



**POWER SOLUTIONS
INTERNATIONAL**

4.5L Naturally Aspirated Stationary NON-EMERGENCY "PRIME"

Date: 2022-04-06

Rev: B

Units		4.5L			
Std	Metric	1500		1800	

General Engine Data							
Type	N/A		In-line 4 cycle				
Number of cylinders	N/A		4				
Aspiration	N/A		Naturally Aspirated				
Bore	in	mm	4.1	105	4.1	105	
Stroke	in	mm	5.1	130	5.1	130	
Displacement	in ³	L	274.6	4.50	274.6	4.50	
Compression Ratio	N/A		9.75:1				
RPM Range (Min-Max)	RPM		1500-1800				
Rotation Viewed from Flywheel	N/A		Counter Clockwise				
Firing Order	N/A		1-3-4-2				
Dry Weight (Engine)	lb	kg	1102.3	500	1102.3	500	
Gross Prime Power Rating ^{1,2,3} Per ISO 3046 at the Flywheel			HP	KW	HP	KW	
LP			63.2	47.1	65.6	48.9	
NG			59.3	44.2	67.3	50.2	
Exhaust System							
Type			Air Cooled Manifold				
Non-Emergency Prime Rating Catalyst Configuration for US Certified Product			Single Substrate		Single Substrate		
Maximum allowable Back pressure	in HG	kPa	3.8	15	3.8	15	
Exhaust Volumetric Flow at Rated Power @ 1350 F	cfm	m ³ /min	312.8	8.9	338.2	9.6	
Air Induction System							
Maximum allowable Intake Air Restriction with Air Cleaner							
Clean	inH ₂ O	kPa	14.1	4.0	14.1	4.0	
Dirty	inH ₂ O	kPa	24.1	6.0	24.1	6.0	
Combustion Air required (volume)	cfm	m ³ /min	57.0	1.6	57.0	1.6	
Cooling System							
Coolant Capacity							
Engine only	qts	L	8.4	8.0	8.4	8.0	
Engine and Radiator	qts	L	20.0	19.0	20.0	19.0	
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	2597.2	10.92	3005.3	12.26	
Cracking Temperature	F	C	169	76	169	76	
Full Open Temperature	F	C	194	90	194	90	
Lubrication System							
Oil Specification			SAE 15W-40 Low Ash, API CD/CF or Higher				
Maximum Allowable Oil Temperature	F	C	239	115	239	115	
Engine Oil Capacity							
Min	Qts	L	9.5	9	9.5	9	
Max	Qts	L	12.7	12	12.7	12	
Fuel System							
Fuel Consumption @ Rated Load							
NG	lb/hr	kg/hr	22.9	10.4	26.5	12.0	
LP	lb/hr	kg/hr	26.5	12.0	28.0	12.7	
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9	
Recommended Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH ₂ O	kPa	10.8	2.7	10.8	2.7	
Recommended Minimum Running pressure to EPR	inH ₂ O	kPa	6.8	1.7	6.8	1.7	
Minimum NG Supply Pipe Size ⁴			1-1/4" NPT				
Minimum LPG Supply Pipe Size ⁴			1/4" NPT				

¹ Standby and overload ratings based on ISO 3046. See PSI technical standard 3630000A for additional duty cycle and engine rating information

² All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

³ Production 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.

⁴ The 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.

For information not listed in this document, please contact you PSI sales representative



4.5LNA Fuel Consumption Data Prime

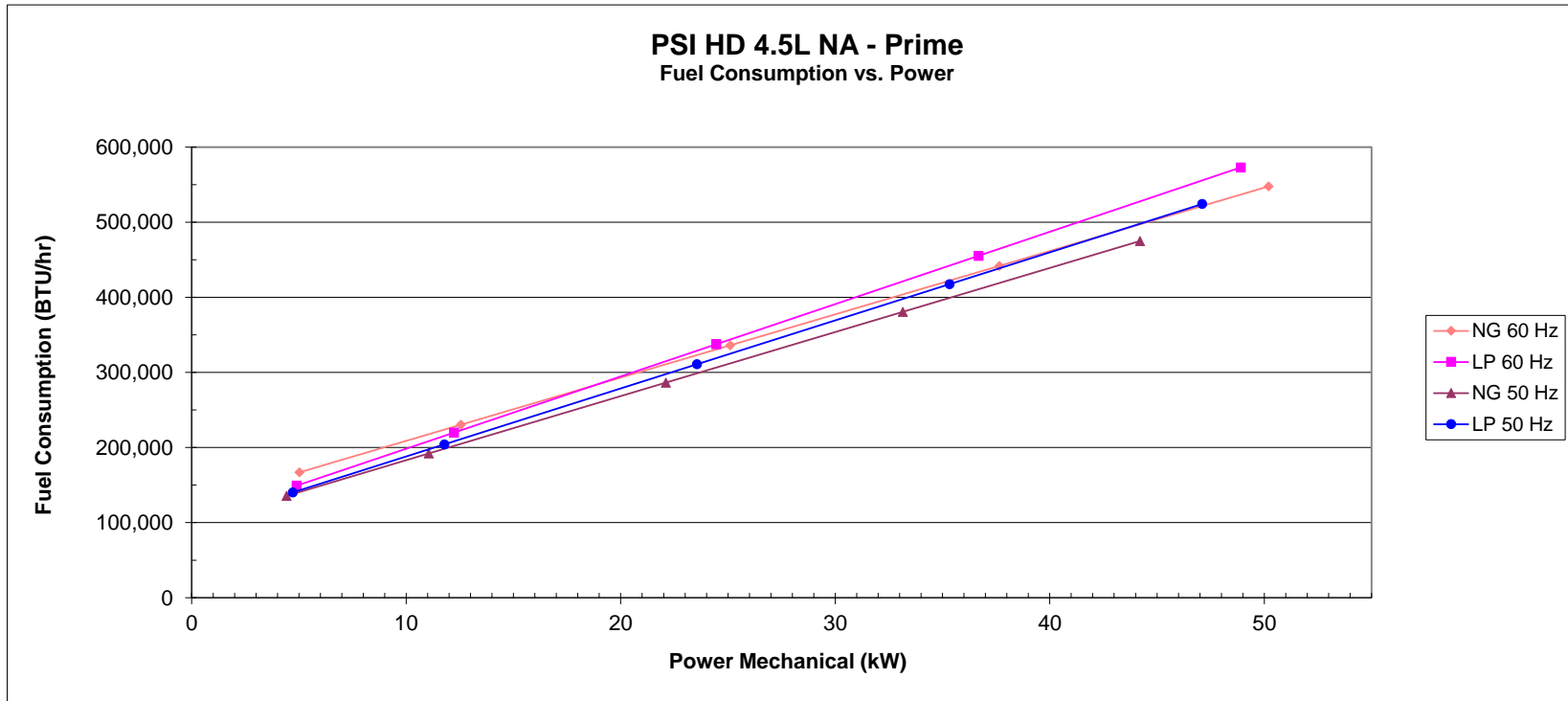
NG 60 Hz				
Power at Flywheel (kw)	kg/hr	m3/hr	ft3/hr	BTU/hr
50	12.0	16.7	591	547,743
38	9.7	13.5	477	441,793
25	7.4	10.3	363	336,075
13	5.0	7.0	248	230,358
5	3.7	5.1	180	166,928

NG 50 Hz				
Power at Flywheel (kw)	kg/hr	m3/hr	ft3/hr	BTU/hr
44	10.4	14.5	512	474,893
33	8.3	11.6	411	380,633
22	6.3	8.8	309	286,373
11	4.2	5.9	207	192,114
4	3.0	4.1	146	135,558

Gas Properties		
	Density	Heat content
LP	0.51 kg/L	91500 BTU/gal
NG	0.717 kg/m3	927 BTU/ft3

LP 60 Hz				
Power at Flywheel (kw)	kg/hr	L/hr	gal/hr	BTU/hr
49	12.1	23.7	6.3	572,929
37	9.6	18.8	5.0	455,219
24	7.1	14.0	3.7	337,508
12	4.6	9.1	2.4	219,797
5	3.1	6.2	1.6	149,171

LP 50 Hz				
Power at Flywheel (kw)	kg/hr	L/hr	gal/hr	BTU/hr
47	11.1	21.7	5.7	524,188
35	8.8	17.3	4.6	417,515
24	6.6	12.9	3.4	310,842
12	4.3	8.5	2.2	204,169
5	3.0	5.8	1.5	140,165



Technical data based on ISO 3046-1 standards of 77°F (25°C), barometric pressure of 14.5Psia (100kPa) and 30% relative humidity. Production tolerances in engines and installed components can account for power variations of ± 5%.