

548

Member Full Version



Welcome Georgios

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all data without guarantee - Accuracy: +/-10%

propCalc - Propeller Calculator

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General

Motor Cooling:  
medium

# of Motors:  
1  
(on same Battery)

Model Weight:  
2700 g  
incl. Drive  
95.2 oz

Wing Area:  
45 dm²  
697.5 in²

Field Elevation  
0 m ASL  
0 ft ASL

Air Temperature  
25 °C  
77 °F

Pressure (QNH):  
1013 hPa  
29.91 inHg

Battery Cell

Type (Cont. / max. C) - charge state:  
LiPo 5000mAh - 30/45C - normal

Configuration:  
3 S 2 P

Cell Capacity:  
5000 mAh

Total Capacity:  
10000 mAh

Resistance:  
0.0034 Ohm

Voltage:  
3.7 V

C-Rate:  
30 C cont.  
45 C max

Weight:  
141 g  
5 oz

Controller

Type:  
max 60A

cont. Curent:  
60 A

max. Curent:  
60 A

Resistance:  
0.0045 Ohm

Weight:  
80 g  
2.8 oz

Motor

Manufacturer - Type (Kv):  
SunnySky X2820-800 (800)  
search...

KV (w/o torque):  
800 rpm/V

no-load Current:  
0.9 A @ 10 V

Limit (up to 15s):  
700 W

Resistance:  
0.041 Ohm

Case Length:  
42 mm  
1.65 inch

# mag. Poles:  
14

Weight:  
138 g  
4.9 oz

Propeller

Type - yoke twist:  
APC Electric E - 0°

Diameter:  
12 inch

Pitch:  
6 inch

# Blades:  
2

PConst:  
1.08

Gear Ratio:  
1 : 1

Flight Speed:  
60 km/h  
37.3 mph

calculate

Remarks:

- The Pitch Speed should be at least twice as large as the estimated Stall Speed. Increase your propeller pitch.

Battery		Motor @ Optimum Efficiency		Motor @ Maximum		Propeller		Total Drive		Airplane	
Load:	2.62 C	Current:	15.67 A	Current:	26.18 A	Static Thrust:	1704 g	Drive Weight:	1170 g	All-up Weight:	2700 g
Voltage:	10.97 V	Voltage:	10.95 V	Voltage:	10.85 V		60.1 oz		41.3 oz		95.2 oz
Rated Voltage:	11.10 V	Revolutions*:	7998 rpm	Revolutions*:	7586 rpm	Revolutions*:	7586 rpm	Power-Weight:	108 W/kg	Wing Load:	60 g/dm²
Capacity:	10000 mAh	electric Power:	171.6 W	electric Power:	284.0 W	Stall Thrust:	1320 g		49 W/lb		19.7 oz/ft²
Energy:	111 Wh	mech. Power:	152.0 W	mech. Power:	247.2 W		46.6 oz	Thrust-Weight:	0.63 : 1	Cubic Wing Load:	8.9
Flight Time:	22.9 min	Efficiency:	88.6 %	Efficiency:	87.0 %	Thrust @ 60 km/h:	231 g	P(in) @ max:	290.5 W	est. Stall Speed:	36 km/h
Mixed Flight Time:	24.0 min			est. Temperature:	41 °C	Thrust @ 37.3 mph:	8.1 oz	P(out) @ max:	247.2 W		22 mph
Weight:	846 g				106 °F	Pitch Speed:	69 km/h	Efficiency @ max:	85.1 %	est. Speed (level):	63 km/h
	29.8 oz						43 mph				39 mph

Tip Speed:

436 km/h  
271 mph

specific Thrust:

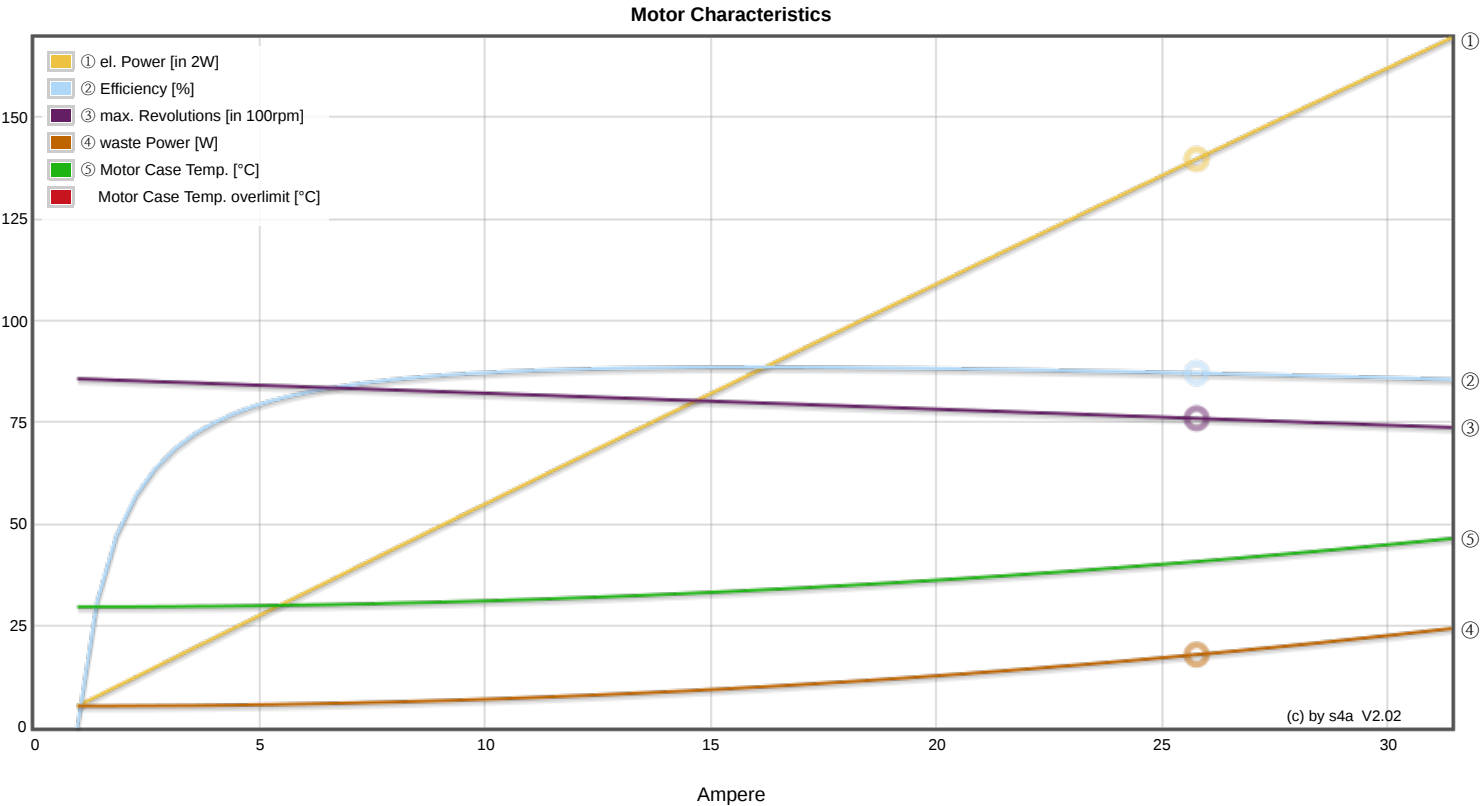
6.00 g/W  
0.21 oz/W

est. Speed (vertical):

- km/h  
- mph

est. rate of climb:

4.2 m/s  
836 ft/min



**Important Note:**  
Before flight recheck your max. current! If your Current, el. Power or RPM are over the manufacturers limits your motor, controller and/or battery may take damage! **Verify before flight by measurment!**  
[generate link](#) >

for printing use Landscape format  
\* The manufacturer limitation is NOT monitored  
\*\* Testdata with reduced accuracy

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