



DA100 EFI Data Sheet

HFEDCN0820 Rev A

**DA100 EFI Stock Muffler Steady State WOT Curve
(Altitude Corrected per SAE J1349)**

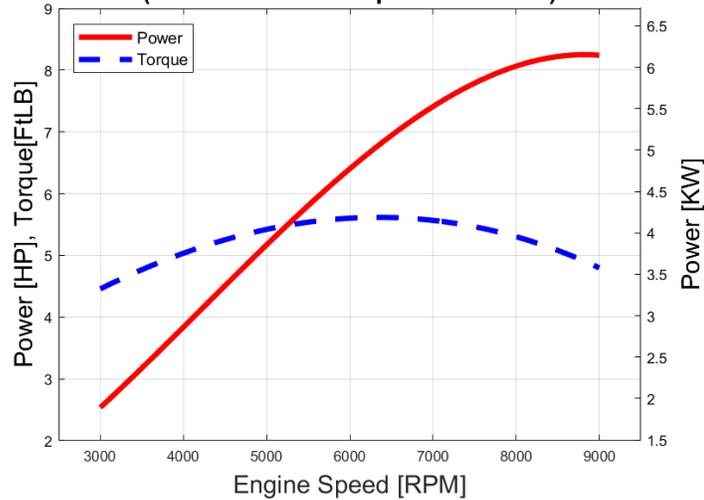


Figure 1: Power curve generated from steady state wide open throttle conditions from 3000 RPM to 9000 RPM in 500 RPM increments. Measured torque was averaged over 30 seconds at each RPM, accounting for all high/low torque spikes that are present in normal operating conditions.

	METRIC	IMPERIAL
DISPLACEMENT	100 cc	4.28 ci
MAX POWER (9000 RPM)*	6.1 kW	8.2 HP
MAX TORQUE (6500 RPM)*	7.7 Nm	5.7 lbft
CONTINUOUS POWER (7000 RPM)*	5.5 kW	7.3 hp
CONTINUOUS TORQUE (7000 RPM)*	7.4 Nm	5.5 lbft
OPERATING RPM RANGE	1200 RPM to 7500 RPM	
AVERAGE BSFC	595 g/kWh	0.98 lb/HPh
WEIGHT (ENGINE WITH THROTTLE BODY)	2.5 kg	5.57 lb
WEIGHT (ECM)	85 g	2.9 oz
WEIGHT (FUEL PUMP)	88 g	3.1 oz
WEIGHT (IGNITION)	150 g	5.3 oz
WEIGHT (WIRE HARNESS/ FUEL LINES)	170 g	6.0 oz
FUEL**	Any Grade Pump Gasoline	
TWO STROKE OIL	Red Line, 40:1 mixture	
REQUIRED OPERATING VOLTAGE	10V to 15V	
CURRENT DRAW	1A Peak	
RECOMMENDED BATTERY	3s or greater LiPo, 1 hour / 1000 mAh	
AMBIENT TEMPERATURE RANGE	0 to 49° C	32 to 120° F

*Stock Muffler **No heavy fuel option at this time

Propeller Recommendations					
2-Blade	Max RPM ±200	Estimated Max Thrust (lbs) ±10%	3-Blade	Max RPM ±200	Estimated Max Thrust (lbs) ±10%
26 x 10	6680*	52.4**	23 x 10	6400*	51.7**
26 x 12	5800**	41.6**	24 x 12	5250**	41.0**
27 x 10	6400**	53.3**	26 x 10	5500**	53.2**

*Recorded from test stand **Simulation Estimate

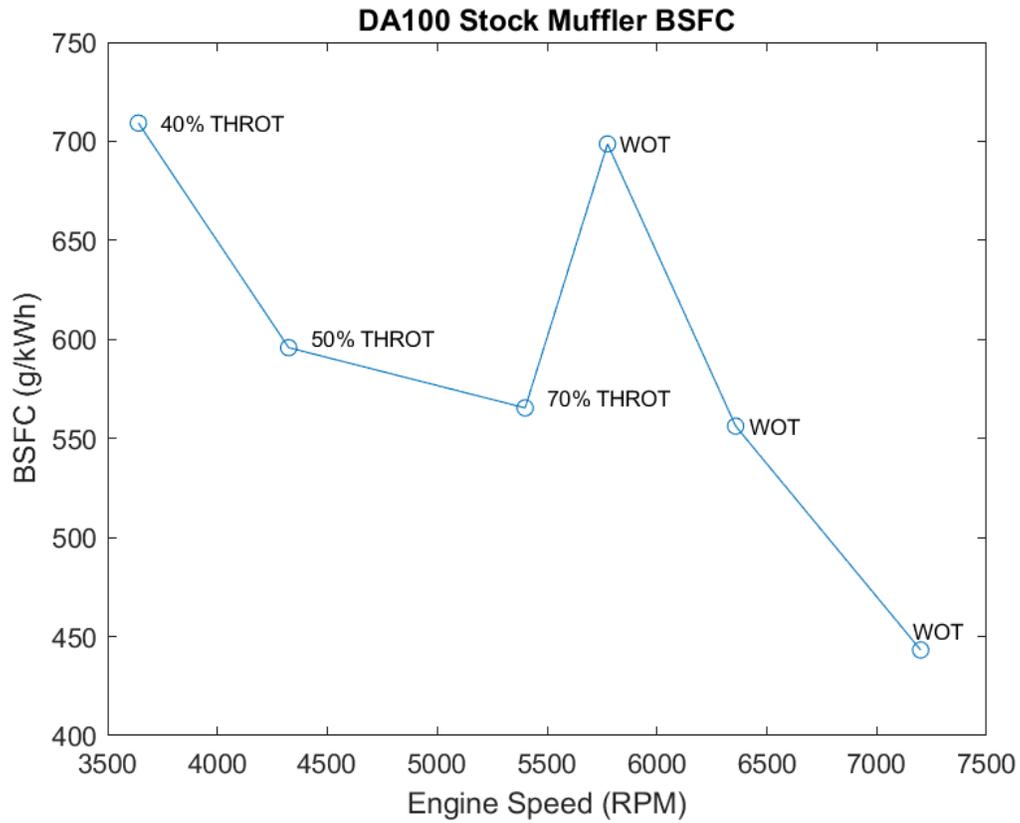


Figure 2: BSFC at various throttle positions and RPM replicating propeller load.
Fuel consumption measured via gravimetric method

Maximum Power and Maximum Rated RPM Disclaimer

HFE provides the data in this sheet with the following exceptions:

- Maximum RPM can change between propeller manufacturers even if it is the same pitch and diameter. Propeller mass, balance, surface condition, chord shape, and tip shape, vary between manufacturers.
- Surface condition and defects in the propeller can change maximum RPM.
- Rigid vs. soft mounting the engine will change maximum RPM values.
- Engine to engine tolerance stack up for piston and bore clearance, casting variations and bearing fit can result in a +/- 3% variance in maximum RPM from engine to engine. HFE does not claim or warrant that all engines delivered will have the same maximum power. Engineers should design for the +/- 3% of the rated RPM in this data sheet.
- Generator loads can reduce maximum RPM by levels much higher than the power curve may state because there are other losses in the generator and PMU system that should be considered.
- It is common knowledge that two strokes can reduce RPM after being held at full throttle for several seconds. Initial full throttle RPM reduces because the piston expands with heat and becomes tighter in the bore, increasing friction. The expected drop from the instant high RPM, is approximately 200 RPM and varies depending on the propeller load.
- Increases in altitude will reduce air density in the engine resulting in lower power, however the work required to turn the propeller will also reduce. This relationship will vary depending on the propeller design. In some cases, the RPM will increase with higher altitude, and in some cases the RPM could decrease with higher altitude.
- Changes in intake air temperature and cylinder head temperature can affect maximum RPM.
- If the customer changes the location of the engine crank position sensor, maximum RPM can change and possibly damage the engine.
- Engine break in can cause RPM to increase slightly over time.
- Changing the muffler will change engine performance. Any change in the muffler should be coordinated with HFE otherwise the warranty is void.
- Changes in fuel, oil type and oil to fuel ratio can affect maximum RPM