	8.2:1	868	647	965	719	1158	863	—	—	—	—
	L5790GSI	85°	29°	8.2:1	763	569	819	611	912	680	—	—	—	—
	L5790GSI	130°	54°	8.2:1	717	535	767	572	851	635	—	—	—	—
	L5790GL	85°	29°	10:1	763	569	847	632	1016	758	—	—	—	—
	L5790GL	130°	54°	10:1	729	544	811	605	973	726	—	—	—	—
	F3524GSI	130°	54°	10.5:1	472	352	524	391	629	469	—	—	—	—
	F3521GSI	85°	29°	8:1	464	346	497	371	555	414	—	—	—	—
	F3521GSI	130°	54°	8:1	436	325	466	348	517	386	—	—	—	—
	F3521GL	85°	29°	10.5:1	464	346	516	385	619	462	—	—	—	—
	F3521GL	130°	54°	10.5:1	444	331	493	368	592	442	—	—	—	—
	F2895GSI	85°	29°	8.2:1	381	284	409	305	456	340	—	—	—	—
	F2895GSI	130°	54°	8.2:1	358	267	383	286	425	317	—	—	—	—
	F2895GL	85°	29°	10:1	381	285	424	316	509	379	—	—	—	—
	F2895GL	130°	54°	10:1	365	272	406	303	487	363	—	—	—	—
VGF™ [2]*Requires KDM on F18 and H24 GL/ GLD/GSID models or DSM on L36 and P48 GL/GLD/GSID models.*	P48GSID	130°	54°	8.7:1	—	—	—	—	—	—	712[2]	528[2]	848	640
	P48GL/GLD	130°	54°	11:1	—	—	—	—	402[2]	300[2]	496[2]	370[2]	604	450
	L36GSID	130°	54°	8.7:1	—	—	—	—	—	—	528[2]	400[2]	640	512
	L36GL/GLD	130°	54°	11:1	—	—	—	—	300[2]	224[2]	376[2]	280[2]	442	330
	H24GSID	130°	54°	8.7:1	—	—	—	—	—	—	356[2]	264[2]	424	320
	H24GL/GLD	130°	54°	11:1	—	—	—	—	201[2]	150[2]	248[2]	185[2]	302	225
	F18GSID	130°	54°	8.7:1	—	—	—	—	—	—	264[2]	200[2]	320	256
	F18GL/GLD	130°	54°	11:1	—	—	—	—	150[2]	112[2]	188[2]	140[2]	221	165
VSG™	F11GSI	85°	29°	10:1	—	—	—	—	102	76	127	95	153	114
	F11GSI	130°	54°	10:1	—	—	—	—	102	76	127	95	153	114
	F11G	—	—	10:1	—	—	—	—	101	75	123	92	150	112

NOTE: These engines use propane as a secondary fuel: VHP-GL Series, VHP-GSI Series, VSG-GSI Series.

Adjustments To Engine And Enginator Systems For High Altitude And High Temperature[1] For Natural Gas, Low BTU and HD-5 Propane Fuels

		Turbocharged and Intercooled	Continuous/ Prime Power*	Intermittent/ Standby
All VSG	Altitude:	Deduct 2% for each 1000 ft. (305 m) above:	3000 ft. 914 m	1500 ft. 457 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
VSG F11 (Generator Standby Power Rating)	Altitude:	Deduct 4% for each 1000 ft. (305 m) above:	— —	1000 ft. 305 m
	Temperature:	Deduct 2% for each 10°F (5.5°C) above:	— —	90°F 32°C
VSG GSI[6] Propane	Altitude:	Deduct 2% for each 1000 ft. (305 m) above:	— —	1500 ft 457 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	— —	85°F 29°C
	Jacket Water Temp.:	Deduct 2.5% for each 10°F (5.5°C) above:	— —	180°F 82°C
All VGF GL/GLD/GSID	Altitude:	Deduct 2% for each 1000 ft. (305 m) above: (except GL LCR)	1500 ft. 457 m	1500 ft. 457 m
	Altitude:	Deduct 6% for each 1000 ft. (305 m) above: (*F18GL LCR only*)	5000 ft. 1524 m	5000 ft. 1524 m
	Altitude:	Deduct 5% for each 1000 ft. (305 m) above: (*H24GL LCR only*)	3500 ft. 1067 m	3500 ft. 1067 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
VGF GL (Generator Standby Power Rating)	Altitude:	Deduct 3% for each 1000 ft. (305 m) above:	— —	1500 ft. 457 m
	Temperature:	Deduct 1.5% for each 10°F (5.5°C) above:	— —	100°F 38°C
All VGF GSID and All VGF GL/GLD with HCR Propane[6]	Altitude:	Deduct 2% for each 1000 ft. (305 m) above:	5000 ft. 1524 m	— —
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	— —
	Jacket Water Temp.:	Deduct 2.5% for each 10°F (5.5°C) above: [210°F (99°C) maximum Jacket Water Temperature for GSID]	180°F 82°C	— —
All VGF GL with LCR only Propane[6]	Altitude:	Deduct 6% for each 1000 ft. (305 m) above: (*F18GL LCR only*)	5000 ft. 1524 m	— —
		Deduct 5% for each 1000 ft. (305 m) above: (*H24GL LCR only*)	3500 ft. 1067 m	— —
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	— —
	Jacket Water Temp.:	Retard spark timing 2° above: [210°F (99°C) maximum Jacket Water Temperature for GL with LCR]	180°F 82°C	— —
	Intercooler Water Temp.	Retard spark timing 2° for each 10°F (5.5°C) above:	130°F 54°C	— —
VHP F2895/F3521/L5790 L7042/P9390GSI	Altitude:	Deduct 2% for each 1000 ft. (305 m) above:	6000 ft. 1828 m	1500 ft. 457 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
VHP F3524/L5794/L7044GSI[3]	Altitude:	Deduct 2% for each 1000 ft (305 m) above:	8000 ft. 2438 m	4000 ft 1219 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
VHP GL	Altitude:	Deduct 2% for each 1000 ft. (305 m) above:	1500 ft. 457 m	1500 ft 457 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	85°F 29°C
VHP L5774LT[4]	Altitude:	Deduct 2.4% for each 1000 ft. (305 m) above:	5000 ft. 1524 m	— —
	Temperature:	Deduct 2.4% for each 10°F (5.5°C) above:	100°F 38°C	— —
VHP L5794LT	Altitude:	Deduct 2.4% for each 1000 ft. (305 m) above:	5000 ft. 1524 m	1500 ft 457 m
	Temperature:	Deduct 2.4% for each 10°F (5.5°C) above:	100°F 38°C	85°F 29°C
VHP L5794LT with Low Fuel Pressure System Option	Altitude:	Deduct 4.8% for each 1000 ft. (305 m) above:	1500 ft. 457 m	1500 ft 457 m
	Temperature:	Deduct 4.8% for each 10°F (5.5°C) above:	100°F 38°C	85°F 29°C
VHP GSI and GL HD-5/Propane (Including 3524/5794/7044GSI[3])	Altitude:	Deduct 2% for each 1000 ft. (305 m) above *(GL only):*	1500 ft. 457 m	— —
	Altitude:	Deduct 2% for each 1000 ft. (305 m) above *(GSI only):*	6000 ft. 1828 m	— —
	Altitude:	Deduct 2% for each 1000 ft. (305 m) above *(Series Four GSI only):*	8000 ft. 2438 m	— —
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	— —
	Jacket Water Temp.:	Deduct 2.5% for each 10°F (5.5°C) above:	180°F 82°C	— —
8L-AT27GL 12V-AT27GL	Altitude:	Deduct 3.3% for each 1000 ft. (305 m) above:	3000 ft. 914 m	800 ft. 244 m
	Temperature:	Deduct 2% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
16V-AT27GL[2]	Altitude:	Deduct 4% for each 1000 ft. (305 m) above:	6000 ft. 1828 m	6000 ft. 1828 m
	Temperature:	Deduct 2% for each 10°F (5.5°C) above:	100°F 38°C	100°F 38°C
16V-AT27GL EPG[2]	Altitude:	Contact Waukesha Sales Engineering above:	1000 ft. 305 m	800 ft. 244 m
	Temperature:	Contact Waukesha Sales Engineering above:	100°F 38°C	100°F 38°C
		Naturally Aspirated		
All VHP, VGF and VSG Natural Gas	Altitude:	Deduct 3% for each 1000 ft. (305 m) above:	1500 ft. 457 m	500 ft. 152 m
	Temperature:	Deduct 1% for each 10°F (5.5°C) above:	100°F 38°C	85°F 29°C
All VHP, VGF, VSG HD-5/Propane	Altitude:	Deduct 3% for each 1000 ft. (305 m) above:	1500 ft 457 m	— —
	Temperature:	Deduct 5.5% for each 10°F (5.5°C) above:	100°F 38°C	— —
	Jacket Water Temp.:	Deduct 2.5% for each 10°F (5.5°C) above:	180°F 82°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. 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.

Generator Peak Shaving Application Rating (kWe) For VHP Models Only: This rating is based on the number of horsepower-hours available per year in a constant speed application at site conditions. This rating allows for limited engine operation above the published ISO Standard Power rating for VHP models only. This rating class requires a Special Application Approval. Contact Waukesha's Sales Engineering Department. This rating may reduce the lifecycle intervals.

1 These altitude and temperature adjustments are meant to be a guide only and cannot be applied without limit. Contact Waukesha's Sales Engineering Department for additional information.
2 For 16V-AT27GL speeds other than 900 and 1000 rpm, contact Waukesha's Sales Engineering Department.
3 The F3524GSI, L5794GSI, and L7044GSI models are limited to 180°F maximum jacket water temperature.
4 The L5774LT is rated for 130°F intercooler water temperature only.
5 Unless otherwise specified, overload power is available for two hours in every 24 hour period at a level specified in the Definitions section or on a Special Application Approval.
6 For complete information regarding operation on propane and other fuels, including proper ignition timing, see the most current, model specific S-07079 series Technical Data Sheets.
*For Peak Shaving derates, contact the Waukesha Sales Engineering Department.

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