

WP10GNA

9.7 L

	Units		Specification	
	Std	Metric	1800	
Basic Data				
Type	N/A		In-Line 4 cycle	
Number of cylinders	N/A		6	
Aspiration	N/A		Naturally Aspirated	
Bore	in	mm	5.0	126.0
Stroke	in	mm	5.1	130.0
Displacement	in ³	L	593.2	9.726
Lambda	N/A		1.0	
Compression Ratio	N/A		9.75	
Mean Piston Speed	ft/min	m/s	1535.4	7.8
Gross Standby Power Rating^{1,2,3} Per ISO 3046 at the Flywheel				
NG	HP	kW	158.3	118.0
LP	HP	kW	175.0	130.5
MEP (@ rated Load on NG)	psi	bar	118.9	8.1
MEP (@ rated Load on LP)	psi	bar	131.5	8.9
Thermal Balance				
Total Fuel	Ft ³ /hr	kg/hr	1348.8	27.4
Heat to Work	btu/min	kW	6710.6	118
Heat rejected to Cooling water at rated Load	btu/min	kW	8473.5	149
Heat Rejection per CAC	btu/min	kW	—	—
Heat Rejected to Exhaust (LHV TO 77oF)	btu/min	kW	7557.9	132.9
Enigne Radiated Heat	btu/min	kW	767.7	13.5
Gross Prime Power Rating^{1,2,3} Per ISO 3046 at the Flywheel				
NG	HP	kW	158.3	118.0
LP	HP	kW	175.0	130.5
MEP (@ rated Load on NG)	psi	bar	118.9	8.1
MEP (@ rated Load on LP)	psi	bar	131.5	8.9
Thermal Balance				
Total Fuel	Ft ³ /hr	kg/hr	1348.8	27.4
Heat to Work	btu/min	kW	6710.6	118
Heat rejected to Cooling water at rated Load	btu/min	kW	8473.5	149
Heat Rejection per CAC	btu/min	kW	—	—
Heat Rejected to Exhaust (LHV TO 77oF)	btu/min	kW	7557.9	132.9
Engine Radiated Heat	btu/min	kW	767.7	13.5
Gross Continuous Power Rating^{1,2,3} Per ISO 3046 at the Flywheel				
NG	HP	kW	134.5	100
LP	HP	kW	148.2	111
MEP (@ rated Load on NG)	psi	bar	101.1	6.88
MEP (@ rated Load on LP)	psi	bar	111.4	7.58
Rotation Viewed from Flywheel	N/A		Counter Clockwise	
Firing Order	N/A		1-5-3-6-2-4	
Weight and Power Output				
Dry Weight				
Fan to Flywheel	lb	kg	2136.6	970
Rad to Flywheel	lb	kg	2356.8	1070
Maximum Allowable Bending Moment at Rear of Block	lb ft	N m	7965.0	10800
Moment of Inertia About Roll Axis	lb ft ²	kg m ²	60.9	44.9
Flywheel housing	N/A		SAE No.3	
Flywheel	N/A		No.11.5	
Number of Flywheel Teeth	N/A		136	
Exhaust System				
Type	Air Cooled Manifold			
Maximum allowable Back pressure	inH2O	kPa	60.2	15
Standard Catalyst Back pressure	inH2O	kPa	—	—
Exhaust Outlet Pipe Size (exhaust manifold to catalyst inlet)	in	mm	3.35→2.5	85→63.5
Maximum Turbine Inlet Temperature	°F	°C	1454.0	790
Exhaust Flow at Rated Power	lb/hr	kg/hr	1069.0	485
Air Induction System				
Maximum allowable Intake Air Restriction with Air Cleaner				
Clean	inH2O	kPa	4.8	1
Dirty	inH2O	kPa	24.9	6
Combustion Air required (entire engine)	lb/hr	kg/hr	959.0	
Combustion Air required (entire engine)	CFM	m ³ /min	198.7	6
Charge Air Cooler				
Compressor Outlet Temperature	°F	°C	/	/
Compressor Flow Rate per CAC	lb/hr	kg/hr	/	/

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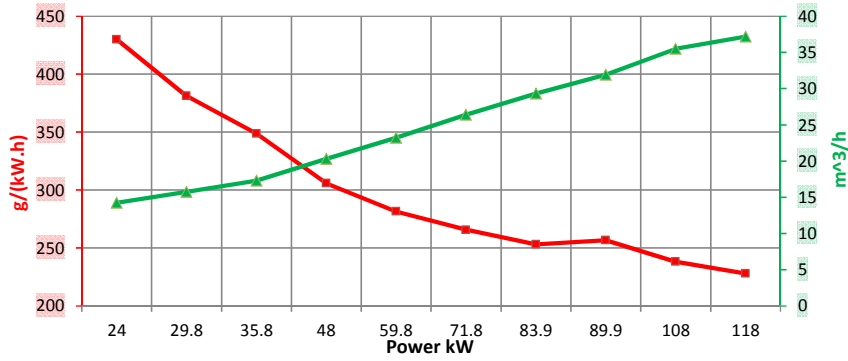
	Units		Specificaiton	
	Std	Metric	1800	
CAC Rise over Ambient (Charge)				
Specified	°F	°C	/	/
Acutal	°F	°C	/	/
Max pressure loss across the CAC	in H2O	kPa	48.2	12
Maximum Intake Air Temperature (IAT)	°F	°C	122.0	50
ECU IAT Warning	°F	°C	169.9	76.6
ECU IAT Shutdown	°F	°C	180.0	82.2
Cooling System				
Coolant Capacity				
Engine only	gal	L	5.8	22
Engine with Radiator	gal	L	13.2	50
Engine Coolant Flow	gal/min	L/min	105.7	400
Water Pump Speed	RPM		2268	
Standard Thermostat Range				
Cracking Temperature	°F	°C	168.8	76
Full Open Temperature	°F	°C	190.4	88
Maximum Allowable Pressure Cap	psi	bar	10.3	0.7
Maximum Allowable Top Tank Temperature	°F	°C	203.0	95
ECU Warning	°F	°C	205.0	96
ECU Shutdown	°F	°C	212.0	100
Fan Power	HP	kW	28.6	21.3
Fan Diameter, including blades	in	mm	29.9	760
Fan Speed	RPM		2268	
Electrical System				
Minimum Recommended Battery Capacity	AH		150	
Cold Cranking Current				
Engine only	CCA		900	
Engine with Drive train	CCA		900	
Maximum Allowable Resistance of Starting Circuit	Ohms		0.002	
Starting Motor Power	HP	kW	7.4	5.5
Battery Charging Alternator				
Voltage	Volts		28	
Current	Amps		70	
Coil primary Resistance	Ohms		0.59Ω ± 10%	
Spark Plug p/n			Bosch R66857	
Spark plug gap	mm		0.45-0.5	
Lubrication System				
Oil Specification	SAE 15W-40 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher			
Oil Pressure				
Idle				
Min	Psi	Bar	19.1	1.3
Max	Psi	Bar	41.2	2.8
Rated Speed				
Min	Psi	Bar	51.5	3.5
Max	Psi	Bar	85.3	5.8
Maximum Allowable Oil Temperature	°F	°C	239.0	115
Engine Oil Capacity				
Min	Qts	L	21.1	20
Max	Qts	L	25.4	24
Oil Filter Capacity	Qts	L	1.4	1
ECU Oil Pressure Warning	psi		100	
ECU Oil Pressure Shut Down	psi		80	
Fuel System				
Fuel Consumption				
NG	Ft ³ /hr	kg/hr	1348.8	27.4
LP	Ft ³ /hr	kg/hr	529.7	30.3
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9
Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH2O	kPa	10.8	2.7
Minimum Running pressure to EPR	inH2O	kPa	6.8	1.7
Minimum Gas Supply Pipe Size	1-1/4" NPT			
Maximum EPR Rated Pressure	psi	kPa	1.0	6.90
Maximum Running Pressure to EPR	inH2O	kPa	10.8	2.70
Minimum Running Pressure to EPR	inH2O	kPa	6.8	1.70
Minimum LPG Supply Pipe Size ⁴	1/4" NPT			

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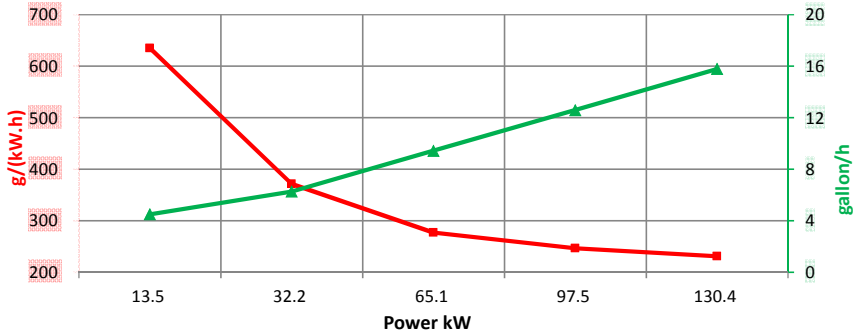
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Std	Metric	1800

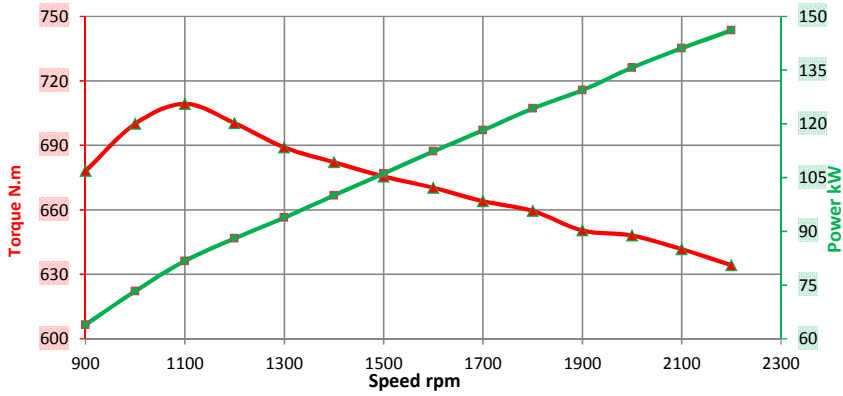
Fuel Consumption Curve @ 1800 RPM (Natural Gas)



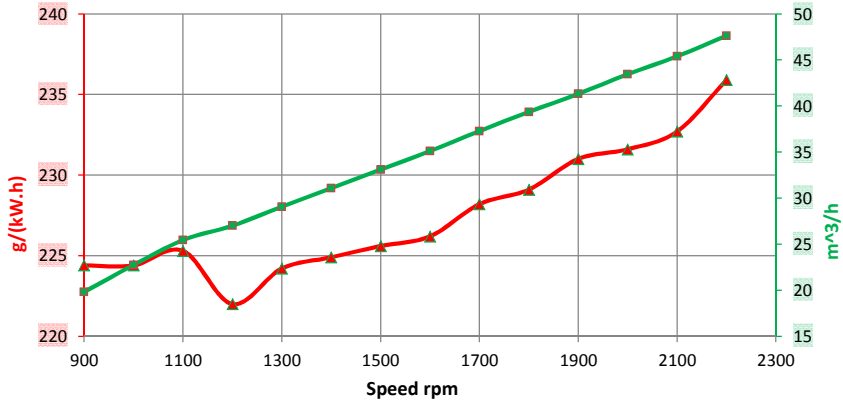
Fuel Consumption Curve @ 1800 RPM (Liquid Propane Gas)



Power Curve vs. Speed (Natural Gas)



Fuel Consumption Curve vs. Speed (Natural Gas)



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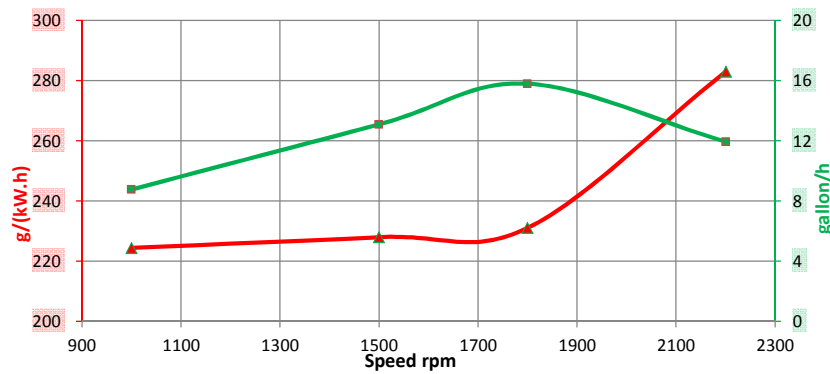
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Power Curve vs. Speed (Liquid Propane Gas)



Fuel Consumption Curve vs. Speed (Liquid Propane Gas)



¹Standby and overload ratings based on ISO3046.

²All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328 feet with no cooling fan or alternator losses using heating value for NG of 1025 BTU/SCF (HHV) and for propane of 2490 BTU/SCF (HHV).

³Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations. Engine may be operated at : up to 1200 feet and 86°F without power deration. For sustained operation above these conditions, derate by 2.5% per 1000 feet, and 1.5% per 10°F.

⁴The preceding pipe sizes are only suggestions and piping sizes may vary with temperature, pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.